CITY OF IRVINE

WILLIAM WOOLLETT JR.
AQUATICS CENTER

BID DOCUMENTS

FOR BID PURPOSES ONLY

CITY OF IRVINE
PUBLIC WORKS & SUSTAINABILITY
APPROVED
These plans and/or specifications are signed by the City of Irvine Public Works & Sustainability Department for administrative approval only as prescribed in California Government Code 830.6 and as delegated by City Council pursuant to Resolution 23-64. The City is not responsible for the design, assumptions, or accuracy. All revisions must receive City approvals prior to construction.
Lincoln Lo, P.E.
City Engineer

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PBK

WILLIAM WOOLLETT JR.
AQUATICS CENTER

PROJECT ADDRESS:
4601 Walnut Ave, Irvine, CA 92604

BID DOCUMENTS

DSA APPL NO.: 04-124187 DSA FILE NO.:30-H15

Architect
LICENSED ARCHITECT
BRUCE OU
C-34832
REN 10/31/27
STATE OF CALIFORNIA

TITLE SHEET

A0.0

GENERAL NOTES & PROJECT DIRECTORY

A0.1

FOR BLUEBEAM LABELING/OCR:

DRAWING CONVENTIONS

PROPERTY LINE

AREA DRAIN

EXISTING ELEVATION

FINISH GRADE ELEVATION

NORTH SYMBOL

COLUMN LINE

FLOOR LINE

MATCH LINE

SECTION CALLOUT SYMBOL

EXTERIOR ELEVATION SYMBOL

INTERIOR ELEVATION SYMBOL

DOOR DESIGNATION

WINDOW DESIGNATION

PARTITION TYPE

EXISTING PARTITION

NEW PARTITION

REVISION NUMBER

DETAIL ENLARGED

PLAN OR DETAIL ENLARGED

DETAIL SECTIONS AND VERTICAL SECTIONS

DIMENSIONS

NOTE: all dimensions to face of wall unless otherwise noted

SPOT ELEVATION

SPOT COORDINATE

MATCH LINE / SEE XX/X-XXX

SHEET NUMBER ON WHICH CONTINUATION IS FOUND

FENCING (WITH POSTS)

BREAK LINE

KEY NOTE

ROOM NAME AND NUMBER

FIRE HOSE CABINET (RECESSED AND SURFACE MOUNTED)

FIRE EXTINGUISHER CABINET (RECESSED AND SURFACE MOUNTED)

EQUIPMENT DESIGNATION

TOILET ACCESSORY SYMBOL

SHOWER HEAD

FLOOR SINK

FLOOR DRAIN

OVERFLOW DRAIN AND ROOF DRAIN

ROOF TOP UNIT REFER TO MECHANICAL FOR TYPE

GRAPHIC SCALE

ABBREVIATIONS

ANC	ANODIZED CLEAR	ELECT.	ELECTRICAL	MEM. WP.	MEMBRANE WATERPROOFING	S.C.	SEALED CONCRETE
A.D.	AREA DRAIN	ELEV	ELEVATION (DRAWING)	MEP	MECHANICAL, ELECTRICAL AND PLUMBING	S.D.	SOAP DISPENSER
A.D.A.	AMERICANS WITH DISABILITIES ACT	EQUIP	EQUIPMENT			SCHED	SCHEDULE
A.F.F.	ABOVE FINISH FLOOR	EXIST	EXISTING	MEZZ.	MEZZANINE	SCPL	SOLID CORE PLASTIC LAMINATE
A.F.G.	ABOVE FINISH GRADE	EXP	EXPANSION	MFR.	MANUFACTURE (R)	SECT	SECTION
A.H.J.	ATHORITY HAVING JURISDICTION	EXT	EXTERIOR	MH.	MANHOLE	SHT	SHEET
		F.E.	FIRE EXTINGUISHER	MIN.	MINIMUM	SIM	SIMILAR
A/C	AIR CONDITIONING	F.E.C.	FIRE EXTINGUISHER CABINET	MISC.	MISCELLANEOUS	SPC	SPECIAL COATING SYSTEM
ACP.	ACOUSTICAL PANEL	F.H.C.	FIRE HOSE CABINET	MOD	MODULAR	SPEC	SPECIFICATION (S)
ACT.	ACOUSTICAL TILE	FB.	FACE BRICK	MTL	METAL	SQ.	SQUARE
ADJ.	ABADJUSTABLE	FD.	FLOOR DRAIN	MTP.	METAL TOILET PARTITION	SS.	SOUND STRIP
ALT.	ALTERNATE	FIN.	FINISH (ED)	N.D.	NAPKIN DISPOSAL	SS. STL.	STAINLESS STEEL
ALUM.	ALUMINUM	FIXT.	FIXTURE	N.I.C.	NOT IN CONTRACT	STD	STANDARD
ASPH.	ASPHALT	FLR.	FLOOR (ING)	N.R.	NOT RATED	STL.	STEEL
∠.	ANGLE	FLSHG.	FLASHING	N.T.S.	NOT TO SCALE	STRUC	STRUCTURAL
		FLUOR	FLUORESCENT	N.V.	NAPKIN VENDOR	SUSP	SUSPENDED
B.U.R.	BUILT-UP ROOF			NO.	NUMBER	SVDF	SHEET VINYL DANCE FLOORING
BD.	BOARD	G.B.	GRAB BAR				
BLDG.	BUILDING	G.I.	GALVANIZED IRON	O.C.	ON CENTER (S)	SYS	SYSTEM
BLK.	BLOCK	GA.	GAUGE	O.C.E.W.	ON CENTER EACH WAY		
BM.	BEAM	GALV.	GALVANIZED	O.D.	OUTSIDE DIAMETER	T.B.	TACK BOARD
		GCMU	GLAZED CONCRETE MASONRY UNIT	O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED	T.D.R.	TOWEL DISPENSER AND RECEPTACL
C	CHANNEL	GEN.	GENERAL	O.H.	OPPOSITE HAND	T.O.	TOP OF
C.J.	CONTROL JOINT	GEN.	GENERAL	OPNG.	OPENING	T.O.B.	TOP OF (WOOD) BLOCKING
C.M.U.	CONCRETE MASONRY UNIT	GL.	GLASS / GLAZING	OPP.	OPPOSITE	T.O.M.	TOP OF MASONRY
C.W.	COLD WATER	GL.	GLASS			T.O.S.	TOP OF STEEL
CAB.	CABINET	GR.	GRADE	P. LAM.	PLASTIC LAMINATE	T.T.D.	TOILET TISSUE DISPENSER
CABT		GTP.	GLAZED TILE PAVER	P.C.	PRECAST	TCNA	TILE COUNCIL OF NORTH AMERICA
CFMF	COLD FORMED METAL FRAMING	GYP.	GYPSUM DRYWALL	P.H.	PAPER HOLDER		
CL	CENTERLINE			P.L.	PROPERTY LINE	TEL	TELEPHONE
CLG.	CEILING	H.W.	HOT WATER	P.P.	POWER POLE	TERR	TERRAZZO
CLR	CLEAR	HM	HOLLOW METAL FRAME	P.W.B.	PREFINISHED WALL BOARD	THK	THICK (NESS)
COL.	COLUMN	HORIZ.	HORIZONTAL	PL.	PLATE	TYP	TYPICAL
COMP.	COMPRESSIBLE	HT.	HEIGHT	PLUMB.	PLUMBING		
CONC.	CONCRETE			PLYWD.	PLYWOOD	U.N.O.	UNLESS NOTED OTHERWISE
COND.	CONDITION	I.D.	INSIDE DIAMETER	POL.	POLISHED	UR.	URINAL
CORR.	CORRIDOR	I.P.S.	IRON PIPE SIZE	PR.	PAIR		
CPT.	CARPET (ED)	INSUL	INSULATE (ED), (ION)	PREFIN.	PRE-FINISHED	V	VENT
CT.	CERAMIC TILE	INT.	INTERIOR	PT.	POINT	V.C.T.	VINYL COMPOSITION TILE
CTG	CLEAR TEMPERED GLAZING	ISA	INTERNATIONL SYMBOL OF ACCESSIBILITY	PTD.	PAINTED	V.I.F.	VERIFY IN FIELD
CTSK.	COUNTER SINK					VENT.	VENTILATING, VENTILATED
				Q.T.	QUARRY TILE	VER.	VERIFY
D	DRYER	JT.	JOINT			VERT.	VERTICAL
D.F.	DRINKING FOUNTAIN			R / RAD	RADIUS	VGB	(PREFINISHED) VINYL CLAD GYPSUM BOARD
D.P.	DAMPPROOFING	L.P.	LIGHT POLE	RD	ROOF DRAIN		
D.S.	DOWN SPOUT	LAM.	LAMINATE (D)	RE. , REF.	REFER TO / REFERENCE / SEE	VWC	VINYL WALL COVERING
DIA.	DIAMETER	LAV.	LAVATORY				
DIM.	DIMENSION	LT.	LIGHT	RECP.	RECEPTACLE	W	WASHING MACHINE
DTL.	DETAIL	LT. WT.	LIGHTWEIGHT	REINF.	REINFORCE (D), (ING)	W.P.	WATER PROOFING
DWG.	DRAWING			REQ'D.	REQUIRED	W.S.	WEATHERSTRIP
		M.O.	MASONRY OPENING	RES.	RESILIENT	W.W.	WATER WELL
E.J.	EXPANSION JOINT	MAS.	MASONRY	REV.	REVISION (S), REVISED	W.W.F	WELDED WIRE FABRIC
E.Q.	EQUAL	MATL.	MATERIAL (S)	RF	RECREATIONAL RESILIENT FLOORING	W/	WITH
EA.	EACH	MAX.	MAXIMUM			WC	WATER CLOSET
EDF	ELECTRIC DRINKING FOUNTAIN	MB.	MARKER BOARD	RPG.	RELOCATABLE PAINTED GYPSUM BOARD	WD	WOOD
EL.	ELEVATION (HEIGHT)	MECH.	MECHANICAL	RSS.	ROD STOCK AND SEALANT	WDW	WINDOW
		MEM	MEMBRANE			WT	WEIGHT

STATEMENT OF GENERAL CONFORMANCE

STATEMENT OF GENERAL CONFORMANCE

Application No. : 04-124187

File No. : 30-H15

The drawings identified as follows:

☐ All drawing sheets included in this set not bearing my stamp and signature.

☒ Drawing sheets denoted in the sheet index as follows: AQUATICS, NINJA CROSS SYSTEM, AND MUSCO LIGHTING

☐ Drawing sheets included under the following PC approval(s): _____

have been prepared by other design professionals or consultants who are licensed and authorized to prepare such drawings (plans) in this state. They have been examined by me for:

1. Design intent and appear to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me, and
2. Coordination with drawings (plans) and specifications and are acceptable for incorporation into the construction of this project.

Per Title 24, Part 1, Secction 4-316(b): This Statement of General Conformance shall not be construed as relieving me of my rights, duties, and responsibilities under Section 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344 of Title 24, Part 1.

06-30-2025

Signature Date

BRUCE OU C-34832 10-31-2025

Printed Name License Number Expiration Date

DSA NOTES

1. ALL WORK SHALL CONFORM TO 2022 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. ONCE CONSTRUCTION HAS BEGUN, CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART I, TITLE 24, CCR.
3. A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-32, PART 1, TITLE 24, CCR; CLASS 1.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
5. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
6. A WRITTEN SITE SAFETY PLAN IN COMPLIANCE WITH CFC 3303.1.1 MUST BE PREPARED AND AVAILABLE ON SITE PRIOR TO COMMENCEMENT OF ANY MOBILIZATION, DEMOLITION AND/OR CONSTRUCTION.

SCOPE OF WORK

CONSTRUCTION OF NEW AQUATICS CENTER FOR THE CITY OF IRVINE IN JOINT USE WITH IRVINE UNIFIED SCHOOL DISTRICT. AQUATICS CENTER INCLUDES NEW POOL, TRAINING AND LOCKER ROOM BUILDING, POOL EQUIPMENT BUILDING, AND BLEACHERS. ASSOCIATED STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE ALARM WORK.

ASSOCIATED SITE WORK FOR POOL AREA INCLUDING A NINJA CROSS SYSTEM

ALTERATION TO EXISTING HERITAGE PARK POOL COMPLEX BUILDING (A#04-103728) LIMITED TO CONNECTION TO EXISTING MDF.

NOTE:

- FIRE SAFETY DURING DEMOLITION AND/OR CONSTRUCTION SHALL COMPLY WITH 2022 CFC CHAPTER 33
- LIST ON THE PLANS OR SPECS COMPLIANCE WITH CBC AND CFC CH33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION. REFER TO DSA BULLETIN 24-05 FOR FURTHER INFORMATION.
- A WRITTEN SITE SAFETY PLAN IN COMPLIANCE WITH CFC 3303.1.1 MUST BE PREPARED AND AVAILABLE ON SITE PRIOR TO COMMENCEMENT OF ANY MOBILIZATION, DEMOLITION AND/OR CONSTRUCTION.

GENERAL NOTES

1. CONSTRUCTION DOCUMENTS DESCRIBE THE PRODUCTS, SYSTEMS, QUANTITIES, CONFIGURATION AND PERFORMANCE SPECIFICATOINS THAT DELIVER THE OVERALL DESIGN INTENT OF THE PROJECT.
2. THE CONSTRUCTION DOCUMENT DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY BOTH.
3. PERFORMANCE BY THE CONSTRUCTION TEAM SHALL BE CONSISTENT WITH THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AS NECESSARY TO DELIVER THE INDICATED RESULTS OF THE DESIGN INTENT.
4. IF CONFLICTS ARISE BETWEEN DRAWINGS AND SPECIFICATIONS, NOTIFY ARCHITECT IMMEDIATELY FOR DETERMINATION BEFORE PROCEEDING, OTHERWISE THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
5. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL GOVERNING CODES, ORDINANCES, REGULATIONS AND LAWS.
6. THE DEISGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS AND SCAFFOLDING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. WHERE ANY CONFLICT OCCURS BETWEEN THE REQUIREMENTS OF LAWS, CODES, ORDINANCES, RULES AND REGULATIONS, THE MOST STRINGENT SHALL GOVERN.
8. ENACT ALL MEASURES TO PROTECT AND SAFEGUARD ALL EXISITNG ELEMENTS TO REMAIN FROM BEING DAMAGED. REPLACE OR REPAIR EXISTING ELEMENTS DAMAGED BY THE EXECUTION OF THIS CONTRACT TO EQUAL OR BETTER CONDITION.
9. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE EXISTING OR NEW STRUCTURAL ELEMENTS SHALL NOT BE STARTED UNTIL THE DETAILS HAVE BEEN REVIEWED AND APPROVED BY THE ARCHITECT, AND STRUCTURAL ENGINEER OF RECORD.
10. VERIFY DIMENSIONS AND EXISTING CONDITIONS BEFORE COMMENCING WORK. REPORT DISCREPANCIES TO THE ARCHITECT PRIOR TO PROCEEDING WITH AFFECTED WORK.
11. REFLECTED CEILING PLAN DIMENSIONS ARE REFERENCED FROM FINISHED SURFACES UNLESS NOTED OTHERWISE. CEILING HEIGHT ARE DIMENSIONED FROM FLOOR TO FINISHED CEILING HEIGHT.
12. DIMENSIONS NOTED AS "FIELD VERIFY" SHALL BE CHECKED AT THE SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.
13. DO NOT SCALE DRAWING. WRITTEN DIMENSIONS TAKE PRECEDENCE. IF CLARIFICATION IS REQUIRED IN ORDER TO DETERMINE THE INTENT OF THE CONTRACT DOCUMENTS, CONTACT THE ARCHITECT.
14. NOTES OR DIMENSIONS LABELED "TYPICAL" SHALL APPLY TO SITUATIONS THAT ARE THE SAME OR SIMILAR.
15. ALL DIMENSIONS ARE TO FACE OF STUDS, UNLESS NOTED OTHERWISE.
16. ALL SPACES WITH FLOOR DRAINS TO HAVE FINISHED FLOORS LOPED TO DRAIN NOT TO EXGEED ONE IN FIFTY.
17. ALL FLOORS FINISH CHANGES SHALL OCCUR AT THE CENTERLINE OF DOORS UNLESS NOTED OTHERWISE. ALL FLOOR FINISH CHANGES SHALL HAVE THRESHOLDS OR REDUCER STRIPS.
18. COORDINATE HOUSEKEEPING PAD DIMENSIONS AND LOCATIONS WITH EQUIPMENT TO BE INSTALLED.
19. ALL DOORS IN INTERIOR GYP. BD STUD WALLS SHALL BE SET 4" OFF THE PREP. ADJ. WALL ON THE HINGE SIDE OF THE DOOR UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL CONTACT THE ARCHITECT IFY ANY CONFLICTS OCCUR.
20. ALUM. THRESHOLDS TO BE SET IN FULL BED OF SEALANT AT ALL EXT. DOORS.
21. COORDINATE ROOF DRAIN LEADER LOCATIONS WITH FLOOR PLAN PRIOR TO SLAB CONSTRUCTION.
22. PROVIDE VINYL REDUCER AT ALL DISSIMILAR FLOOR MATERIALS UNLESS OTHERWISE NOTED.
23. UNLESS OTHERWISE NOTED, ALL ELECTRICAL AND MECHANICAL OPERABLE DEVICES SHALL BE MOUNTED WITH THE HIGHEST OPERABLE CONTROL AT MAX. OF 42" AFF.
24. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE DSA APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CONSTRUCTION CHANGE DOCUMENTS, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PRECOEEDING WITH THE REPAIR WORK, PER CAC, 2022, 4-317(c).

DEFERRED SUBMITTALS

FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE DSA.

THE DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT INCLUDE:

1. STORMWATER BIOFILTRATION SYSTEM
2. NINJA CROSS SYSTEM - ALUMINUM TRUSS
3. NINJA CROSS SYSTEM - RIGGING

THIS DEFERRED SUBMITTAL HAS BEEN IDENTIFIED AS LARGE AND/OR COMPLEX AND WILL REQUIRE SIGNIFICANT REVIEW TIME. FOR AN EFFICIENT AND TIMELY REVIEW, DSA RECOMMENDS THAT THE DESIGN PROFESSIONAL NOTIFY THE DSA LEAD PLAN REVIEWER A MINIMUM OF 6-WEEKS IN ADVANCE OF SUBMITTING TO ALLOW FOR SCHEDULING.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE DSA APPROVALS FOR THE DEFERRED ITEMS LISTED ABOVE. TIME OF CONSTRUCTION SHOULD NOT BE IMPACTED BY APPROVALS.

PROJECT DATA

PROJECT ADDRESS:

4601 WALNUT AVE, IRVINE, CA 92604

FEMA DATA

FEMA NOTES:
FEMA FIRM PANEL #06059C0284J
EFFECTIVE DATED: 12/03/2009
FLOOD ZONE DESIGNATION: AREA OF MINIMAL FLOOD HAZARD. ZONE X.

CODES & STANDARDS

LIST OF APPLICABLE CODES

2022 California Administrative Code (CAC)	(Part 1, Title 24, CCR)
2022 California Building Code (CBC)	(Part 2, Title 24, CCR)
2022 California Electrical Code (CEC)	(Part 3, Title 24, CCR)
2022 California Mechanical Code (CMC)	(Part 4, Title 24, CCR)
2022 California Plumbing Code (CPC)	(Part 5, Title 24, CCR)
2022 California Energy Code (CEC)	(Part 6, Title 24, CCR)
2022 California Fire Code (CFC)	(Part 9, Title 24, CCR)
2022 California Existing Building Code (CEBC)	(Part 10, Title 24, CCR)
2022 California Green Building Standards Code (CAL Green)	(Part 11, Title 24, CCR)
2022 California Referenced Standards Code	(Part 12, Title 24, CCR)
Title 19 CCR, Public Safety, State Fire Marshall Regulations	

APPLICABLE STANDARDS

For a list of applicable standards, including California amendments to the NFPA Standards, refer to CBC Chapter 35 and CFC Chapter 80.

CGS PROVISIONAL ACCEPTANCE

THE PROJECT IS PROVISIONALLY ACCEPTED BY CGS. THE SPECIALTY CONTRACTOR'S DETAILED DESIGN PACKAGE AND PLANS FOR THE SELECTED GROUND IMPROVEMENT SHOULD BE PROVIDED FOR REVIEW BY CGS WHEN AVAILABLE AND PRIOR TO INITIATE OF THE WORK. THE CONSULTANTS SHOULD SUBMIT TO CGS AND DSA FORNAL DOCUMENTATION OF THEIR REVIEW OF THE CONTRACTORS GROUND IMPROVEMENT DESIGN AND PLANS THAT INCLUDES EXPLICIT STATEMENT REGARDING THEIR OPINION OF THE CONFORMATION OF THE DESIGN WITH THEIR GEOTECHNICAL RECOMMENDATIONS.

SHEET NUMBERING

A2.01A

- **BUILDING AREA**
- **SEQUENCE (.01 - .99.....etc.)**
- **SHEET DISCIPLINE TYPE**

DISCIPLINE

- G - GENERAL (Cover, A0 Sheets)
- C - CIVIL
- L - LANDSCAPE
- D - DEMO
- A - ARCHITECTURAL
- S - STRUCTURAL
- I - INTERIORS
- M - MECHANICAL
- E - ELECTRICAL
- P - PLUMBING
- T - TECHNOLOGY

0 - GENERAL & LIFE SAFETY PLANS
1 - SITE PLANS & DETAILS
2 - FLOOR PLANS
3 - REFLECTED CEILING PLANS
4 - ROOF
5 - ADA & ENLARGED PLANS
6 - EXTERIOR/INTERIOR ELEVATIONS
7 - PARTITION TYPES & WALL SECTIONS
8 - CASEWORK ELEVATIONS
9 - WINDOWS, DOORS, FRAME ELEVATIONS & SCHEDULE

VICINITY MAP

N

DRAWING INDEX

TOTAL SHEETS: 197

INDEX GROUND IMPROVEMENT

GP0.1	GEOPIER NOTES AND DETAILS
GP1.1	GEOPIER LOCATION PLAN
GP1.2	GEOPIER LOCATION PLAN
GP1.3	GEOPIER LOCATION PLAN
GP1.4	GEOPIER LOCATION PLAN
GP1.5	GEOPIER LOCATION PLAN
GP1.6	GEOPIER LOCATION PLAN

GRAND TOTAL: 7

INDEX TITLE

A0.0	TITLE SHEET
A0.1	GENERAL NOTES & PROJECT DIRECTORY
A0.2	OVERALL SITE PLAN
A0.3	FIRE ACCESS PLAN
A0.4	CODE ANALYSIS

GRAND TOTAL: 5

INDEX CIVIL

C1.0	TITLE SHEET
C2.0	GENERAL NOTES
C3.0	DEMOLITION PLAN
C4.0	GRADING & DRAINAGE PLAN
C4.1	GRADING & DRAINAGE PLAN
C6.0	DETAIL SHEET
C6.1	DETAIL SHEET
C6.2	DETAIL SHEET
C6.3	DETAIL SHEET
C7.0	SITE WET UTILITY PLAN
C7.1	SITE WET UTILITY DETAILS
C8.1	DOMESTIC WATER & SANITARY SEWER IMPROVEMENT PLAN
C8.2	DOMESTIC WATER IMPROVEMENT PLAN

GRAND TOTAL: 13

INDEX LANDSCAPE

L1.00	HARDSCAPE NOTES & SCHEDULES
L1.01	HARDSCAPE PLAN
L1.02	HARDSCAPE DETAILS
L2.00	PLANTING NOTES & SCHEDULES
L2.01	PLANTING PLAN
L2.02	PLANTING DETAILS
L3.00	IRRIGATION LEGEND & NOTES
L3.01	IRRIGATION PLAN
L3.02	IRRIGATION DETAILS
L3.03	IRRIGATION DETAILS

GRAND TOTAL: 10

INDEX ARCHITECTURAL

A1.1	ENLARGED SITE PLAN
A2.1	FLOOR PLAN
A2.2	DIMENSIONS FLOOR PLAN
A2.3	OVERALL CONCRETE CURB PLAN
A2.4	ENLARGED BLEACHER PLAN
A3.1	REFLECTED CEILING PLAN
A4.1	ROOF PLAN
A5.1	INTERIOR ELEVS AND ENLARGED PLANS
A5.2	INTERIOR ELEVS AND ENLARGED PLANS
A5.3	INTERIOR ELEVS AND ENLARGED PLANS
A5.4	INTERIOR ELEVS AND ENLARGED PLANS
A5.5	BLEACHER SECTIONS AND ELEVATIONS
A5.6	ENLARGED STAIR AND RAMP PLAN AND SECTIONS
A5.7	EXTERIOR ELEVATIONS
A5.8	EXTERIOR ELEVATIONS
A7.1	BUILDING SECTIONS
A7.2	WALL SECTIONS
A8.1	DOOR AND FRAME SCHEDULE
A8.2	WINDOW SCHEDULE
A9.1	FINISH SCHEDULE
A9.2	FINISH FLOOR PLAN

GRAND TOTAL: 21

INDEX ARCHITECTURAL DETAILS

AX0.1	SITE DETAILS
AX0.2	SITE DETAILS
AX0.3	SITE DETAILS
AX3.1	SUSPENDED CEILING DETAILS
AX3.2	SUSPENDED CEILING DETAILS
AX3.3	SUSPENDED CEILING DETAILS
AX4.1	ROOF DETAILS
AX5.1	SIGNAGES DETAILS
AX5.2	SIGNAGE & ADA DETAILS
AX5.3	MILLWORK DETAILS AND SCHEDULES
AX7.1	WALL TYPE
AX7.2	WALL DETAILS
AX7.3	WALL DETAILS
AX7.4	WALL DETAILS
AX7.5	METAL STUD DETAILS
AX8.1	DOORS DETAILS
AX8.2	WINDOWS DETAILS

GRAND TOTAL: 17

INDEX STRUCTURAL

S0.1	GENERAL NOTES
S0.2	GENERAL NOTES
S1.1	BUILDING FOUNDATION PLAN
S1.2	BLEACHERS FOUNDATION PLAN
S1.3	BLEACHERS FRAMING PLAN
S2.1	ROOF FRAMING PLAN
S2.2	ROOF FRAMING - BLEACHERS
S3.0	ELEVATIONS
S3.1	ELEVATIONS
S3.2	ELEVATIONS
S3.3	SECTIONS
S4.0	TYPICAL DETAILS
S4.1	TYPICAL FOOTING DETAILS
S4.2	CONCRETE DETAILS
S4.3	TYPICAL MASONRY DETAILS
S4.4	STEEL DETAILS
S4.5	STEEL DETAILS
S4.6	TYPICAL METAL DECK DETAILS
S4.7	TYPICAL ROOFTOP UNIT SUPPORT AND SCOREBOARD DETAILS
S4.8	ROOF FRAMING DETAILS
S4.9	MASONRY DETAILS

GRAND TOTAL: 21

INDEX MECHANICAL

M0.0	MECHANICAL SYMBOLS, LEGENDS & GENERAL NOTES
M0.1	MECHANICAL GENERAL NOTES & ADA STANDARDS
M2.1	MECHANICAL FLOOR PLAN
M4.1	MECHANICAL ROOF PLAN
M5.1	MECHANICAL SCHEDULES
M6.1	MECHANICAL DETAILS
M6.2	MECHANICAL DETAILS
M6.3	MECHANICAL DETAILS
M6.4	MECHANICAL DETAILS
M6.5	MECHANICAL DETAILS
M6.6	MECHANICAL CONTROLS
M6.7	MECHANICAL SECTIONS

GRAND TOTAL: 12

INDEX PLUMBING

P0.0	PLUMBING SYMBOLS, LEGENDS & GENERAL NOTES
P1.1	PLUMBING SITE PLAN
P1.2	PLUMBING ENLARGED SITE PLAN
P2.1	PLUMBING FLOOR PLAN
P2.2	PLUMBING ENLARGED FLOOR PLAN
P2.3	PLUMBING ENLARGED FLOOR PLAN
P2.4	PLUMBING ENLARGED FLOOR PLAN
P4.1	PLUMBING ROOF PLAN
P5.1	PLUMBING SCHEDULES
P6.1	PLUMBING DETAILS
P6.2	PLUMBING DETAILS

GRAND TOTAL: 11

INDEX ELECTRICAL

E0.0	ELECTRICAL LEGEND & GENERAL NOTES
E1.1	ELECTRICAL SITE PLAN
E1.2	ENLARGED POOL AREA PLAN
E1.2G	ENLARGED POOL AREA GROUNDING PLAN
E2.1	POWER PLAN
E2.2	ENLARGED POOL ROOM PLANS
E3.1	LIGHTING PLAN
E3.1P	EMERGENCY PHOTOMETRIC PLAN
E4.1	ROOF PLAN
E5.1	PANEL SCHEDULES
E6.1	ELECTRICAL DETAILS
E6.2	ELECTRICAL DETAILS
E7.1	SINGLE LINE DIAGRAM
EC0.1	ENERGY COMPLIANCE SHEET INDEX & NOTES
EC1.1	ENERGY COMPLIANCE - EN & MECH.
EC1.2	ENERGY COMPLIANCE - EN & MECH.
EC2.1	ENERGY COMPLIANCE - ELECTRICAL
EC2.2	ENERGY COMPLIANCE - ELECTRICAL

GRAND TOTAL: 18

INDEX FIRE ALARM

FA0.0	FIRE ALARM SYMBOLS, LEGENDS & GENERAL NOTES
FA1.1	FIRE ALARM SITE PLAN
FA2.1	FIRE ALARM FLOOR PLAN
FA4.1	FIRE ALARM ROOF PLAN
FA6.1	FIRE ALARM DETAILS

GRAND TOTAL: 5

INDEX TECHNOLOGY

T0.0	TECHNOLOGY SYMBOLS, LEGENDS & GENERAL NOTES
T0.1	TECHNOLOGY RISER DIAGRAM AND SCHEDULES
T1.1	TECHNOLOGY SITE PLAN
T2.1	TECHNOLOGY FLOOR PLAN
T6.1	TECHNOLOGY DETAILS
T6.2	TECHNOLOGY DETAILS

GRAND TOTAL: 6

INDEX AQUATICS

AQ0.0	POOL REFERENCE PLAN
AQ1.01	GENERAL NOTES
AQ1.02	TYPICAL DETAILS
AQ1.03	TYPICAL DETAILS
AQ1.04	POOL FOUNDATION PLAN
AQ1.05	POOL SECTIONS
AQ1.06	FOUNDATION DETAILS
AQ2.0	COMPETITION POOL 50 METER COURSE PLAN
AQ2.1	COMPETITION POOL 25 YARD CHAMP CROSS COURSE PLAN
AQ2.2	COMPETITION POOL 25 YARD CROSS COURSE PLAN
AQ2.3	COMPETITION POOL 25 METER WATER POLO PLAN
AQ2.5	COMPETITION POOL TIMING SYSTEM PLAN
AQ2.6	COMPETITION POOL SECTIONS
AQ2.7	COMPETITION POOL DETAILS
AQ2.8	COMPETITION POOL DETAILS
AQ3.0	SPRAYGROUND PLAN & SECTIONS
AQ3.1	SPRAYGROUND DETAILS
AQ4.0	POOL STAKING PLAN
AQ5.0	POOL PIPING NOTES & SCHEDULES
AQ5.1	POOL SUCTION PIPING PLAN
AQ5.2	POOL GRAVITY PIPING PLAN
AQ5.3	POOL RETURN PIPING PLAN
AQ6.0	POOL MECHANICAL NOTES & SCHEDULES
AQ6.1	POOL MECHANICAL ROOM PLAN & SECTIONS
AQ6.2	SPRAYGROUND MECHANICAL ROOM PLAN & SECTIONS
AQ6.3	COMPETITION POOL SURGE TANK PLAN & SECTIONS
AQ6.4	SPRAYGROUND BALANCE TANK PLAN & SECTIONS
AQ6.5	POOL MECHANICAL DETAILS
AQ6.6	POOL MECHANICAL DETAILS
AQ6.7	POOL MECHANICAL DETAILS
AQ6.8	POOL MECHANICAL DETAILS
AQ6.9	POOL MECHANICAL DETAILS
AQ6.10	POOL MECHANICAL DETAILS
AQ7.0	POOL SYSTEMS SCHEMATICS
AQ7.1	SPRAYGROUND SYSTEMS SCHEMATICS

GRAND TOTAL: 35

INDEX NINJA CROSS SYSTEM

NS0.1	GENERAL NOTES & ABBREVIATIONS
NS0.2	SPECIAL INSPECTIONS
NS1.0	TOWER FOUNDATION PLAN & SECTION
NS1.1	ARCH PLAN & ELEVATIONS
NS2.1	TRUSS TOWER DETAILS & SECTIONS
NS2.2	BOX TRUSS (T2) DETAIL
NS2.3	MAIN LADDER TRUSS (T1) (LEVEL 1) & (LEVEL 2) DETAILS
NS2.4	MAIN LADDER TRUSS (T1) (LEVEL 2) DETAIL INTERMEDIATE TRUSS (T3) DETAIL
NS2.5	ALUMINUM TRUSS SECTION & DETAILS
NS3.1	DETAILS
NS3.2	RIGGING DETAILS

GRAND TOTAL: 11

INDEX MUSCO LIGHTING

MT 1	NOTES, FOUNDATION DETAIL
MS 1	POLE DETAIL
MD 1	ATTACHMENT DETAILS
MD 2	ATTACHMENT DETAILS

GRAND TOTAL: 4

OVERALL SITE PLAN
A0.2
FOR BLUEBEAM LABELING/OCR:

0"
1"

SAFE DISPERSAL AREA

OCCUPANTS:	566
AREA REQUIRED (3 SF/OCC):	1,698 SF
AREA PROVIDED:	2,000 SF

60' 30' 0' 60' 120'
SCALE : 1" = 60'-0"

OVERALL SITE PLAN | 1" = 60'-0" | 1

FOR BID PURPOSES ONLY

LEGEND

- (E) ACCESSIBLE PATH OF TRAVEL, PER A#04-120504, SEE NOTES BELOW
- (E) ACCESSIBLE PATH OF TRAVEL, PER A#04-103728, SEE NOTES BELOW
- (N) ACCESSIBLE PATH OF TRAVEL, SEE NOTES BELOW
- PROPERTY LINE
- CANOPY AND ROOF ABOVE
- (E) FENCE AND FENCE POST TO BE PROTECTED IN PLACE.
- (N) ORNAMENT FENCE AND FENCE POST
- (E) BUILDINGS NOT IN SCOPE
- (N) BUILDING IN SCOPE
- (N) CONCRETE PAVING AND POOL DECK, REFER CIVIL DWG
  - *CONTROL/EXPANSION JOINTS, REF CIVIL C6.0*
- (E) CONCRETE PAVEMENT TO BE PROTECTED, REFER CIVIL DWG
- (E) LANDSCAPE AREAS TO BE PROTECTED, REFER LANDSCAPE DWG
- (N) LANDSCAPE AREAS, REFER LANDSCAPE DWG
- (E) ASPHALT, REFER CIVIL DWG
- (N) SAFE DISPERSAL AREA
- (N) TRENCHING, DEMO (E) PAVEMENT AND LANDSCAPE AS NECESSARY PER CIVIL, ELECTRICAL, PLUMBING, TECHNOLOGY, AND LANDSCAPE DWG. PATCH TO MATCH (E) ADJACENT FINISH.

ACCESSIBLE RESTROOMS

- M — MEN'S RESTROOM
- W — WOMEN'S RESTROOM
- U — UNISEX RESTROOM

DSA CERTIFICATION LIST

1. FOLLOWING PROJECT - A#04-102911 CLOSED WITH DSA CERTIFICATION ON 02/24/2004
2. FOLLOWING PROJECT - A#04-105877 CLOSED WITH DSA CERTIFICATION ON 05/23/2006
3. FOLLOWING PROJECT - A#04-104175 CLOSED WITH DSA CERTIFICATION ON 11/09/2007
4. FOLLOWING PROJECT - A#04-101396 CLOSED WITH DSA CERTIFICATION ON 11/28/2007
5. FOLLOWING PROJECT - A#04-103728 CLOSED WITH DSA CERTIFICATION ON 01/03/2008
6. FOLLOWING PROJECT - A#04-104875 CLOSED WITH DSA CERTIFICATION ON 02/06/2008
7. FOLLOWING PROJECT - A#04-112588 CLOSED WITH DSA CERTIFICATION ON 05/02/2014
8. FOLLOWING PROJECT - A#04-111054 CLOSED WITH DSA CERTIFICATION ON 05/28/2014
9. FOLLOWING PROJECT - A#04-113511 CLOSED WITH DSA CERTIFICATION ON 10/14/2015
10. FOLLOWING PROJECT - A#04-113202 CLOSED WITH DSA CERTIFICATION ON 02/02/2017
11. FOLLOWING PROJECT - A#04-116465 CLOSED WITH DSA CERTIFICATION ON 07/31/2018
12. FOLLOWING PROJECT - A#04-116555 CLOSED WITH DSA CERTIFICATION ON 05/30/2019
13. FOLLOWING PROJECT - A#04-119002 CLOSED WITH DSA CERTIFICATION ON 09/30/2020
14. FOLLOWING PROJECT - A#04-120504 CLOSED WITH DSA CERTIFICATION ON 11/18/2022
15. FOLLOWING PROJECT - A#04-120869 CLOSED WITH DSA CERTIFICATION ON 02/28/2023
16. FOLLOWING PROJECT - A#04-120050…PENDING ON COMPLETION OF CONSTRUCTION

PATH OF TRAVEL

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS, AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS, OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS, AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. AND NONCOMPLIANT ELEMENTS, COMPONENTS, OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ABRUPT LEVEL CHANGES EXCEEDING ½" IF BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING ¼" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP-RESISTANT. CROSS-SLOPE SHALL NOT BE STEEPER THAN 1:48 AND SLOPE IN THE DIRECTION OF TRAVEL SHALL NOT BE STEEPER THAN 1:20. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND FREE OF OBJECTS PROTRUDING MORE THAN 4" FROM THE WALL, ABOVE 27" AND LESS THAN 80" ABOVE THE FLOOR. ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

PARKING CALCULATION

	TOTAL	REGULAR	ACCESS. REQUIRED	(E) ACCESS. STALLS PER	VAN ACCESS. REQUIRED (INCLUDED IN ACCESS REQUIRED COUNT)	(E) VAN ACCESS. STALLS (INCLUDED IN ACCESS REQUIRED COUNT)
AQUATICS PARKING LOT PER A#04-120050	84	79	4	4	1	1
PARKING LOT B PER A#04-120504	88	83	3	3	1	2
PARKING LOT C PER A#04-120050	33	31	1	1	1	1

PBK

ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER

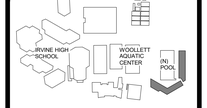
4601 Walnut Ave, Irvine, CA 92604

DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE EST. 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

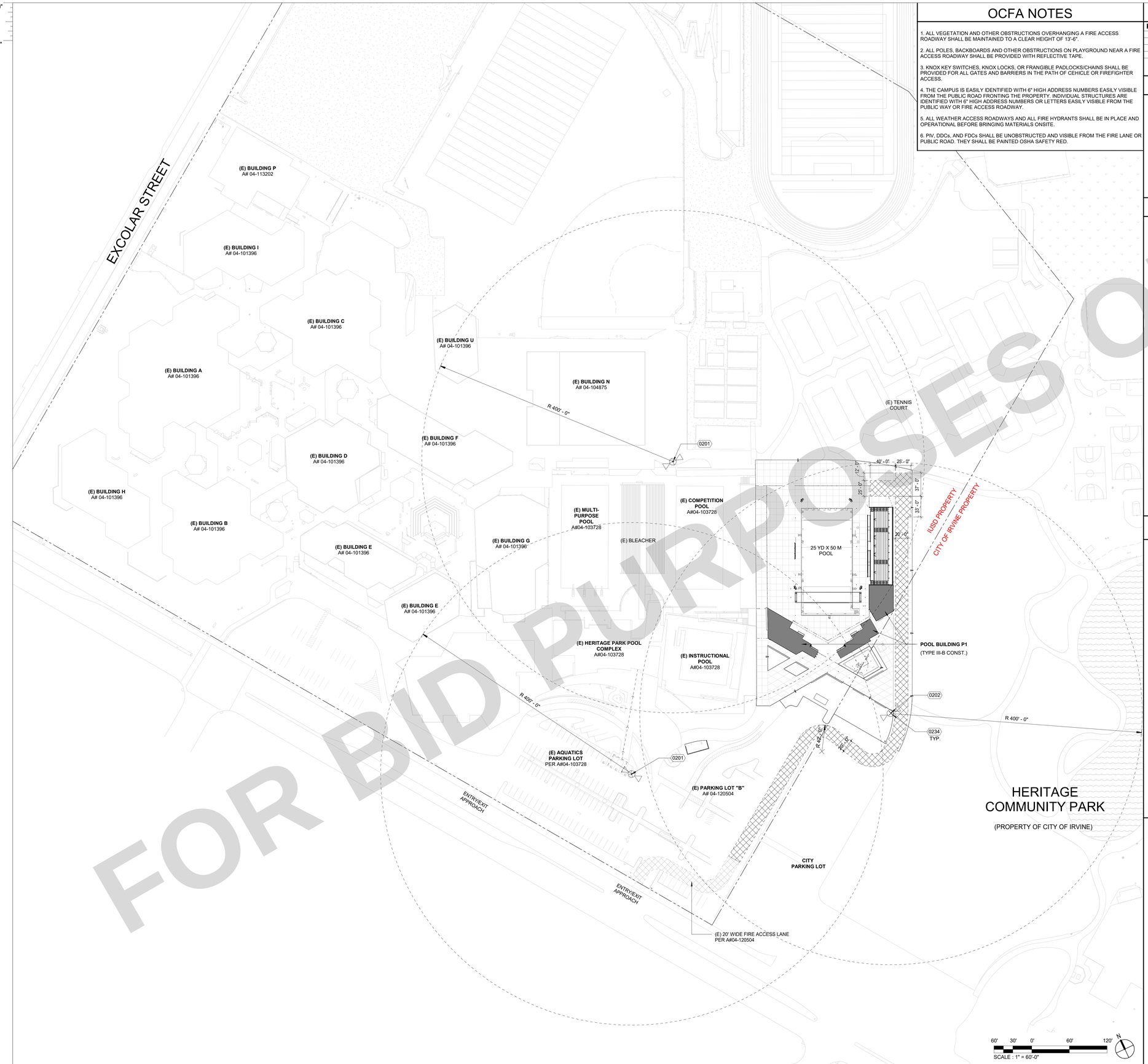
OVERALL SITE PLAN

A0.2

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_Central.rvt
CHECKED BY: Checker
DRAWN BY: Author
PLOT STAMP: 12/15/2025 4:45:14 PM

FIRE ACCESS PLAN
A0.3
FOR BLUEBEAM LABELING/OCR:

0"
1"



FOR BID PURPOSES ONLY

OCFA NOTES

1. ALL VEGETATION AND OTHER OBSTRUCTIONS OVERHANGING A FIRE ACCESS ROADWAY SHALL BE MAINTAINED TO A CLEAR HEIGHT OF 13'-6".

2. ALL POLES, BACKBOARDS AND OTHER OBSTRUCTIONS ON PLAYGROUND NEAR A FIRE ACCESS ROADWAY SHALL BE PROVIDED WITH REFLECTIVE TAPE.

3. KNOX KEY SWITCHES, KNOX LOCKS, OR FRANGIBLE PADLOCKS/CHAINS SHALL BE PROVIDED FOR ALL GATES AND BARRIERS IN THE PATH OF CEHICLE OR FIREFIGHTER ACCESS.

4. THE CAMPUS IS EASILY IDENTIFIED WITH 6" HIGH ADDRESS NUMBERS EASILY VISIBLE FROM THE PUBLIC ROAD FRONTING THE PROPERTY. INDIVIDUAL STRUCTURES ARE IDENTIFIED WITH 6" HIGH ADDRESS NUMBERS OR LETTERS EASILY VISIBLE FROM THE PUBLIC WAY OR FIRE ACCESS ROADWAY.

5. ALL WEATHER ACCESS ROADWAYS AND ALL FIRE HYDRANTS SHALL BE IN PLACE AND OPERATIONAL BEFORE BRINGING MATERIALS ONSITE.

6. PIV, DDCs, AND FDCs SHALL BE UNOBSTRUCTED AND VISIBLE FROM THE FIRE LANE OR PUBLIC ROAD. THEY SHALL BE PAINTED OSHA SAFETY RED.

KEYNOTES

KEYNOTE	DESCRIPTION
0201	(E) FIRE HYRDRANT
0202	(N) FIRE HYDRANT, REF CIVIL DWGS
0234	(N) PIPE BOLLARDS, REF DET 3/AX0.1

LEGEND

- PROPERTY LINE
- (E) BUILDINGS (NIC)
- SCOPE OF WORK AREA: (N) POOL BUILDINGS
- (E) 20' WIDE FIRE ACCESS LANE PER A#04-120504
- (N) 20' WIDE FIRE ACCESS LANE
- (E) FIRE HYDRANT

DSA 810

DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PI. 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner:	IRVINE UNIFIED SCHOOL DISTRICT
Project Name/School:	WILLIAM WOOLLETT JR. AQUATICS CENTER
Project Address:	4601 WALNUT AVE, IRVINE CA 92604

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☑		No ☐
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☑		No ☐
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? *(If yes, indicate FHSZ classification below.)*	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: Fire Hazard Severity Zones in State Responsibility Area	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐

DGS DSA 810 (revised 12/29/20) DEPARTMENT OF GENERAL SERVICES Page 1 of 4
DIVISION OF THE STATE ARCHITECT STATE OF CALIFORNIA

FIRE FLOW TEST

SoCal Flow Testing
3741 Rose Dr, Yorba Linda, CA 92886
714-261-5716
email: info@socalflowtest.com

Hydrant Flow Test Report

Project
Address **4601 Walnut Ave** Test date **1/13/25**
City **Irvine** State **CA** Test time **16:15** File no.

Test hydrant location **North of large pool** Hydr # Elev (ft +/-) **Grade**
Flow hydrant location **In parking lot of** Hydr # Elev (ft +/-) **Grade**

Static Pressure **62** PSI Report Date **1/13/25**

Outlet	C-value	Diam	Pitot		Volume	
A	0.9	2.0	**0**	PSI	**0**	GPM
B	0.9	2.5	**49**	PSI	**1175**	GPM
C	0.9	3.0	**0**	PSI	**0**	GPM
D	0.83	4.0	**0**	PSI	**0**	GPM

Residual Pressure **59** PSI at an observed volume of **1175** GPM
Projected Pressure **20** PSI calculates to a volume of **4884** GPM

Although the results are accurate for the date and time given, they may not accurately reflect higher or lower readings which vary due to seasonal conditions and time of day.
Per NFPA 24-10, Table C.4.10.1(a), note 1, $Q=29.84 \times c(d)^2 (p)^{0.5}$
Per NFPA 24-10, Paragraph C.4.10.1.2, $Q_r = Q_t \times (h_r/h_t)^{0.54}$
Test by: Hildebrandt

Witness
Client Arielle Mascarinas PBK

cc: arielle.mascarinas@pbk.com
emily.zhang@pbk.com
Chesca.Jung@pbk.com

Symbols: T = Test hydrant, F = Flow hydrant

SoCal Flow Testing
3741 Rose Dr, Yorba Linda, CA 92886
714-261-5716
email: info@socalflowtest.com

Hydrant Flow Test Report

Project
Address **4601 Walnut Ave** Test date **1/13/25**
City **Irvine** State **CA** Test time **16:30** File no.

Test hydrant location **In parking lot of**
Flow hydrant location **North of large pool** Hydr # Elev (ft +/-) **Grade**
Hydr # Elev (ft +/-) **Grade**

Static Pressure **68** PSI Report Date **1/13/25**

Outlet	C-value	Diam	Pitot		Volume	
A	0.9	2.0	**0**	PSI	**0**	GPM
B	0.9	2.5	**49**	PSI	**1175**	GPM
C	0.9	3.0	**0**	PSI	**0**	GPM
D	0.83	4.0	**0**	PSI	**0**	GPM

Residual Pressure **59** PSI at an observed volume of **1175** GPM
Projected Pressure **20** PSI calculates to a volume of **2900** GPM

Although the results are accurate for the date and time given, they may not accurately reflect higher or lower readings which vary due to seasonal conditions and time of day.
Per NFPA 24-10, Table C.4.10.1(a), note 1, $Q=29.84 \times c(d)^2 (p)^{0.5}$
Per NFPA 24-10, Paragraph C.4.10.1.2, $Q_r = Q_t \times (h_r/h_t)^{0.54}$
Test by: Hildebrandt

Witness
Client Arielle Mascarinas PBK

cc: arielle.mascarinas@pbk.com
emily.zhang@pbk.com
Chesca.Jung@pbk.com

Symbols: T = Test hydrant, F = Flow hydrant

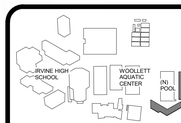
FIRE ACCESS SITE PLAN	1" = 60'-0"	1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
CHECKED BY: XX
DRAWN BY: XX
PLOT STAMP: 12/15/2025 4:45:30 PM

PBK
ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

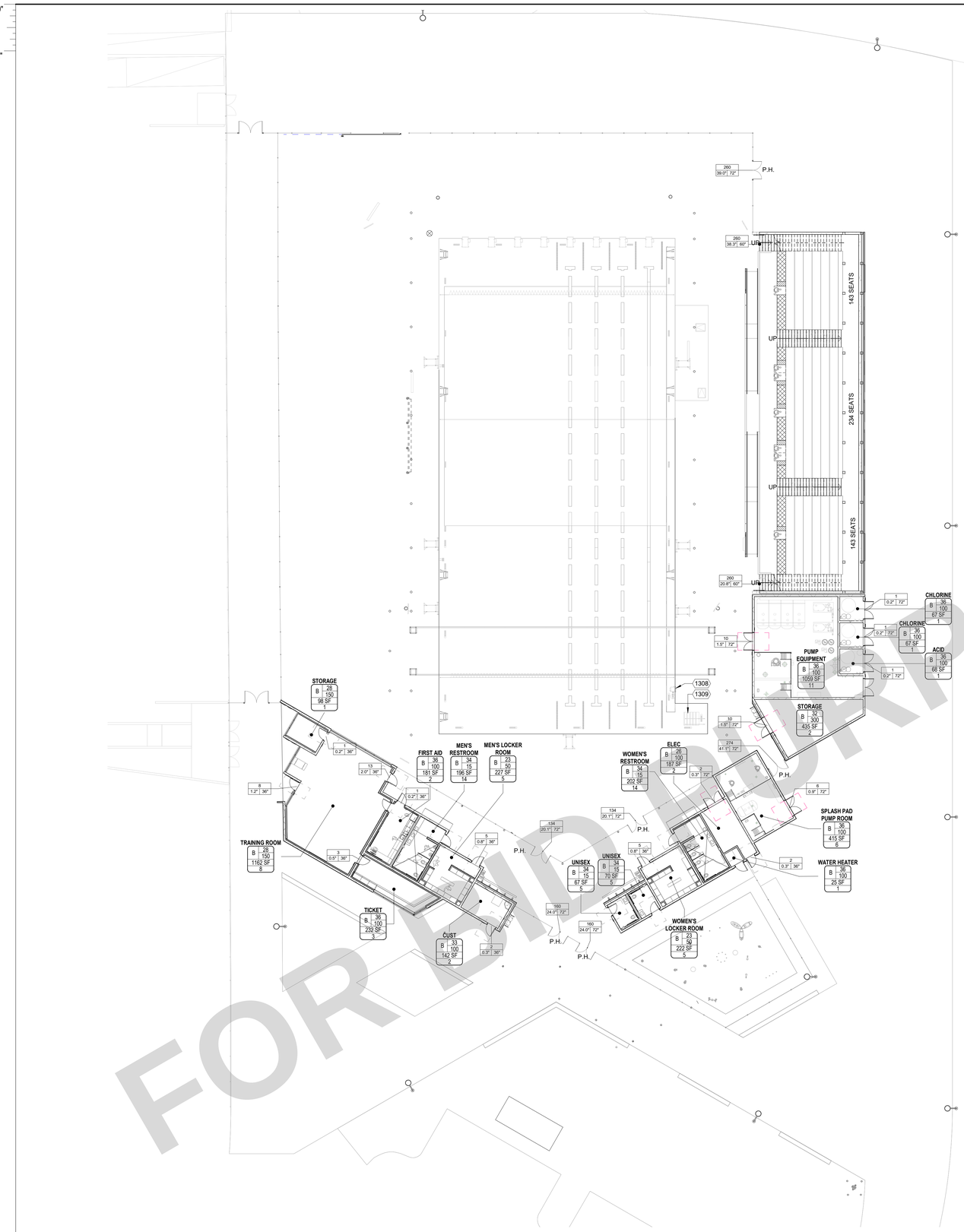
BID DOCUMENTS

BUILDING NUMBER

FIRE ACCESS PLAN

A0.3

CODE ANALYSIS
A0.4
FOR BLUEBEAM LABELING/OCR:



CODE ANALYSIS - FLOOR PLAN | 1/16" = 1'-0" | 1

BLEACHERS ANALYSIS

EXCERPT FROM TABLE 11B-221.2.1.1
NUMBER OF WHEELCHAIR SPACES IN ASSEMBLY AREAS

NUMBER OF SEATS	MINIMUM NUMBER OF REQUIRED WHEELCHAIR SPACES
501 to 5,000	6, PLUS 1 FOR EACH 150, OR FRACTION THEREOF, BETWEEN 501 THROUGH 5,000

BLEACHER OCCUPANT LOAD PER 1004.6

438 TOTAL NET 18" SEATS
004 TOTAL NET 33" ADJACENT WHEELCHAIR SPACES
003 TOTAL NET 36" WHEELCHAIR SPACES
007 TOTAL NET 18" COMPANION SEATS
038 TOTAL NET 18" SEMI-AMBULANT SEATS (520 SEATS X 1% = 6 SEATS REQ.)
026 TOTAL NET 18" DESIGNATED AISLE SEATS (520 SEATS X 5% = 26 SEATS REQ.)

516 TOTAL SEATING CAPACITY

18" DESIGNATED AISLE SEATS SPACES

18" SEMI AMBULANT SEATS SPACES

18" COMPANION SEATS

36" WHEELCHAIR SPACES, REF 23/AX0.2

33" ADJACENT WHEELCHAIR SPACES, REF 22/AX0.2

ALS TABULATION

BLEACHER SEAT COUNT	516 SEATS
MIN. # OF REQUIRED RECEIVERS PER **CBC 11B-219.3**	516 X 4% = 21 RECEIVERS REQ
MIN. # OF REQUIRED RECEIVERS TO BE HEARING-AID COMPATIBLE PER **CBC 11B-219.3**	21 X 25% = 6 REQ'D

KEYNOTES

KEYNOTE	DESCRIPTION
1308	ACCESSIBLE POOL LIFT & ANCHOR, REF DET 14/AQ2.7
1309	ACCESSIBLE POOL STAIR, REF DET 5/AQ2.7

CODE ANALYSIS LEGEND

LOBBY = ROOM NAME
E1 = OCCUPANCY GROUP
6 = SPACE USE - REF SPACE USE SCHEDULE
20 = OCCUPANT LOAD FACTOR (CBC TABLE 1004.5)
900 = FLOOR AREA - SQUARE FEET
45 = OCCUPANT LOAD (CBC TABLE 1004.5)
* = OCCUPANT LOAD SIGN REQUIRED WHEN NOTED - SEC 1004.9 - REF SIGNAGE SCHEDULE
76 = ACCUMULATIVE OCCUPANT LOAD OF SPACE WHEN APPLICABLE

PATH OF EGRESS - 120 = OCCUPANT LOAD

PATH OF EGRESS - 120 = OCCUPANT LOAD

COMBINED EXIT LOAD

PROVIDED CLEAR EXIT WIDTH (IN INCHES)

REQUIRED CLEAR EXIT WIDTH (IN INCHES)

**REQUIRED CLEAR EXIT WIDTH (IN INCHES) AT GATES PER 1005.3.2

**REQUIRED CLEAR EXIT WIDTH (IN INCHES) AT BLEACHER PER 1030.6.3

EXIT SIGN - REF ELEC. TACTILE EXIT SIGN ALSO REQUIRED. REF SIGNAGE SCHEDULE

PANIC HARDWARE DEVICE - REF DOOR SCHED AND HARDWARE GROUP

30" X 48" MIN. ACCESSIBLE CLEARANCE SYMBOL

5'-0" DIAMETER MIN. ADA CLEARANCE SYMBOL

NOTE: ALL DESIGNATED AREA OF SPACES ARE FOR THE USE OF THE AUTHORITY HAVING JURISDICTION ONLY AND ARE NOT TO BE USED FOR PROCUREMENT OR CONSTRUCTION PURPOSES.

BUILDING ANALYSIS

TABLE 10 - A MINIMUM EGRESS REQUIREMENTS

#	USE DESCRIPTION	OCCUPANT LOAD FACTOR
1	ASSEMBLY AREA - CONCENTRATED USE	7
14	GYMNASIUM (BLEACHERS)	[___] SEATS
23	LOCKER ROOM	50
25	MECHANICAL EQUIPMENT ROOM	300
26	ELECTRICAL EQUIPMENT ROOM	100
28	OFFICE	150
32	STORAGE	300
33	CUSTODIAL	100
36	ALL OTHERS	100
30	SWIMMING POOL (POOL AREA)	50
31	SWIMMING POOL (DECK)	15

1. OCCUPANT LOAD FACTORS ARE ACCORDING TO CBC SECTION 1004, TABLE NO. 1004.5
2. ACCESSORY USE AREA EXCLUDED FROM OCCUPANT LOADING
3. WHERE OCCUPANT LOAD SIGN IS REQUIRED THE ROOM SHALL BE POSTED WITH A SIGN NEAR THE MAIN EXIT FROM THE ROOM. REFER TO SIGNAGE SCHEDULE FOR DETAIL.
4. REFER TO DSA IR A-26 FOR FURTHER CLARIFICATION OF OCCUPANT LOAD.

1. BUILDING DESIGNATION:	POOL BUILDING
2. OCCUPANCY GROUP:	B
3. CONSTRUCTION TYPE:	III-B
4. BASIC ALLOWABLE FLOOR AREA:	19,000 SF
5. ACTUAL FLOOR AREA:	5,181 SF
6. ALLOWABLE AREA INCREASES:	NONE
7. BASIC ALLOWABLE BUILDING HEIGHT / NO. OF STORIES:	55 FT / 3 STORIES
8. ACTUAL BUILDING HEIGHT / NO. OF STORIES	23 FT / 1 STORY
9. FIRE SPRINKLER:	NO

ROOFING COVERING CLASS REQUIREMENTS (CBC TABLE 1505.1)

1. ROOF COVERING: CLASS A

MINIMUM EGRESS WIDTH (CBC SECTION 1005)

1. DOORS: # OCCUPANTS X 0.20 = EGRESS WIDTH
2. 2 EXITS ARE PROVIDED IN ALL ROOMS WHERE OCCUPANT LOAD EXCEEDS 50

1. BUILDING DESIGNATION:	BLEACHERS/SHADE STRUCTURE
2. OCCUPANCY GROUP:	A
3. CONSTRUCTION TYPE:	II-B
4. BASIC ALLOWABLE FLOOR AREA:	UNLIMITED
5. ACTUAL FLOOR AREA:	5,100 SF
6. ALLOWABLE AREA INCREASES:	NONE
7. BASIC ALLOWABLE BUILDING HEIGHT / NO. OF STORIES:	55 FT / UNLIMITED
8. ACTUAL BUILDING HEIGHT / NO. OF STORIES	24 FT / 1 STORY
9. FIRE SPRINKLER:	NO

ROOFING COVERING CLASS REQUIREMENTS (CBC TABLE 1505.1)

1. ROOF COVERING: CLASS A

MINIMUM EGRESS WIDTH (CBC SECTION 1004.6)

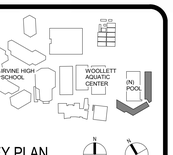
1. DOORS: # OCCUPANTS X 0.08 = EGRESS WIDTH
2. 2 EXITS ARE PROVIDED IN ALL ROOMS WHERE OCCUPANT LOAD EXCEEDS 50

FOR BID PURPOSES ONLY

PBK
ARCHITECT PBK, Inc.
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

CODE ANALYSIS

A0.4

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
CHECKED BY: XX
DRAWN BY: XX
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APPROVED GEOPIER INSTALLERS:

1. THESE DESIGN DRAWINGS ARE PREPARED BY THE WESTERN GROUND IMPROVEMENT, INC. (WGI) FOR USE IN GEOPIER CONSTRUCTION.
2. THE GEOPIER SYSTEM SHALL BE INSTALLED BY APPROVED INSTALLERS LICENSED BY GEOPIER FOUNDATION COMPANY. WITHOUT EXCEPTION, NO ALTERNATE INSTALLER WILL BE ACCEPTED UNLESS APPROVED BY THE OWNER'S ENGINEER AND WESTERN GROUND IMPROVEMENT, INC. UNAUTHORIZED USE OF THESE DRAWINGS IS PROHIBITED.
3. INSTALLERS CURRENTLY APPROVED FOR THESE WORKS ARE:
   ALLIANCE DIVERSIFIED ENTERPRISES, INC., ESCONDIDO, CA
   FOUNDATION SERVICE CORP., HUDSON, IA
   GEOPIER-NORTHWEST, INC., BELLEVUE, WA

GEOPIER DESIGN NOTES:

1. GEOPIER FOUNDATION SUPPORT IS AS DESIGNED BY WGI, SAN CLEMENTE, CALIFORNIA (DESIGNER).
2. THE GEOPIER FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INFORMATION PROVIDED IN THE SUBSURFACE EXPLORATION BY JOHN R. BYERLY INCORPORATED IN THE REPORT DATED 07/28/25 (FILE NO.: S-14708A). WGI HAS RELIED ON THIS INFORMATION AND WE HAVE NO REASON TO SUSPECT ANY OF THE INFORMATION IN THE REPORT IS IN ERROR. WGI IS NOT RESPONSIBLE FOR ERRORS OR OMISSIONS IN THE REPORT THAT MAY AFFECT THE PARAMETER VALUES IN OUR DESIGN. IF THE SUBSURFACE OR SITE CONDITIONS DIFFER FROM THOSE UTILIZED IN THE DESIGN THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY.
3. THE GEOPIER LAYOUT IS DESIGNED TO PROVIDE MITIGATION OF LIQUEFACTION SETTLEMENT AND LATERAL DISPLACEMENT. REFER TO THE DESIGN SUMMARY TABLE ON THIS SHEET, DETAIL 1/GP0.1.
4. FOOTING ELEVATIONS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND SHALL BE REPORTED IN WRITING TO THE INSTALLER'S QC REPRESENTATIVE PRIOR TO INSTALLING GEOPIER ELEMENTS.

GEOPIER LAYOUT NOTES:

1. OTHERS ARE TO PROVIDE A STABLE AND RELATIVELY LEVEL WORKING SURFACE. THE WORKING SURFACE SHALL BE CONSTRUCTED AND MAINTAINED BY OTHERS SUCH THAT THE INSTALLERS EQUIPMENT CAN EFFICIENTLY ACCESS AND TRAVEL THE SITE. THE INSTALLER IS NOT RESPONSIBLE FOR RETURNING THE SITE TO ITS ORIGINAL GRADE OR CONDITION.
2. GEOPIER ELEMENT LAYOUT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. GEOPIER ELEMENTS SHALL BE INSTALLED IN THE FIELD WITHIN 6 INCHES OF LOCATIONS SHOWN ON THESE PLANS.
3. GEOPIER ELEMENTS ARE LOCATED RELATIVE TO THE INTERSECTION OF REFERENCE GRID LINES OR AT THE CENTERLINE OF STRIP FOOTINGS, UNLESS DIMENSIONED OTHERWISE.
4. THE "GEOPIER LOCATION PLAN" PROVIDES GEOPIER ELEMENT NUMBER, LOCATION, AND LAYOUT ONLY. FOOTING LOCATIONS, SIZES, AND ORIENTATION SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY. PLEASE REFER TO THE STRUCTURAL PLANS FOR SPECIFIC FOUNDATION DIMENSIONS AND LOCATIONS. THE DESIGNER ACCEPTS NO RESPONSIBILITY FOR THE LOCATION OF FOOTINGS SHOWN ON THESE PLANS. THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY IF INFORMATION ON THESE PLANS CONFLICTS WITH STRUCTURAL OR ARCHITECTURAL DRAWINGS.

UTILTIES/OBSTRUCTION NOTES:

1. UTILITY LOCATIONS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE DESIGNER SHALL BE NOTIFIED OF ANY CONFLICTS WITH GEOPIER LOCATIONS SHOWN ON THE PLANS. NEW TEMPORARY UTILITY EXCAVATIONS SHALL BE LIMITED TO THE ZONE DEPICTED ON SHEET GP0.2. IF EXCAVATIONS ARE PLANNED WITHIN THE GEOPIER "NO DIG" ZONE, THE DESIGNER SHALL BE NOTIFIED TO DISCUSS EXCAVATION OPTIONS.
2. IF OBSTRUCTIONS ARE ENCOUNTERED DURING GEOPIER INSTALLATION THAT CANNOT BE REMOVED WITH CONVENTIONAL GEOPIER INSTALLATION EQUIPMENT, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE OBSTRUCTIONS. IF THE GENERAL CONTRACTOR DOES NOT DO SO IN A TIMELY MANNER THAT DOES NOT INTERRUPT GEOPIER PRODUCTION, THE INSTALLER MAY REMOVE OBSTRUCTION(S) AND SHALL BE REIMBURSED FOR COSTS INCURRED, INCLUDING LABOR, EQUIPMENT, AND MATERIALS. IN THE EVENT OBSTRUCTIONS ARE ENCOUNTERED BELOW THE DESIGNED BOTTOM OF FOOTING ELEVATION THE OBSTRUCTION SHALL BE REMOVED AS OUTLINED ABOVE. THE RESULTING EXCAVATION SHALL THEN BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS FOR STRUCTURAL FILL. THE AREA SHALL BE TESTED BY THE OWNER'S TESTING AGENCY AND THE COMPACTION TEST RESULTS SHALL BE SUBMITTED TO THE INSTALLER AND THE DESIGNER.

GEOPIER INSTALLTION AND TESTING NOTES:

1. INSTALLATION, TESTING AND INSPECTION OF THE GEOPIER SYSTEM SHALL BE IN CONFORMANCE WITH THE PROCEDURES OUTLINED IN IN ICC-ES EVALUATION REPORT ESR-1685 FOR THE RAMMED AGGREGATE PIER INTERMEDIATE FOUNDATION/SOIL REINFORCEMENT SYSTEM.
2. A QUALIFIED, FULL-TIME QUALITY CONTROL (QC) REPRESENTATIVE PROVIDED BY THE GEOPIER INSTALLER (INSTALLER) SHALL BE RESPONSIBLE FOR INSTALLATION OF THE GEOPIER ELEMENTS IN ACCORDANCE WITH THE DESIGN AND SHALL REPORT ALL GEOPIER FOUNDATION CONSTRUCTION ACTIVITIES TO THE DESIGNER. IF AUTHORIZED BY THE OWNER, THE QC REPRESENTATIVE SHALL COORDINATE QC ACTIVITIES WITH THE TESTING AGENCY HIRED BY THE OWNER. UNDER NO CIRCUMSTANCES SHALL THE TESTING AGENCY DIRECT GEOPIER INSTALLATION PROCEDURES.
3. GEOPIER ELEMENT DESIGN SHALL BE CONFIRMED BY POST-INSTALLATION CPTs. REFER TO THE GEOPIER LOCATION PLANS FOR TEST LOCATIONS.
   3.1. POST-IMPROVEMENT CPTs WILL BE ANALYZED FOR LIQUEFACTION TRIGGERING AND SETTLEMENT USING THE DESIGN METHODS DESCRIBED IN THE GEOPIER DESIGN SUBMITTAL.
   3.2. IF THE INITIAL CPTs DO NOT ACHIEVE THE SETTLEMENT CRITERIA, ADDITIONAL CPTs MAY BE PERFORMED THAT ALLOW FOR ADDITIONAL PORE WATER PRESSURE DISSIPATION AND AGING. ADDITIONAL CPTs MAY ALSO BE PERFORMED TO BETTER DEFINE THE LIMITS OF ANY NON-CONFORMING WORK. AFTER CPT TESTING IS COMPLETE, ADDITIONAL RAP ELEMENTS MAY BE INSTALLED AT LOCATIONS WHERE ADDITIONAL GROUND IMPROVEMENT IS NEEDED TO ACHIEVE THE DESIGNED PERFORMANCE.
4. GEOPIER ELEMENTS SHALL BE BASED ON THE FOLLOWING CRITERIA UNLESS OTHERWISE APPROVED IN WRITING BY THE DESIGNER AND DSA:
   A. INSTALLATION DEPTHS SHALL BE WITHIN 3 INCHES OR DEEPER THAN THE DEPTHS SHOWN ON THE PLANS.
   B. THE AVERAGE COMPACTED LIFT THICKNESS DURING EACH DAY'S PRODUCTION SHALL BE NO GREATER THAN 2 FEET.
   C. CROWD STABILIZATION TEST (CST) SHALL BE PERFORMED ON THE FIRST FIVE (5) INSTALLED PIERS (INCLUDING PRE-PRODUCTION PIERS) TO ESTABLISH ACCEPTANCE CRITERIA FOR THE MAXIMUM ALLOWABLE DEFLECTION OF THE MANDREL UNDER THE FULL-STATIC CROWD PRESSURE OF THE CLOSED-ENDED MANDREL. THE CST SHALL BE PERFORMED BY SHUTTING THE HAMMER ENERGY OFF AT THE TOP OF A COMPACTED LIFT IN THE BOTTOM ONE-HALF OF THE PIER. ONCE THE HAMMER ENERGY IS OFF AND THE MANDREL IS RESTING ON TOP OF THE LAST COMPACTED LIFT, STATIC CROWD PRESSURE SHALL BE APPLIED TO THE PIER FOR A PERIOD OF TEN SECONDS. THE CORRESPONDING DEFLECTION OF THE MANDREL IS THEN NOTED AND RECORDED. RESULTS OF THE INITIAL CSTS SHALL BE PROVIDED TO THE DESIGNER FOR REVIEW AND ESTABLISHMENT OF ACCEPTANCE CRITERIA AND FREQUENCY OF CSTS. THE FREQUENCY OF CSTS MAY VARY DEPENDING ON THE SOIL CONDITIONS; HOWEVER, CSTS SHALL BE PERFORMED ON NO LESS THAN 10% OF THE PRODUCTION PIERS OR AS APPROVED BY THE DESIGNER.
   D. GEOPIER ELEMENT AGGREGATE RELATIVE DENSITY SHALL BE RECORDED PERIODICALLY THROUGHOUT THE DAY. THE AVERAGE BLOW COUNTS OBTAINED UTILIZING A DYNAMIC CONE PENETROMETER (DCP) IN ACCORDANCE WITH ASTM STP-399, SHALL BE GREATER THAN 15 BLOWS FOR 1.75 INCHES OF PENETRATION (BPI). NO MORE THAN 10% OF DCP TESTS CONDUCTED ON EACH DAY SHALL BE BELOW 15 BPI. NOTE: USE OF DCP TESTS ARE NOT APPROPRIATE FOR OPEN GRADED AGGREGATE SUCH AS #57 STONE OR SAND.
   E. GEOPIER ELEMENT AGGREGATE SHALL BE APPROVED BY THE DESIGNER
5. GEOPIER ELEMENTS NOT MEETING INSTALLATION AND DESIGN REQUIREMENTS SHALL BE REINSTALLED UNLESS OTHERWISE APPROVED IN WRITING BY THE DESIGNER AND DSA.

SCHEDULE OF SPECIAL INSPECTION SERVICES - RAMMED AGGREGATE PIERS			
#	Item	Extent	
		Cont.	Periodic
1	Verify aggregate used in Geopier elements	***QC***	***GE***
2	Number of lifts and procedure to construct each lift	***QC***	***GE***
3	Pier dimensions and elevations	***QC***	***GE***
4	Observation of the installation	***QC***	***GE***
5	Results of Crowd Stabilization Testing (CST)	-	***QC/GE***
6	Type and size of hammer equiment used	-	***QC/GE***

NOTES:
1. (QC) - Quality Control by an approved testing laboratory, provided by the Geopier installer
2. (GE) - Observations by Geotechncial Engineer of Record
3. The Geotechnical Engineer shall submit a comprehensive report documenting final soil improvements constructed, construction observation, and the results of the confirmation testing and analysis to the Califronia Geological Survey (CGS). The project foundation construction shall not commence until a final CGS acceptance letter is issued and processed by DSA as a deferred submittal.

4 SCHEDULE OF SPECIAL INSPECTION SERVICES

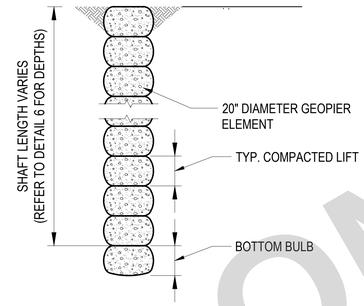
DRAWING SHEET INDEX	
GP0.1	GEOPIER NOTES AND DETAILS
GP1.1	GEOPIER LOCATION PLAN

5 DRAWING SHEET INDEX

Type / Mark	Geopier® Diameter, (in)	Number of Geopier® Elements per Footing	Maximum Geopier® spacing, (ft)	Design Depth, (ft) (1)	Notes
Pool	20	1 - 448	7.00	45	
Bleachers	20	449 - 619	7.00	38	
Pump Equipment Room	20	620 - 698	7.00	38	
Southwestern Building	20	699 - 894	7.00	38	
Southeastern Building	20	895 - 1076	7.00	23	

NOTES:
(1) Geopier elements shall penetrate fill.

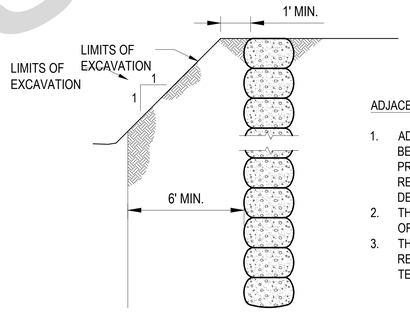
6 GEOPIER® DESIGN SUMMARY



1 TYPICAL GEOPIER® ELEMENT
NOT TO SCALE

TYPICAL GEOPIER ELEMENT NOTES:

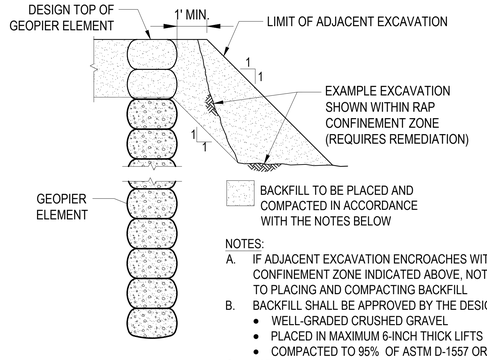
1. WORKING PAD NEAR EXISTING GRADE + 2 FEET.
2. OVEREXCAVATION AND RECOMACTION OF THE SUBGRADE IS REQUIRED AFTER GEOPIER INSTALLATION. REFER TO THE SOILS REPORT FOR DEPTHS AND COMPACTION REQUIREMENTS.
3. GEOPIER ELEMENTS SHALL BE INSTALLED TO DEPTHS SHOWN IN DETAIL 6 OF THIS SHEET.
4. GEOPIER ELEMENTS CAN TERMINATE AT SHALLOWER DEPTHS, BETWEEN 30 AND 35 FEET IF PENETRATION REFUSAL IS ENCOUNTERED IN THIS RANGE.
5. REFUSAL IS DEFINED AS LESS THAN 6 INCHES OF PENETRATION OVER 30 SECONDS.



ADJACENT TEMPORARY UTILITY EXCAVATION NOTES:

1. ADJACENT TEMPORARY UTILITY EXCAVATIONS MUST BE OUTSIDE THIS ZONE AND IN ACCORDANCE WITH PROJECT GEOTECHNICAL ENGINEER RECOMMENDATIONS. IF THIS IS NOT THE CASE, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY.
2. THIS DETAIL DOES NOT APPLY TO MASS EXCAVATION OR SITE GRADING.
3. THE PROJECT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS SHALL BE FOLLOWED FOR TEMPORARY OR PERMANANT SLOPES.

2 ADJACENT TEMPORARY UTILITY EXCAVATION LIMITS
NOT TO SCALE



NOTES:
A. IF ADJACENT EXCAVATION ENCROACHES WITHIN THE RAP CONFINEMENT ZONE INDICATED ABOVE, NOTIFY DESIGNER PRIOR TO PLACING AND COMPACTING BACKFILL
B. BACKFILL SHALL BE APPROVED BY THE DESIGNER AND CONSIST OF:
   - WELL-GRADED CRUSHED GRAVEL
   - PLACED IN MAXIMUM 6-INCH THICK LIFTS
   - COMPACTED TO 95% OF ASTM D-1557 OR 100% OF ASTM D-698
C. ALTERNATIVE BACKFILL MATERIALS MAY BE USED WITH WRITTEN APPROVAL OF THE DESIGNER

3 REQUIREMENTS FOR REMEDIATION OF INFRINGEMENT ON EXCAVATION LIMITS
NOT TO SCALE

LOS BID PURPOSES ONLY

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REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	REVISION 1	12/19/2025	

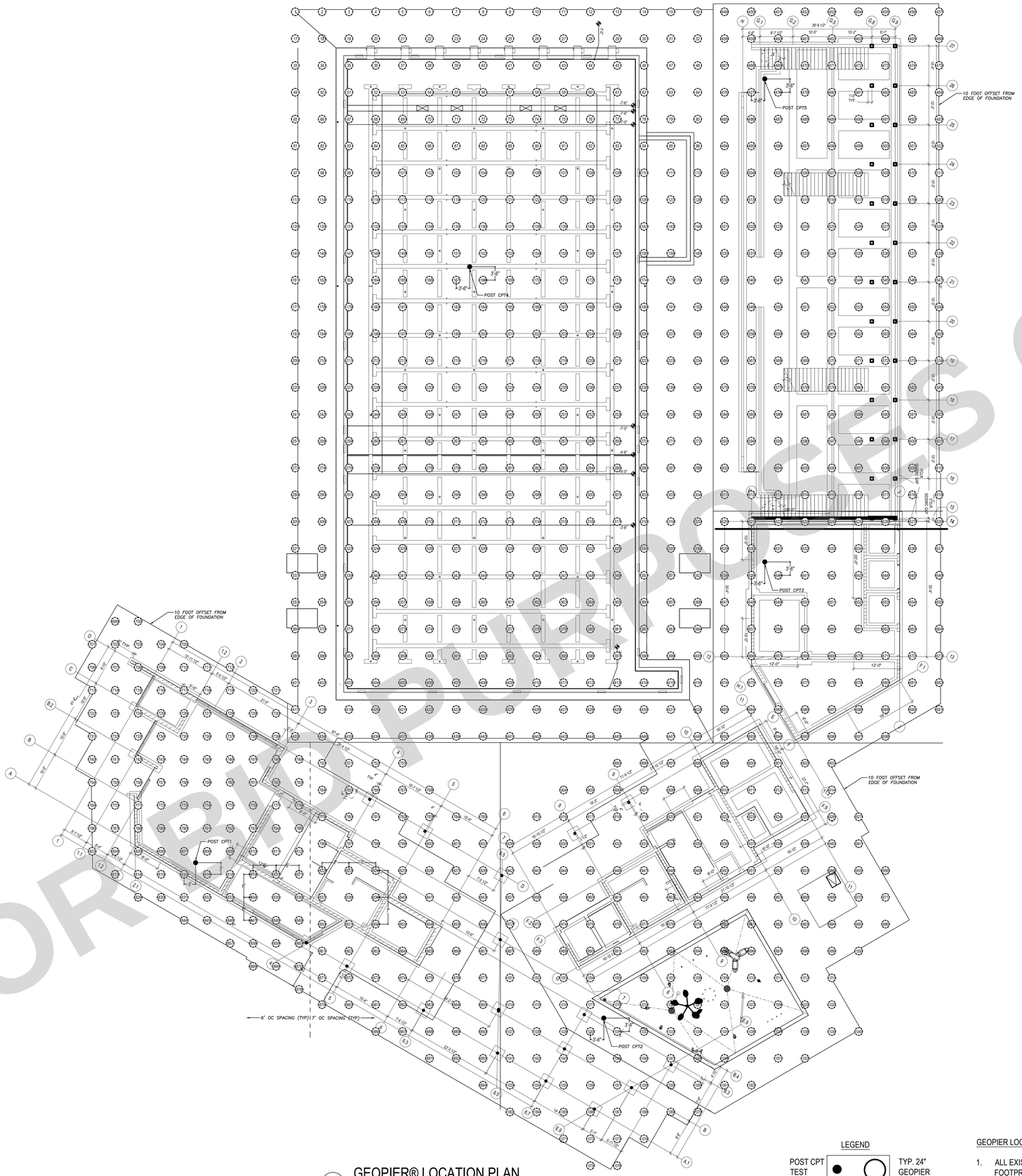
GEOPIER® NOTES AND DETAILS

REGISTERED PROFESSIONAL ENGINEER ANDREW M. BOND C 80599 CIVIL

WOOLLETT AQUATIC CENTER
IRVINE, CA

WGI | GEOPIER®
WESTERN GROUND IMPROVEMENT, INC.
209 AVENIDA DEL MAR, STE. 201B
SAN CLEMENTE, CA 92672
WWW.WESTERNGROUNDIMPROVEMENT.COM

PROJECT NUMBER GIE–23
DRAWN BY RAS
CHECK BY AMB
DATE 10/07/25
SHEET NUMBER
GP0.1



1 GEOPIER® LOCATION PLAN
NTS

LEGEND

POST CPT TEST LOCATION	●	TYP. 24" GEOPIER ELEMENT
	1	TYP. GEOPIER ELEMENT NUMBER

GEOPIER LOCATION PLAN NOTES:

1. ALL EXISTING AND PROPOSED UTILITIES WITHIN AND ADJACENT TO THE PROPOSED BUILDING FOOTPRINT SHALL BE FIELD VERIFIED BY THE GENERAL CONTRACTOR AND COORDINATED WITH THE GEOPIER INSTALLER BEFORE GEOPIER ELEMENT INSTALLATION SHALL PROCEED.
2. THESE DRAWINGS ARE FOR GEOPIER LOCATION ONLY, AND ARE BASED ON THE STRUCTURAL DRAWINGS PROVIDED BY PBK ON SHEET S1.1 & S1.2 DATED 08/5/25. REFER TO STRUCTURAL DRAWINGS FOR FOOTING LAYOUT AND ORIENTATION.
3. GEOPIER ELEMENTS SHALL BE LOCATED IN THE FIELD AS SHOWN, DIMENSIONED FROM CONTROL POINTS ESTABLISHED FROM STRUCTURAL AND/OR ARCHITECTURAL PLANS.

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REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	REVISION 1	12/19/2025	

GEOPIER® LOCATION PLAN

REGISTERED PROFESSIONAL ENGINEER AARON BISHOP C 80599 CIVIL ENGINEER

WOOLLETT AQUATIC CENTER
IRVINE, CA

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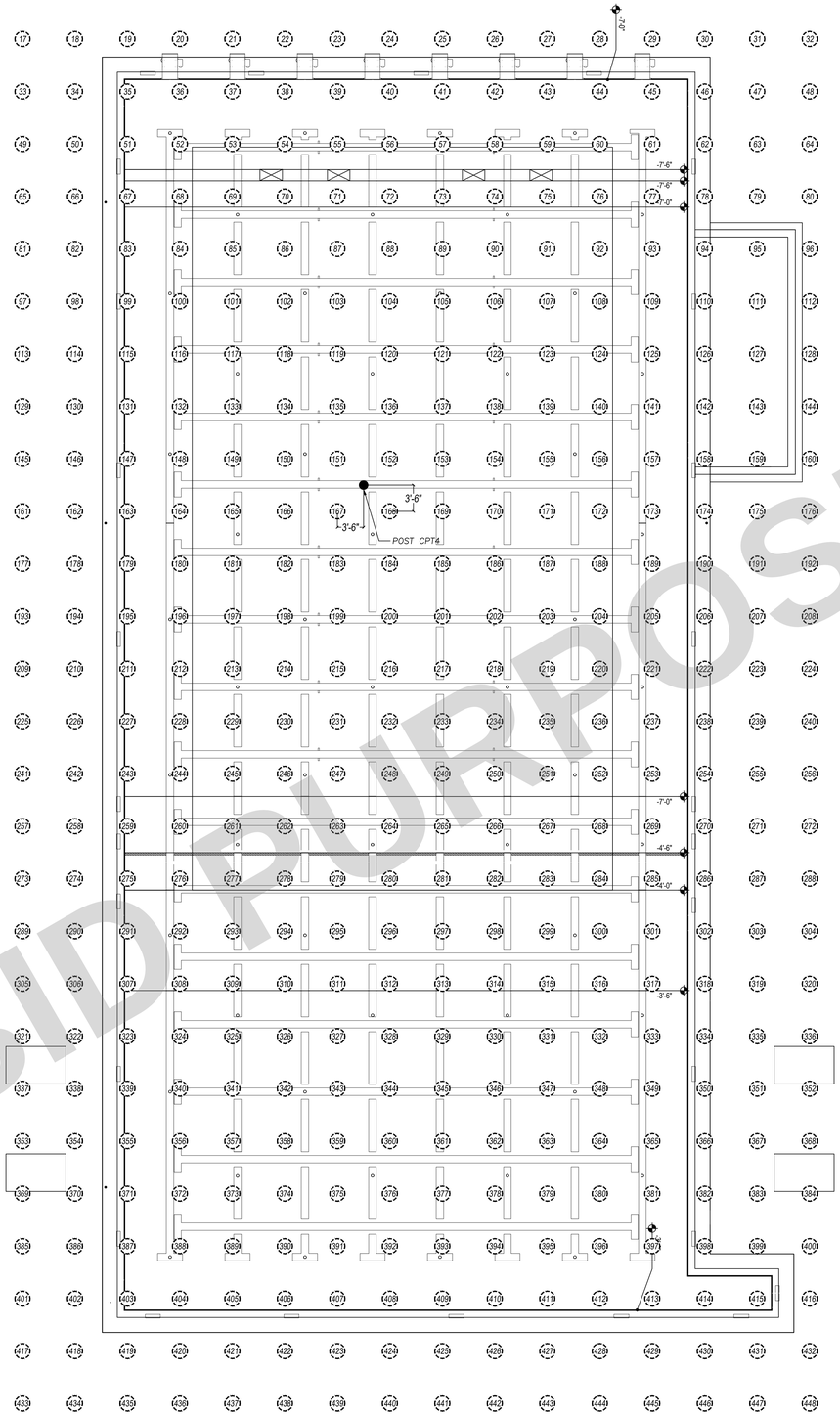

1 GEOPIER® LOCATION PLAN
1/8" = 1'-0"

LEGEND

POST CPT TEST LOCATION

TYP. 24" GEOPIER ELEMENT

1 TYP. GEOPIER ELEMENT NUMBER

GEOPIER LOCATION PLAN NOTES:

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REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	REVISION 1	12/19/2025	

GEOPIER® LOCATION PLAN

REGISTERED PROFESSIONAL ENGINEER AARON BISHOP C 80599 CIVIL STATE OF CALIFORNIA

WOOLLETT AQUATIC CENTER
IRVINE, CA

WGI GEOPIER®
WESTERN GROUND IMPROVEMENT, INC.
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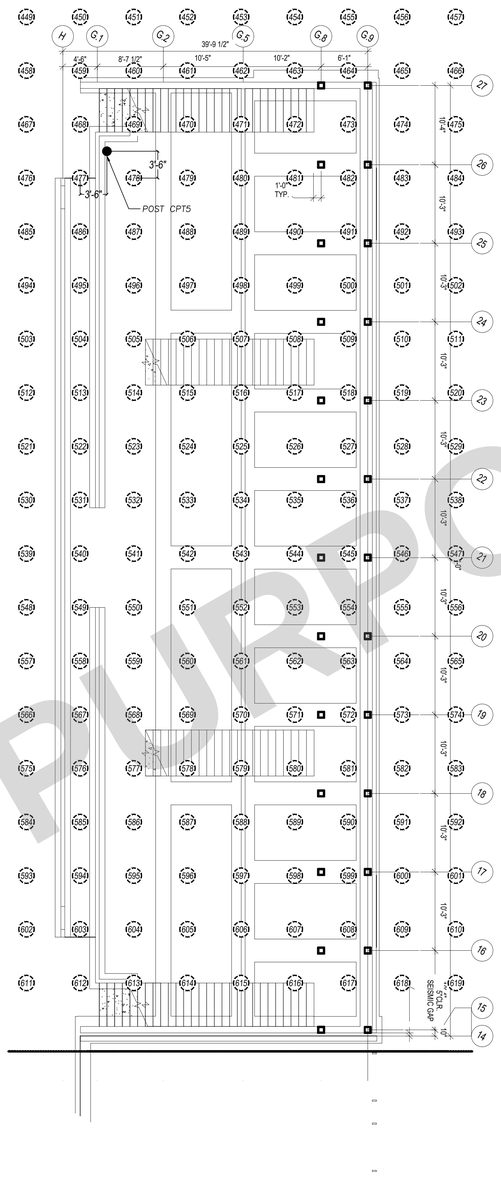
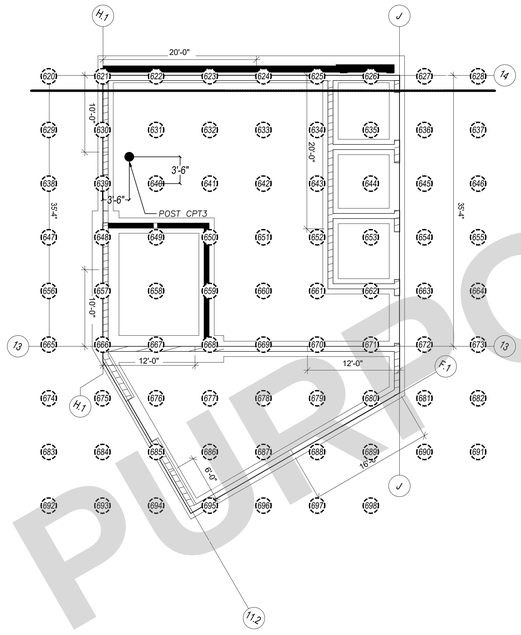
SHEET NUMBER GP1.2


H
G.1
G.2
G.5
G.8
G.9
39'-9 1/2"
5'-6"
8'-7 1/2"
10'-5"
10'-2"
6'-1"
3'-6"
1'-3"-6"
POST CPT5
1'-0" TYP.
4'-0"
5'-0"
10'-0"
8'-0"
10'-0"
8'-0"
10'-0"
8



1 GEOPIER® LOCATION PLAN
1/8" = 1'-0"

LEGEND

POST CPT TEST LOCATION

TYP. 24" GEOPIER ELEMENT

1 TYP. GEOPIER ELEMENT NUMBER

GEOPIER LOCATION PLAN NOTES:

1. ALL EXISTING AND PROPOSED UTILITIES WITHIN AND ADJACENT TO THE PROPOSED BUILDING FOOTPRINT SHALL BE FIELD VERIFIED BY THE GENERAL CONTRACTOR AND COORDINATED WITH THE GEOPIER INSTALLER BEFORE GEOPIER ELEMENT INSTALLATION SHALL PROCEED.
2. THESE DRAWINGS ARE FOR GEOPIER LOCATION ONLY, AND ARE BASED ON THE STRUCTURAL DRAWINGS PROVIDED BY PBK ON SHEET S1.1 & S1.2 DATED 08/5/25. REFER TO STRUCTURAL DRAWINGS FOR FOOTING LAYOUT AND ORIENTATION.
3. GEOPIER ELEMENTS SHALL BE LOCATED IN THE FIELD AS SHOWN, DIMENSIONED FROM CONTROL POINTS ESTABLISHED FROM STRUCTURAL AND/OR ARCHITECTURAL PLANS.

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REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	REVISION 1	12/19/2025	

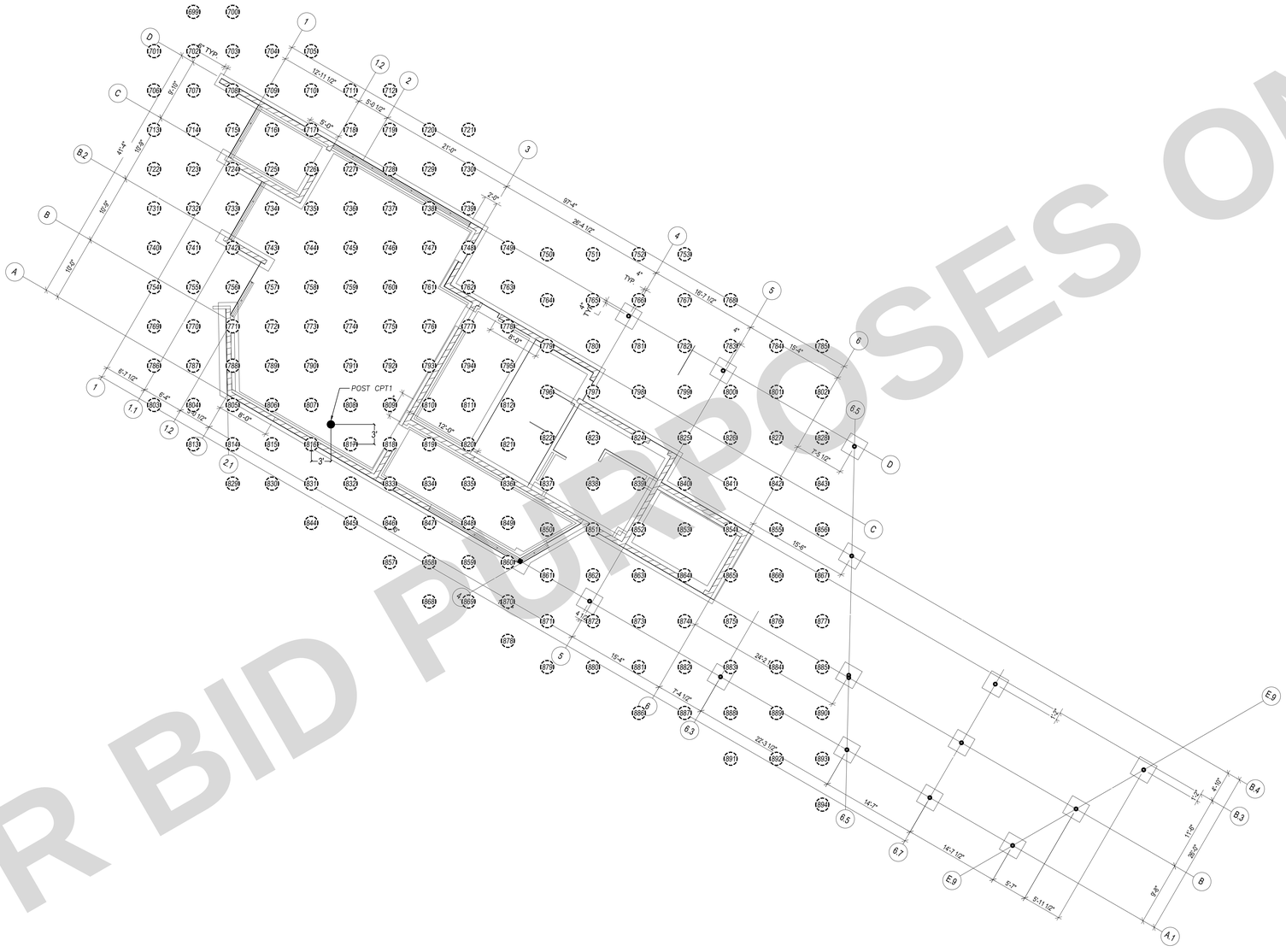
GEOPIER® LOCATION PLAN

REGISTERED PROFESSIONAL ENGINEER AARON BISHOP C 80599 CIVIL STATE OF CALIFORNIA

WOOLLETT AQUATIC CENTER
IRVINE, CA

WGI GEOPIER®
WESTERN GROUND IMPROVEMENT, INC.
209 AVENIDA DEL MAR, STE. 201B
SAN CLEMENTE, CA 92672
WWW.WESTERNGROUNDIMPROVEMENT.COM

PROJECT NUMBER GIE-23
DRAWN BY RAS
CHECK BY AMB
DATE 10/07/25
SHEET NUMBER GP1.4



1 GEOPIER® LOCATION PLAN
1/8" = 1'-0"

LEGEND

POST CPT TEST LOCATION

TYP. 24" GEOPIER ELEMENT

1 TYP. GEOPIER ELEMENT NUMBER

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FOR BID PURPOSES ONLY

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	REVISION 1	12/19/2025	

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REGISTERED PROFESSIONAL ENGINEER
AARON BISHOP
C 80599
CIVIL
STATE OF CALIFORNIA

WOOLLETT AQUATIC CENTER
IRVINE, CA

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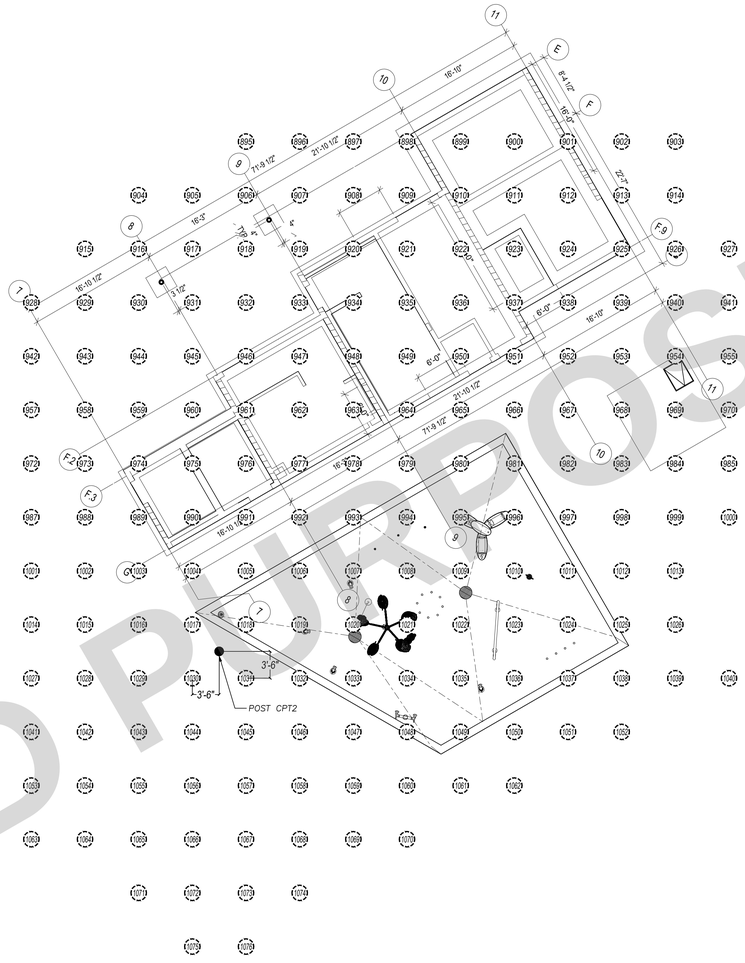
209 AVENIDA DEL MAR, STE. 201B
SAN CLEMENTE, CA 92672
WWW.WESTERNGROUNDIMPROVEMENT.COM

PROJECT NUMBER GIE-23
DRAWN BY RAS
CHECK BY AMB
DATE 10/07/25
SHEET NUMBER GP1.5



1 GEOPIER® LOCATION PLAN
1/8" = 1'-0"

LEGEND

POST CPT TEST LOCATION

TYP. 24" GEOPIER ELEMENT

TYP. GEOPIER ELEMENT NUMBER

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REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	REVISION 1	12/19/2025	

GEOPIER® LOCATION PLAN

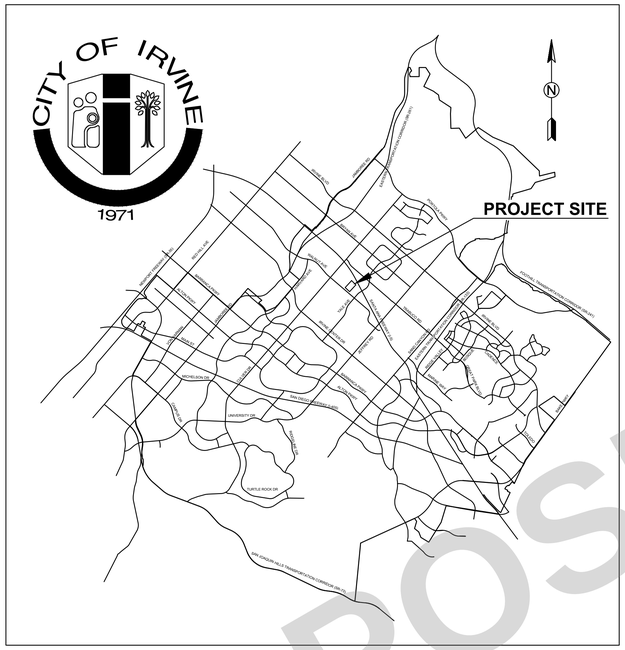
REGISTERED PROFESSIONAL ENGINEER AARON BISHOP C 80599 CIVIL ENGINEERING

WOOLLETT AQUATIC CENTER
IRVINE, CA

WGI | GEOPIER®
WESTERN GROUND IMPROVEMENT, INC.
209 AVENIDA DEL MAR, STE. 201B
SAN CLEMENTE, CA 92672
WWW.WESTERNGROUNDIMPROVEMENT.COM

PROJECT NUMBER GIE-23
DRAWN BY RAS
CHECK BY AMB
DATE 10/07/25
SHEET NUMBER GP1.6

CONSTRUCTION PLANS FOR THE IMPROVEMENT OF WILLIAM WOOLLETT JR. AQUATICS CENTER



LOCATION MAP

INDEX OF DRAWINGS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	DEMOLITION PLAN
4	GRADING & DRAINAGE PLAN
5	GRADING & DRAINAGE PLAN
6	DETAIL SHEET
7	DETAIL SHEET
8	DETAIL SHEET
9	DETAIL SHEET
10	SITE WET UTILITY PLAN
11	DETAIL SHEET

BENCH MARK:

BENCHMARKS PER ORANGE COUNTY SURVEY DEPT.
BENCHMARK – 3ZZ–3–01 (158.942 FEET NAVD 88 2012 ADJUSTMENT) LOCATION: SWLY CORNER OF REMINGTON AND TRABUCO PROJECT COMBINATION FACTOR = 0.99997143

BASIS OF BEARINGS:

COORDINATES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 6, NAD83 (2017.50 EPOCH) BASED ON TIES TO CSRS WEBSITE (OEOC, SACY and LGWD.)

STORM WATER POLLUTION CONTROL NOTES:

1. APPROPRIATE BMP'S FOR CONSTRUCTION-RELATED MATERIALS, WASTE, SPILLS OR RESIDUES SHALL BE IMPLEMENTED AND RETAINED ON SITE TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTY BY WIND OR RUNOFF.

2. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.

3. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TACKING, OR WIND.

4. ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY RAIN PROBABILITY FORECAST EXCEEDS 50%.

5. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.

6. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.

7. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS.

8. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIAL OTHER THAN STORMWATER ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT: CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302.

9. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE, DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING AND SUPERCHLORINATED POTABLE WATER LINE FLUSHING. DURING CONSTRUCTION, PERMITTEE SHALL DISPOSE OF SUCH MATERIALS IN A WASHOUT BIN OR SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.

10. DEWATERING OF CONTAMINATED GROUNDWATER, OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.

11. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.

12. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.

13. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.

14. THE GENERAL CONTRACTOR SHALL NOTIFY ALL SUBCONTRACTORS & MATERIAL SUPPLIERS: THAT DUMPING OF CHEMICALS INTO THE STORM DRAIN SYSTEM OR THE WATERSHED IS PROHIBITED.

15. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.

THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK, CONSTRUCTION, CALIFORNIA STORMWATER QUALITY ASSOCIATION, 2023 EDITION, MAY APPLY DURING CONSTRUCTION (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY INSPECTOR):

NON-STORMWATER MANAGEMENT & MATERIAL MANAGEMENT BMPs
- NS-1 - WATER CONSERVATION PRACTICES
- NS-2 - DEWATERING OPERATIONS
- NS-3 - PAVING AND GRINDING OPERATIONS
- NS-6 - ILLICIT CONNECTION/DISCHARGE
- NS-7 - POTABLE WATER/IRRIGATION
- NS-8 - VEHICLE AND EQUIPMENT CLEANING
- NS-10 - VEHICLE AND EQUIPMENT MAINTENANCE
- NS-12 - CONCRETE CURING
- NS-13 - CONCRETE FINISHING
- NS-14 - MATERIAL AND EQUIPMENT USE
- WM-1 - MATERIAL DELIVERY AND STORAGE
- WM-2 - MATERIAL USE
- WM-3 - STOCKPILE MANAGEMENT
- WM-4 - SPILL PREVENTION AND CONTROL
- WM-5 - SOLID WASTE MANAGEMENT
- WM-6 - HAZARDOUS WASTE MANAGEMENT
- WM-7 - CONTAMINATED SOIL MANAGEMENT
- WM-8 - CONCRETE WASTE MANAGEMENT
- WM-9 - SANITARY/SEPTIC WASTE MANAGEMENT
- WM-10 - LIQUID WASTE MANAGEMENT

EROSION & SEDIMENTAL CONTROL BMPs
- EC-1 - SCHEDULING
- EC-2 - PRESERVATION OF EXISTING VEGETATION
- EC-7 - GEOTEXTILES & MATS
- EC-9 - EARTH DIKES AND DRAINAGE SWALES
- EC-11 - SLOPE DRAINS
- SE-1 - SILT FENCE
- SE-2 - SEDIMENT BASIN
- SE-3 - SEDIMENT TRAP
- SE-4 - CHECK DAM
- SE-5 - FIBER ROLLS
- SE-6 - GRAVEL BAG BERM
- SE-7 - STREET SWEEPING AND VACUUMING
- SE-8 - SANDBAG BARRIER
- SE-9 - STRAW BALE BARRIER
- SE-10 - STORM DRAIN INLET PROTECTION
- WE-1 - WIND EROSION CONTROL
- TC-1 - STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TC-2 - STABILIZED CONSTRUCTION ROADWAY
- TC-3 - ENTRANCE/OUTLET TIRE WASH

NOTE TO CONTRACTOR: BEFORE DEMOLITION OR TRENCHING OF UTILITIES OCCURS, THE CONTRACTOR SHALL COMPLETE HIS OWN UNDERGROUND UTILITY MAPPING SURVEY OF THE PROJECT SITE TO DETERMINE WERE EXISTING UTILITIES ARE AND WHERE POSSIBLE UNDERGROUND CONFLICTS MAY OCCUR. CONTRACTOR SHALL PROVIDE THIS PLAN TO THE OWNER PRIOR TO DEMOLITION AND TRENCING.

NPDES STORM GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES (GENERAL PERMIT) ORDER WQ 2022-0057-DWQ: BEFORE CONSTRUCTION ACTIVITY CAN COMMENCE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE IN PLACE AT THE CONSTRUCTION SITE AND A WASTE DISCHARGE IDENTIFICATION NUMBER (WDID#) OBTAINED FROM THE STATE WATER BOARD. THE CIVIL ENGINEER OF RECORD IS RESPONSIBLE FOR THE PREPARATION OF THE SWPPP & OBTAINING THE WDID #. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF THE SWPPP BY UTILIZING A QUALIFIED SWPPP PRACTITIONER (QSP) AS DEFINED IN THE CONSTRUCTION GENERAL PERMIT. THIS INCLUDES MAINTENANCE OF EROSION AND SEDIMENT CONTROL DURING THE LIFE OF THE PROJECT AND SUBMITTAL OF THE ANNUAL REPORTS.

RECOMMENDATIONS AND CONCLUSIONS OF GEOTECHNICAL REPORT;
8566 DATED SEPTEMBER 17, 2024
8575 DATED OCTOBER 1, 2024
8620 DATED NOVEMBER 12, 2024
8732 DATED MARCH 3, 2025
8853 DATED JULY 28, 2025
BY JOHN R. BYERLY INC. SHALL BE THOROUGHLY COMPLIED WITH. WHERE CONFLICTING INFORMATION BETWEEN THIS GRADING PLAN AND/OR THE PROJECT EARTHWORK SPECIFICATIONS & THE MENTIONED REPORTS OCCUR, NOTIFY THE ARCHITECT.

NOTE: CONTRACTOR IS REQUIRED TO RESTORE ALL EXISTING IMPROVEMENTS TO THE SAME CONDITION, THAT ARE NOT PART OF THIS PROJECT, THAT EXISTED PRIOR TO STARTING CONSTRUCTION.

EARTHWORK NOTICE TO CONTRACTOR: NO EARTHWORK ANALYSIS HAS BEEN COMPLETED WITH RESPECT TO VOLUMES OF SOILS TO BE EXCAVATED, PLACED, OR IMPORTED IN ORDER TO PROVIDE THE FINISHED GRADES SHOWN ON THE PLANS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE EARTHWORK QUANTITIES NECESSARY TO COMPLETE THE PROJECT.

HORIZONTAL CONTROL

A CAD GEOMETRIC ELECTRONIC FILE SHALL BE MADE AVAILABLE TO THE CONTRACTOR UPON REQUEST FOR THE CONTRACTOR'S SURVEYOR TO LAYOUT THE CONSTRUCTION STAKING OF THE PROJECT. THE SURVEYOR OR CONTRACTOR WILL NEED TO SIGN A WAIVER FORM BEFORE RELEASE OF ANY CAD ELECTRONIC DRAWINGS.

EXISTING UNDERGROUND STRUCTURES

THE LOCATIONS OF THE EXISTING UNDERGROUND UTILITIES, AS SHOWN ON THIS PLAN, WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE LOCATIONS OF SUCH UNDERGROUND UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY EXCAVATION OR IMPROVEMENT. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN TO BE PROTECTED HEREON AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN HEREON.

ABBREVIATIONS

ABND	ABANDONED	MH	MANHOLE
AC	ASPHALT PAVEMENT	NG	NATURAL GROUND
ACP	ASBESTOS CEMENT PIPE (TRANSITE)	N.I.C.	NOT IN CONTRACT
BLDG	BUILDING	P.C.C.	PORTLAND CEMENT CONRETE
BC	BEGINNING OF CURVE	℄	PROPERTY LINE
BW	BACK OF WALK	PIV	POST INDICATOR VALVE
℄	CENTERLINE	PP	POWER POLE
CB	CATCH BASIN	RCE	REGISTERED CIVIL ENGINEER
CF	CURB FACE HEIGHT	RIM	TOP OF MANHOLE ELEVATION
CLF	CHAIN LINK FENCE	S	SLOPE
CONC	CONCRETE	SD	STORM DRAIN
DCV	DETECTOR CHECK VALVE	SDMH	STORM DRAIN MANHOLE
DESC	DESCRIBED	SL	STREET LIGHT
D/W	DRIVEWAY	SMH	SEWER MANHOLE
DI	DROP INLET	S.P.P.W.C.	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (2021 EDITION).
EP	EDGE OF PAVEMENT	S.S.P.W.C.	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), 2021 EDITION
EC	END OF CURVE	SW	SIDEWALK
EX	EXISTING	TC	TOP OF CURB
FDC	FIRE DEPARTMENT CONNECTION	TELE	TELEPHONE
FH	FIRE HYDRANT	TCO	TOP OF CLEANOUT
FL	FLOWLINE	TD	TOP OF POOL DECK
FS	FINISH SURFACE	TG	TOP OF GRATE
GA	GUY ANCHOR	TSD	TOP OF SLOT DRAIN
GB	GRADE BREAK	TW	TOP OF WALL
GP	GUARD POST	TYP.	TYPICAL
GV	GAS VALVE	UTIL	UTILITY
HB	HOSE BIBB	WM	WATER METER
HP	HIGH POINT	WV	WATER VALVE
ICV	IRRIGTION CONTROL VALVE	W VLT	WATER VAULT
INV	INVERT	VIF	VERIFY IN FIELD
IP	IRON PIPE	VLT	VAULT
L	LENGTH		
LIP	LIP OF GUTTER		
LP	LIGHT POLE		
L T & T	LEAD TACK AND TAG		

LEGEND

- SEWER MANHOLE
- STORM DRAIN MANHOLE
- TELEPHONE MANHOLE
- FIRE HYDRANT
- SEWER CLEANOUT
- WATER VALVE
- GAS VALVE
- WATER METER
- GAS METER
- WATER VAULT
- GAS VAULT
- TELEPHONE VAULT
- ELECTRIC VAULT
- WELL
- ELECTRIC PULLBOX
- GUY WIRE
- LIGHT
- OVERHANG POST
- SIGN POST
- WIRE FENCE
- CHAIN LINK FENCE
- BLOCK WALL
- TREE
- (115.0) EXISTING CONTOUR ELEVATION
- 115.0 PROPOSED CONTOUR ELEVATION
- IRRIGATION VALVE
- GRATE
- CF CURB FACE
- INV INVERT
- FLOW DIRECTION
- FS FINISHED SURFACE
- FF FINISHED FLOOR

UNDERGROUND UTILITY LINETYPE LEGEND:
- (E)STORM DRAIN
- (E)DOMESTIC WATER
- (E)SANITARY SEWER
- (E)GAS
- (E)ELECTRICAL/POWER
- (E)COMMUNICATIONS
- (E)LIGHTING CONDUIT
- (E)FIRE WATER
- NEW STORM DRAIN
- NEW POTABLE WATER
- NEW SANITARY SEWER
- NEW FIRE WATER

FOR REVIEW PURPOSES ONLY

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949-548-5000 P
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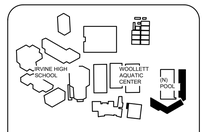
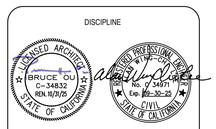
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



CONSULTANT
FPL
FPL and Associates, Inc.
Traffic • Transportation • Civil
30 Corporate Park, Suite 401
Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

TITLE SHEET

C1.0

Plot Date: 8/7/2025 8:11:50 AM Last Save By: ron.comedy Login: Jessica Zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C1.0 Title Sheet.dwg

GRADING NOTES

1. All work shall be in accordance with the latest adopted edition of
   a. The Irvine Grading and Excavation Regulations and Grading Manual
   b. The City of Irvine Standard Plans
   c. Special requirements of the Grading Permit
   d. The California Building Code
   e. Standard Specifications for Public Works Construction (Green Book).
   f. Manual of California Uniform Traffic Control Devices (MUTCD). Whenever special requirements conflict on any subject matter, the Chief Building Official will determine which special requirement and/or code will govern.
   g. "Geotechnical Investigation Report for William Woollett Jr. Aquatics Center Improvements", prepared by John R. Byerly, Inc. Project No. 8566, September 17, 2024.
2. No grading shall be started without first notifying Grading Inspection. A pre-grading meeting at the site is required before start of clearing and grading with the following people present: Owner, Grading Contractor, Design Civil Engineer, Geotechnical Engineer, Engineering Geologist, City Grading Inspectors, City Maintenance Representative, Archaeologist, Paleontologist or their representatives.
3. The Permittee or his agent shall notify Grading Inspection when the grading operation is ready for each of the following inspections: (Phone (949) 724-6329)
   a. Initial Inspection. When the permittee is ready to begin work, but not less than two days before any clearing or grading is started.
   b. Toe Inspection. After the natural ground or bedrock is exposed and prepared to receive fill, but before fill is placed.
   c. Excavation Inspection. After the excavation is started, but before the vertical depth of the excavation exceeds ten feet.
   d. Fill Inspection. After the fill placement is started, but before the vertical height of the fill exceeds ten feet.
   e. Drainage Device Inspection. After forming of terrace drains, down-drains or after placement of pipe in subdrains, but before any concrete or filler material is placed.
   f. Rough Grading Inspection. When all rough grading has been completed. This inspection may be called for at the completion of rough grading without the inspector necessarily having previously reviewed and approved the required reports.
   g. Final Grading and Improvement Inspection. When all work (including installation of all drainage structures, other protective devices and all other improvements which include landscaping and irrigation systems) has been completed and the as-graded plan, professional certifications and the required reports have been submitted.
4. Cut and fill slopes shall be no steeper than two horizontal to one vertical.
5. Areas to receive fill shall be properly prepared and approved by the Geotechnical Engineer prior to placing of fill.
6. Fills shall be benched into approved material as deemed suitable by the Geotechnical Engineer.
7. All existing fills shall be approved by the Geotechnical Engineer and Chief Building Official before any additional fills are added.
8. Slopes exceeding five feet in height must be planted with an approved irrigation system. All slopes more than three feet in height shall be permanently protected against damage from erosion by planting with grass or groundcover plants.
9. The stockpiling of excess material shall be approved by the Chief Building Official prior to excavation.
10. All trench back fills shall be tested and approved by the site Geotechnical Engineer per the Grading and Excavation Regulations.
11. The final compaction report and approval from the Geotechnical Engineer shall contain the type of field-testing performed. The method of obtaining the in-place density, whether sand cone, nuclear gauge, or drive ring shall be so noted for each test. Sufficient maximum density determinations shall be performed to verify the accuracy of the maximum density curves used by the field technician.
12. Notification of Noncompliance: If, in the course of fulfilling their responsibility, the Civil Engineer, the Geotechnical Engineer, the Engineering Geologist or the Testing Agency finds that the work is not being done in conformance with the approved grading plans, the discrepancies shall be reported immediately in writing to the person in charge of the grading work and to the Chief Building Official. Recommendation for corrective measures, if necessary, shall be submitted to the Chief Building Official for approval.
13. All existing drainage courses on the project site must continue to function, while protected, especially during storm conditions. Approved protective measures and temporary drainage provisions must be used to protect adjoining properties during the grading project. In all cases, the Contractor and/or Developer shall be held liable for any damage due to obstructing natural or manmade drainage patterns.
14. The Permittee shall comply with Section 5-10-127 of the Grading Code when an excess of 5,000 cubic yards of earth is moved on public roadways from the site of an earth grading operation.
15. Whenever there is an existing catch basin along the construction site frontage, the on-site storm drain system shall be designed to convey water directly to the basin. Exceptions shall require approval by the City Engineer.
16. All concrete structures that come in contact with on-site soils shall be constructed as recommended in the "Geotechnical Investigation Report" File No. S-14708, Report No. 8566, prepared by John R. Byerly Inc., Dated September 17, 2024, the "Response to Engineering Geology and Seismology Review, Proposed William Woollett Jr. Aquatics Center Improvements", prepared by John R. Byerly Inc., Dated March 3, 2025, and the "Engineering Geology and Seismology Review, Irvine High School - William Woollett Jr. Aquatic Center" Project No. 244072-1L, prepared by Terra Geosciences, Dated February 28, 2025.
17. All planters adjacent to the foundations shall be sealed along side of the foundation footing and extended under the planter area to a minimum of 12" to prevent moisture from reaching the foundation subgrade soils. All concrete planter curbs adjacent to pavement areas shall be constructed with weep holes through the curb face.
18. Export soils must go to a legal dumpsite or to a legal permitted site approved by the Chief Building Official.
19. No dirt, rock or construction material may be tracked or dropped within the public rights-of-way during the transportation of said material or equipment associated with the project. Any debris in the public right-of-way shall be removed immediately and/or as deemed necessary by the grading inspector.
20. Dirt access ramps over curb and gutter to construction sites are not allowed. When necessary for entrance to such construction sites, asphalt ramps with a minimum 3" diameter pipe will be constructed per City standard 217. All base, gravel, soil or other material carried into the roadway by contractor's personnel or equipment will be cleaned immediately as necessary to prevent pollutants from getting into the storm drain system. Trucks hauling base, gravel, fill or export materials within City limits shall be tarped as necessary to prevent material from spilling into the roadway.
21. Prior to any construction that involves hazardous conditions, the Contractor shall first obtain a permit from the State Division of Occupational Safety and Health (DOSH).
22. Rule 403, Air Quality Control Management District, must be implemented during construction.
   a. A person shall not cause or allow the emissions of fugitive dust from any transport, handling, construction or storage activity so that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. (Does not apply to emission emanating from unpaved roadways open to public travel or farm roads. This exclusion shall not apply to industrial or commercial facilities).
   b. A person shall take every reasonable precaution to minimize fugitive dust emissions from wrecking, excavation, grading, clearing of land and solid waste disposal operations.
   c. A person shall not cause or allow particulate matter to exceed 100 micrograms per cubic meter when determined as the difference between upwind and downwind samples collected on high volume samplers at the property line for a minimum of five hours.
   d. A person shall take every reasonable precaution to prevent visible particulate matter from being deposited upon public roadways, including, but not limited to, the removal of particulate matter from equipment prior to movement on paved street.
   e. Subsections a. and b. shall not be applicable when the wind speed instantaneously exceeds 40 kilometers (25 miles) per hour, or when the average wind speed is greater than 24 kilometers (15 miles) per hour. The average wind speed determinations shall be on a 15-minute average at the nearest official air-monitoring station or by wind instrument located at the site being checked.
   f. The provisions of this rule shall not apply to agricultural operations.
23. Grading operations shall occur only between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and between the hours of 9:00 a.m. and 6:00 p.m. Saturdays. No construction activities shall be permitted outside of these permitted hours or on Sundays and federal holidays, unless a temporary waiver has been granted by the Chief Building Official. Any waivers shall take into account the impact upon the community. Irvine Municipal Code Section 6-8-205.
24. Where an excess of five thousand (5,000) cubic yards of earth per project site is moved on public roads from or to the site of an earth grading operation, City of Irvine Building and Safety enforces the section of the grading code, which contains requirements to curtail impacts to adjacent properties. Such requirements include, but are not limited to; application of water to truck loads, sweeping of access roads to the site and use of approved truck haul routes.

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR(S)

1. The existence and location of any underground utilities and/or structures shown on these plans were obtained by a search of the available records. Approval of these plans by the City of Irvine does not constitute a representation as to the accuracy or completeness of the location or the existence or non-existence of any utility and/or structure within the limits of this project. The Contractor is required to take all due precautionary means to protect the utilities of record or not of record or not shown on these plans.
2. Relocation or removal of any existing utilities shall be performed by the respective Utility Owners, at the expense of the Contractor.
3. The Grading Contractor shall satisfy himself as to the grading quantity as shown on this plan as part of his bid.
4. It is requested that the Grading Contractor notify this private Engineer by calling at least 48 hours before completion of the grading operation in order that this office may perform a final inspection with our grade certification commitment to the City of Irvine.
5. Contractor shall be responsible for obtaining all required permits prior to commencement of grading operations.
6. Unauthorized changes and uses: The Engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans and the City of Irvine.

CONSTRUCTION EQUIPMENT EMISSIONS MEASURES

The following measures shall be implemented during grading and construction of the Project:

- Use low emission construction equipment. The property owner/develop shall comply with CARB requirements for heavy construction equipment. For mass or rough grading, contractors shall be required to utilize heavy construction equipment that complies with the SCAQMD contractor requirement to maintain a Tier 2 fleet average.
- Maintain construction equipment engines by keeping them tuned.
- Use low sulfur fuel for stationary construction equipment.
- Utilize existing power sources (i.e., power poles) when available.
- Configure construction parking to minimize traffic interference.
- Minimize obstruction of through-traffic lanes. Construction should be planned so that lane closures on existing streets are kept to a minimum.
- Schedule construction operations affecting traffic for off-peak hours to the maximum extent feasible.
- Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service).
- Avoid unnecessary idling by shutting off engines that are expected to idle for more than five minutes.
- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.
- Schedule construction activities that that affect traffic flow on the arterial system to off-peak hour to the extent practicable.
- Reroute construction trucks away from congested streets or sensitive receptor areas, and appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM10 generation.

EARTHWORK NOTES FROM SUPPLMENTAL GEOTECHNICAL INVESTIGATION REPORT DATED JULY 28, 2025

PERMANENT BUILDINGS, NINJA, CROSS, AND SHADE CANOPY OVEREXCAVATION NOTE: SUBSEQUENT TO REMOVAL OF UNDOCUMENTED FILL, THE NATURAL SOILS WITHIN THE BUILDING AND STRUCTURE AREAS SHOULD BE OVEREXCAVATED TO A DEPTH OF 2 FEET BELOW EXISTING GRADE OR 2 FEET BELOW THE BOTTOM OF THE SHALLOW FOOTINGS AND FLOOR-SLABS, WHICHEVER IS GREATER. THE SOILS EXPOSED IN THE BOTTOM OF THE EXCAVATIONS SHOULD BE EVALUATED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER.

BLEACHER MAT FOUNDATION OVEREXCAVATION NOTE:
SUBSEQUENT TO REMOVAL OF UNDOCUMENTED FILL, THE NATURAL SOILS BELOW THE BOTTOM OF THE MAT FOUNDATION SHOULD BE OVEREXCAVATED TO A DEPTH OF 2 FEET BELOW EXISTING GRADE OR 2 FEET BELOW THE BOTTOM OF THE FOUNDATION, WHICHEVER IS GREATER. THE SOILS EXPOSED IN THE BOTTOM OF THE EXCAVATION SHOULD BE EVALUATED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER.

LIMITS OF OVEREXCAVATION:
THE OVEREXCAVATION SHOULD EXTEND BEYOND THE FOOTINGS, MAT FOUNDATION AND ON-GRADE FLOOR-SLABS A HORIZONTAL DISTANCE AT LEAST EQUAL TO THE DEPTH OF OVEREXCAVATION BELOW THE BOTTOM OF THE FOUNDATION ELEMENTS OR 5 FEET, WHICHEVER IS GREATER.

SURGE TANK OVEREXCAVATION NOTE:
THE NATURAL SOILS SHOULD BE REMOVED TO A DEPTH OF 2 FEET BELOW THE BOTTOM OF THE FOUNDATION ELEMENTS SUPPORTING THE SURGE TANK. THE SOILS WITHIN 7 FEET OF THE SIDES OF THE SURGE TANKS SHOULD BE REMOVED. THE EXCAVATED SOILS BELOW AND ADJACENT TO THE SURGE TANKS SHOULD BE REPLACED WITH ENGINEERED FILL SOILS THAT HAVE A VERY LOW EXPANSION POTENTIAL (EI LESS THAN 21).

SWIMMING POOL OVEREXCAVATION NOTE:
THE SWIMMING POOL WILL BEAR APPROXIMATELY 8.5 FEET BELOW PROPOSED FINISHED GRADE. DUE TO THE MEDIUM EXPANSION POTENTIAL OF THE SOILS AND THE DIFFERENTIAL SETTLEMENT CRITERIA, THE SOILS BELOW THE BOTTOM OF THE POOL SHOULD BE REMOVED TO A DEPTH OF 3 FEET. THE SOILS WITHIN 7 FEET OF THE SIDES OF THE POOL SHOULD BE REMOVED. THE EXCAVATED SOILS BELOW AND ADJACENT TO THE POOL SHOULD BE REPLACED WITH ENGINEERED FILL SOILS THAT HAVE A VERY LOW EXPANSION POTENTIAL (EI LESS THAN 21). THE POOL SHALL BE PROVIDED WITH A CONCRETE OR EQUALLY IMPERVIOUS DECK SLOPING AWAY FROM THE POOL WITH A MINIMUM WIDTH OF FOUR FEET AND HAVING A LIP EXTENDING SIX INCHES BELOW THE BOTTOM OF THE DECK AT ITS OUTER EDGE. ALL JOINTS IN THE DECK AND COPING SHOULD HAVE APPROVED PERMANENT RESILIENT WATERPROOF SEALS. THE COPING SHALL BE SET IN A SOLID BED OF MORTAR.

SPLASH PAD AND CONCRETE HARDSCAPE AREAS OVEREXCAVATION NOTE:
UNDOCUMENTED FILL SHOULD BE REMOVED BELOW THE SPLASH PAD AND HARDSCAPE AREAS. DUE TO THE PRESENCE OF MEDIUM EXPANSIVE SOILS, IT IS REQUIRED THAT 6 INCHES OF AGGREGATE BASE BE PLACED IMMEDIATELY BELOW THESE AREAS. PRIOR TO PLACEMENT OF AGGREGATE BASE, THE NATURAL SOILS BELOW THESE AREAS SHOULD BE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, MOISTURE CONDITIONED OR DRIED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT AND DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D1557).

EXCEPT FOR THE SWIMMING POOL AND SURGE TANK EXCAVATIONS, APPROVED SUBEXCAVATED SURFACES AND ALL OTHER SURFACES TO RECEIVE FILL SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES, MOISTURE CONDITIONED OR DRIED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT, AND DENSIFIED TO A RELATIVE COMPACTION OF AT LEAST 90 PERCENT (ASTM D1557). THE SOILS BELOW THE BOTTOM OF THE SWIMMING POOL AND SURGE TANKS DO NOT REQUIRE PROCESSING.

EXCEPT FOR THE SOILS BELOW THE SWIMMING POOL, ALL FILL SHOULD BE PLACED IN 8-INCH OR LESS LIFTS, MOISTURE CONDITIONED OR DRIED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT, AND DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D 1557). AGGREGATE BASE PLACED BELOW THE SPLASH PAD AND HARDSCAPE AREAS SHOULD BE DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 95 PERCENT (ASTM D 1557).

DUE TO THE RESTRICTIONS IN DIFFERENTIAL SETTLEMENT BELOW THE SWIMMING POOL, ENGINEERED FILL BELOW THE POOL SHOULD BE PLACED IN 8-INCH OR LESS LIFTS, MOISTURE CONDITIONED OR DRIED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT, AND DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 95 PERCENT (ASTM D 1557). DUE TO THE COHESIVE NATURE OF THE SOIL BELOW THE POOL AND THE CHALLENGES OF ACHIEVING AT LEAST 95 PERCENT RELATIVE COMPACTION IN THAT TYPE OF MATERIAL, IT MAY BE PRUDENT TO BACKFILL THE POOL EXCAVATION ENTIRELY WITH COMPACTED AGGREGATE BASE.

FOR CONCRETE WALKWAY AREAS (NOT THE POOL DECK) TO RECEIVE ONLY PEDESTRIAN TRAFFIC, THE PAVEMENT SHALL BE AT LEAST 4.5 INCHES IN THICKNESS AND BE PLACED ON 4 INCHES OF CRUSHED AGGREGATE BASE. PRIOR TO THE PLACEMENT OF AGGREGATE BASE, THE FINAL SUBGRADE SURFACE BE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, MOISTURE CONDITIONED OR DRIED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D1557). DUE TO THE PRESENCE OF RELATIVELY WET SOILS, STABILIZATION OF THE SUBGRADE SOILS MAY BE REQUIRED. AGGREGATE BASE SHOULD BE DENSIFIED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (ASTM D1557). THE PREPARATION OF THE SUBGRADE AND COMPACTION OF THE AGGREGATE BASE SHOULD BE MONITORED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER.

FOR BID PURPOSES ONLY

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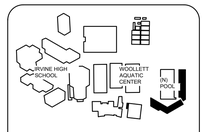
DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE 1971



KEY PLAN NORTH: PLAN TRUE

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DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN. 11/31/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER No. 74071 Exp. 09-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

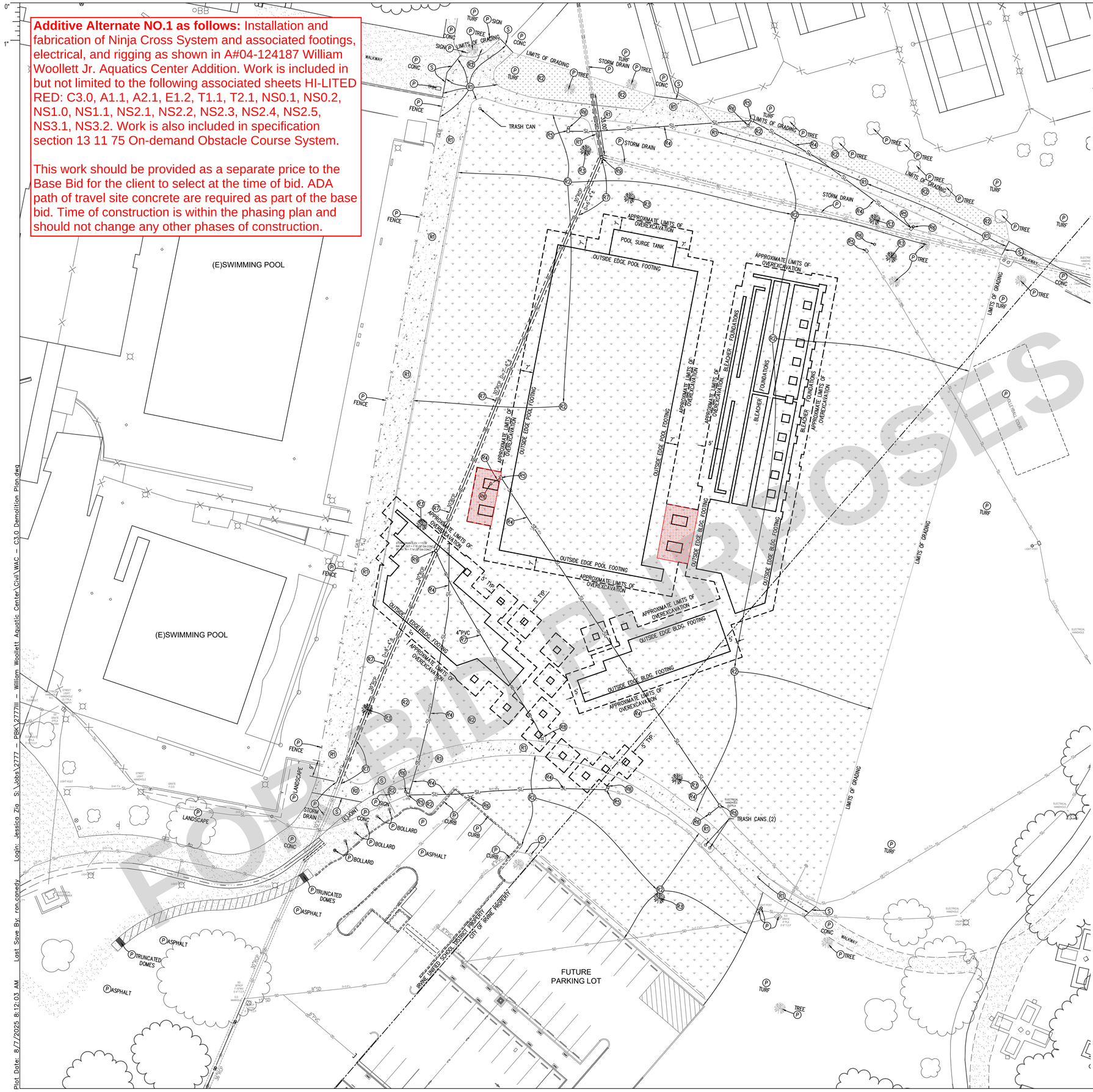
GENERAL NOTES

C2.0

Plot Date: 8/7/2025 8:11:54 AM Last Save By: ron.comedy Login: Jessica Zia S:\Jobs\2777 - PBK\2777III - William Woollett Aquatic Center\Civil\WAC - C2.0 Grading Notes.dwg

Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.



GENERAL DEMOLITION NOTES

1. ALL ITEMS, SHOWN ON THIS PLAN TO BE REMOVED, SHALL BE VERIFIED BY THE SCHOOL DISTRICT PRIOR TO DEMOLITION. THE CONTRACTOR SHALL MEET WITH THE SCHOOLS REPRESENTATIVE PRIOR TO CLEARING AND GRUBBING.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION AND QUANTITY OF EXISTING SURFACE STRUCTURES AND SHALL BE SOLELY RESPONSIBLE FOR ANY UNIDENTIFIED UTILITIES, IMPROVEMENTS, TREES, ETC,. TO BE DEMOLISHED AND REMOVED WITHIN THE DEMOLITION LIMIT LINE, INCLUDING APPURTENANT FOUNDATIONS OR SUPPORTS.
3. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIAL.
4. ALL CONCRETE & CMU BLOCK WALLS & PLANTERS SHOWN ON THIS PLAN TO BE REMOVED SHALL INCLUDE WALL FOOTINGS & FOUNDATIONS IN THEIR REMOVAL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FIELD VERIFY AND FULLY ACKNOWLEDGE THE EXTENT OF THE DEMOLITION WORK. ALL ITEMS TO BE REMOVED SHALL BE MARKED BY THE CONTRACTOR PRIOR TO DEMOLITION.
6. DAMAGE TO ANY EXISTING UTILITIES AND SERVICES WHICH ARE TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
7. TEMPORARY EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAIN, SANITARY SEWERS AND STREETS.
8. DUST CONTROL SHALL BE IMPLEMENTED DURING DEMOLITION.
9. THE CONTRACTOR SHALL DEMOLISH AND REMOVE ALL LANDSCAPING WATERING SYSTEMS WITHIN THE DEMOLITION LIMIT LINE UNLESS DESIGNATED TO REMAIN IN PLACE ON THE PLANS. WHERE THE DEMOLITION IMPACTS EXISTING LANDSCAPE TO REMAIN, MODIFY THE EXISTING IRRIGATION SYSTEM, INCLUDING ADDING IRRIGATION HEADS AS NECESSARY TO MAINTAIN COMPLETE AND FULL COVERAGE OF EXISTING PLANNING.
10. CONTRACTOR SHALL NOT DAMAGE ANY PUBLIC SIDEWALK DURING THE COURSE OF HIS WORK. THE USE OF SHORING ON SCHOOL PROPERTY WILL BE REQUIRED TO PROTECT THE PUBLIC SIDEWALK IF NECESSARY.
11. THE CONTRACTOR SHALL BACKFILL SOIL IN THE EXCAVATED TREE ROOT PITS AND THE TRENCHES FOR REMOVED EXISTING UNDERGROUND STRUCTURES, UTILITIES, AND IMPROVEMENTS.
12. THE CONTRACTOR SHALL NOT ABANDON-IN-PLACE ANY EXISTING UNDERGROUND STRUCTURE, UTILITY, OR IMPROVEMENT SO DESIGNATED FOR REMOVAL ON THE PROJECT PLANS UNLESS DIRECTED TO BY THE OWNER.
13. CONTRACTOR TO SAWCUT ALL EXISTING A.C. AND CONCRETE PAVEMENT AT DEMOLITION LIMIT LINE. CONTRACTOR SHALL REMOVE SIDEWALK, CURB & GUTTER TO THE NEAREST JOINT.
14. CONTRACTOR SHALL REPLACE ALL EXISTING IMPROVEMENTS OUTSIDE THE LIMITS OF WORK THAT ARE DAMAGED DURING CONSTRUCTION TO MATCH EXISTING, INCLUDING PERMANENT TRENCH RESURFACING.
15. CONTRACTOR SHALL FIELD VERIFY THAT THE REMOVAL OF EXISTING UTILITIES WILL NOT IMPACT AREA OPERATIONS.
16. CONTRACTOR IS RESPONSIBLE TO KEEP ALL UTILITES OPERATIONAL THAT SERVES FACILITIES OUTSIDE THE SCOPE OF THE DEMOLITION ZONE. CONTRACTOR IS ALSO RESPONSIBLE TO REROUTE UTILITIES IF NECESSARY TO COMPLETE DEMOLITION.
17. CONTRACTOR SHALL INSTALL A TEMPORARY MINIMUM 8' HIGH CHAIN LINK CONSTRUCTION FENCE, WITH GREEN SCREEN, AROUND PERIMETER OF DEMOLITION AREA.
18. ALL EXISTING DRAINAGE STRUCTURES ON SITE SHALL BE PROTECTED AND REMAIN FUNCTIONAL DURING DEMOLITION AND THROUGH THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE STRUCTURES, OR DAMAGE CAUSED TO ADJACENT PROPERTIES DUE TO THE OBSTRUCTION OF THESE STRUCTURES.

HATCH LEGEND:

- = EXISTING BUILDING
- = CONCRETE PAVING TO BE REMOVED (R1)
- = EXISTING CONCRETE TO BE PROTECTED
- = ASPHALT PAVING TO BE REMOVED (R4)
- = CLEAR AND GRUB TURF (R4)

DEMOLITION NOTES:

- (P) PROTECT EXISTING IMPROVEMENT IN PLACE.
- (S) SAWCUT EXISTING ASPHALT/CONCRETE PAVEMENT WITH CLEAN EDGE.
- (R0) REMOVE & RELOCATE PER OWNER'S DIRECTION.
- (R1) REMOVE & DISPOSE OF CONCRETE PAVEMENT AND BASE MATERIAL.
- (R2) CLEAR & GRUB EXISTING TURF AND REMOVE IRRIGATION HEADS AND PIPING.
- (R3) REMOVE & DISPOSE OF TREE AND ROOTS A MINIMUM 3 FEET BELOW GRADE.
- (R4) REMOVE & DISPOSE OF EXISTING BELOW GRADE LIGHTING CONDUIT.
- (R5) REMOVE & DISPOSE OF EXISTING ELECTRICAL PULLBOX.
- (R6) REMOVE & DISPOSE OF EXISTING LIGHT POLE AND CONCRETE FOUNDATION.
- (R7) REMOVE & DISPOSE OF EXISTING STORM DRAIN PIPE.
- (R8) REMOVE & DISPOSE OF EXISTING STORM DRAIN GRATE INLET.
- (R9) REMOVE & DISPOSE OF EXISTING CONCRETE MANHOLE

NOTE TO CONTRACTOR: COMPLIANCE WITH CBC AND CFC CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION IS REQUIRED. REFER TO DSA BULLETIN 24-05 FOR FURTHER INFORMATION.

NOTE TO CONTRACTOR: THE REMOVAL AND DISPOSAL OF EXISTING HARDSCAPE & SOFTSCAPE, TO FACILITATE THE TRENCHING OF NEW UNDERGROUND UTILITIES, VAULTS, VALVES, DRAIN INLETS, MANHOLES, ETC. SHOWN IN THE ENTIRE PLAN SET (INCLUDING SHEETS C2.00 THRU C-2.02, L3.01, L3.02, E1.01, FA1.01 & T1.01) IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL SUB-CONTRACTORS.

NOTE TO CONTRACTOR: BEFORE TRENCHING OR DEMOLITION OCCURS, THE CONTRACTOR SHALL COMPLETE AN UNDERGROUND UTILITY MAPPING SURVEY OF THE PROJECT AREA TO DETERMINE WERE EXISTING UTILITIES ARE AND WHERE POSSIBLE UNDERGROUND CONFLICTS MAY OCCUR.

EXISTING UNDERGROUND UTILITY LINETYPE LEGEND:

- (E)STORM DRAIN
- (E)DOMESTIC WATER
- (E)SANITARY SEWER
- (E)GAS
- (E)ELECTRICAL/POWER
- (E)COMMUNICATIONS
- (E)LIGHTING CONDUIT
- (E)FIRE WATER

N

20 10 0 20 40 60

SCALE: 1" = 20'

SEE EARTHWORK NOTES FROM SUPPLEMENTAL GEOTECHNICAL INVESTIGATION REPORT ON SHEET C2.0 FOR OVEREXCAVATION REQUIREMENTS.

FOR BID PURPOSES ONLY

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DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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REGISTERED PROFESSIONAL ENGINEER No. 97481 Exp. 09-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

DEMOLITION PLAN

C3.0

Plot Date: 8/7/2025 8:12:03 AM Last Save By: ron.comedy Login: Jessica Zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C3.0 Demolition Plan.dwg

STORM DRAIN CONSTRUCTION NOTES

- (5A) CONSTRUCT 4" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (5B) CONSTRUCT 6" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (5C) CONSTRUCT 8" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (5D) CONSTRUCT 10" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (5E) CONSTRUCT 12" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (5F) CONSTRUCT 18" PS46 ASTM F679 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (5G) CONSTRUCT 30" H.D.P.E. DUAL WALL N-12 WATER TIGHT PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0.
- (5H) CONSTRUCT 15" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
- (D1) CONSTRUCT 18" SQUARE CATCH BASIN WITH PARKWAY RATED, HEEL PROOF GRATE PER DETAIL D1/C6.1.
- (D2) CONSTRUCT 18" SQUARE CATCH BASIN WITH PARKWAY RATED, ADA PROOF GRATE PER DETAIL D2/C6.1.
- (D3) CONSTRUCT 12" SQUARE CATCH BASIN WITH PARKWAY RATED, HEEL PROOF GRATE PER DETAIL D3/C6.3.
- (D6) CONSTRUCT JUNCTION STRUCTURE No. I PER CITY OF IRVINE STD. PLAN 306 & 306A ON SHEET C6.1 WITH 24" TRAFFIC MANHOLE FRAME & COVER PER CITY OF IRVINE STD. PLAN 311 ON C6.3.
- (D8) CONNECT NEW 15" SDR-35 PVC PIPE TO EXISTING 15" RCP WITH CONCRETE COLLAR PER CITY OF IRVINE STD. PLAN 310 ON C6.3.
- (D9) CONNECT NEW 30" HDPE PIPE TO EXISTING 30" RCP WITH CONCRETE COLLAR PER CITY OF IRVINE STD. PLAN 310 ON C6.3. INSTALL MARMAC DISSIMILAR PIPE COUPLER AT CONNECTION PRIOR TO CONCRETE COLLAR INSTALLATION.

CONSTRUCTION NOTES:

- (P) PROTECT EXISTING IMPROVEMENT IN PLACE.
- (1A) CONSTRUCT LIGHT DUTY CONCRETE PAVEMENT PER TABLE 1/C6.0.
- (1B) CONSTRUCT POOL DECK CONCRETE PAVEMENT PER DETAIL 1B/C6.0.
- (1C) CONSTRUCT HEAVY DUTY CONCRETE PAVEMENT PER TABLE 1/C6.0.
- (3) CONSTRUCT FENCE, POSTS, AND GATES PER ARCHITECTURAL PLANS.
- (6) MUSCO SPORTS LIGHTING PER ELECTRICAL PLANS.
- (7) NINJA CROSS SYSTEM OBSTACLE COURSE FOOTING.
- (8) FLAG POLE PER ARCHITECTURAL DETAILS.
- (9) POST-MOUNTED SCORE BOARD PER ARCHITECTURAL DETAILS.
- (10) CONSTRUCT CMU WALL PER STRUCTURAL PLANS.
- (11) CONSTRUCT DECK SLOT DRAIN PER DETAIL 11/C6.1.
- (12) CONSTRUCT DECK CATCH BASIN PER DETAIL 12/C6.1.
- (14) CONSTRUCT VARIABLE HEIGHT CONCRETE CURB PER GRADES HEREON AND DETAIL 14/C6.2.
- (15) HYDROSEED TO MATCH EXISTING TURF.
- (16) CONSTRUCT LIGHT POLE PER ARCHITECTURAL DETAILS.
- (17) CONSTRUCT 8" WIDE CONCRETE CURB, WITH FENCE CENTERED IN IT, PER GRADES HEREON.

SEE EARTHWORK NOTES FROM SUPPLEMENTAL GEOTECHNICAL INVESTIGATION REPORT ON SHEET C2.0 FOR OVEREXCAVATION REQUIREMENTS.

(E)SWIMMING POOL

SWIMMING POOL
SEE AQUATICS PLAN

SWIMMING POOL
SEE AQUATICS PLAN

HATCH LEGEND:

- = NEW BUILDING
- = NEW CONCRETE PAVEMENT
- = EXISTING CONCRETE TO BE PROTECTED
- = NEW LANDSCAPE
- = NEW SWIMMING POOL
- = FIRE LANE CONCRETE PAVEMENT

UNDERGROUND UTILITY LINETYPE LEGEND:

- (E)STORM DRAIN
- (E)DOMESTIC WATER
- (E)SANITARY SEWER
- (E)GAS
- (E)ELECTRICAL/POWER
- (E)COMMUNICATIONS
- (E)LIGHTING CONDUIT
- (E)FIRE WATER
- NEW STORM DRAIN
- NEW POTABLE WATER
- NEW SANITARY SEWER
- NEW FIRE WATER

NEW BUILDING
F.F.=115.00
PAD=113.92
(5" CONC OVER 2" SAND OVER 6"AGG. BASE)

F.F.=110.00
PAD=109.08
DEPRESSED SLAB

BLEACHERS PER STRUCTURAL PLANS

BLEACHERS PER STRUCTURAL PLANS

IRVINE UNIFIED SCHOOL DISTRICT PROPERTY
CITY OF IRVINE PROPERTY

MATCH LINE
SEE SHEET C4.1

MATCH LINE
SEE SHEET C4.1

POOL SURGE TANK

POOL DECK PERIMETER

LIMITS OF GRADING

GRADE BREAK

TOMBSTONE

TOP RAMP

BOTTOM RAMP

FOOTING

VOLLEYBALL COURT

SCALE: 1" = 10'

FOR BID PURPOSES ONLY

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DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE

KEY PLAN

NORTH: PLAN TRUE

CONSULTANT
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FPL and Associates, Inc.
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Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN. 11/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
No. 73401
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

GRADING & DRAINAGE PLAN

C4.0

Plot Date: 8/7/2025 8:30:54 AM Last Save By: jessica.zia Login: jessica.zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C4.0 Grading Plan.dwg

HATCH LEGEND:

= NEW BUILDING

= NEW CONCRETE PAVEMENT

= EXISTING CONCRETE TO BE PROTECTED

= NEW LANDSCAPE

= NEW SWIMMING POOL

= FIRE LANE CONCRETE PAVEMENT

SEE SHEET C4.0
MATCH LINE

SWIMMING POOL
SEE AQUATICS PLAN

NEW BUILDING
F.F.=115.00
PAD=113.92
(5" CONC OVER 2" SAND OVER 6"AGG. BASE)

NEW BUILDING
F.F.=115.00
PAD=114.08
(5" CONC OVER 6"AGG. BASE)

F.F.=110.00
PAD=109.08
DEPRESSED SLAB

SPLASH PAD
SEE AQUATICS PLAN

SPLASH PAD BALANCE TANK

EXISTING PARKING LOT

FUTURE CITY OF IRVINE OWNED PARKING LOT

IRVINE UNIFIED SCHOOL DISTRICT PROPERTY
CITY OF IRVINE PROPERTY

TURF

WALKWAY

LIGHT POST

GUARDPOSTS (6)

30" RCP

8"PVC

FOR BID PROPOSED ONLY

STORM DRAIN CONSTRUCTION NOTES

(1A) CONSTRUCT 4" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(1B) CONSTRUCT 6" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(1C) CONSTRUCT 8" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(1D) CONSTRUCT 10" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(1E) CONSTRUCT 12" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(1F) CONSTRUCT 18" PS46 ASTM F679 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(1G) CONSTRUCT 30" H.D.P.E. DUAL WALL N-12 WATER TIGHT PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0.
(1H) CONSTRUCT 15" SDR-35 PVC PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0
(2) CONSTRUCT 18" SQUARE CATCH BASIN WITH PARKWAY RATED, HEEL PROOF GRATE PER DETAIL D1/C6.1.
(2A) CONSTRUCT 18" SQUARE CATCH BASIN WITH PARKWAY RATED, ADA PROOF GRATE PER DETAIL D2/C6.1.
(3) CONSTRUCT 12" SQUARE CATCH BASIN WITH PARKWAY RATED, HEEL PROOF GRATE PER DETAIL D3/C6.3.
(4) CONNECT STORM DRAIN TO BUILDING STORM DRAIN WITH ANACO-HUSKY 2000 STAINLESS STEEL BANDED COUPLING OR APPROVED EQUAL.
(5) CONSTRUCT STORM DRAIN CLEANOUT & YARD BOX PER DETAIL S1/C7.1.
(6) CONSTRUCT JUNCTION STRUCTURE No. I PER CITY OF IRVINE STD. PLAN 306 & 306A ON SHEET C6.1 WITH 24" TRAFFIC MANHOLE FRAME & COVER PER CITY OF IRVINE STD. PLAN 311 ON C6.3.
(7) CONSTRUCT MODULAR WETLAND SYSTEM PER DETAIL D7/6.3.

UNDERGROUND UTILITY LINETYPE LEGEND:

(E)STORM DRAIN
(E)DOMESTIC WATER
(E)SANITARY SEWER
(E)GAS
(E)ELECTRICAL/POWER
(E)COMMUNICATIONS
(E)LIGHTING CONDUIT
(E)FIRE WATER
NEW STORM DRAIN
NEW POTABLE WATER
NEW SANITARY SEWER
NEW FIRE WATER

SCALE: 1" = 10'

CONSTRUCTION NOTES:

(P) PROTECT EXISTING IMPROVEMENT IN PLACE.
(1A) CONSTRUCT LIGHT DUTY CONCRETE PAVEMENT PER TABLE 1/C6.0.
(1B) CONSTRUCT POOL DECK CONCRETE PAVEMENT PER DETAIL 1B/C6.0.
(1C) CONSTRUCT HEAVY DUTY CONCRETE PAVEMENT PER TABLE 1/C6.0.
(2) CONSTRUCT ASPHALT PAVEMENT PER DETAIL 2/C6.0.
(3) CONSTRUCT FENCE, POSTS, AND GATES PER ARCHITECTURAL PLANS.
(4) CONSTRUCT LANDSCAPE PLANS.
(5) CONSTRUCT SEAT WALL PER ARCHITECTURAL PLANS.
(6) MUSCO SPORTS LIGHTING PER ELECTRICAL PLANS.
(7) NINJA CROSS SYSTEM OBSTACLE COURSE FOOTING.
(8) FLAG POLE PER ARCHITECTURAL DETAILS.
(9) POST-MOUNTED SCORE BOARD PER ARCHITECTURAL DETAILS.
(10) CONSTRUCT CMU WALL PER STRUCTURAL PLANS.
(11) CONSTRUCT DECK SLOT DRAIN PER DETAIL 11/C6.1.
(12) CONSTRUCT DECK CATCH BASIN PER DETAIL 12/C6.1.
(13) CONSTRUCT TRENCH DRAIN PER DETAIL 13/C6.2.
(14) CONSTRUCT VARIABLE HEIGHT CONCRETE CURB PER GRADES HEREON AND DETAIL 14/C6.2.
(15) HYDROSEED TO MATCH EXISTING TURF.
(16) CONSTRUCT LIGHT POLE PER ARCHITECTURAL DETAILS.
(17) CONSTRUCT 8" WIDE CONCRETE CURB, WITH FENCE CENTERED IN IT, PER GRADES HEREON.
(18) CONSTRUCT ROLLED CURB TRANSITION PER DETAIL 19/C6.2.
(19) CONSTRUCT 4" HIGH CONCRETE ROLLED CURB PER DETAIL 19/C6.2.

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DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

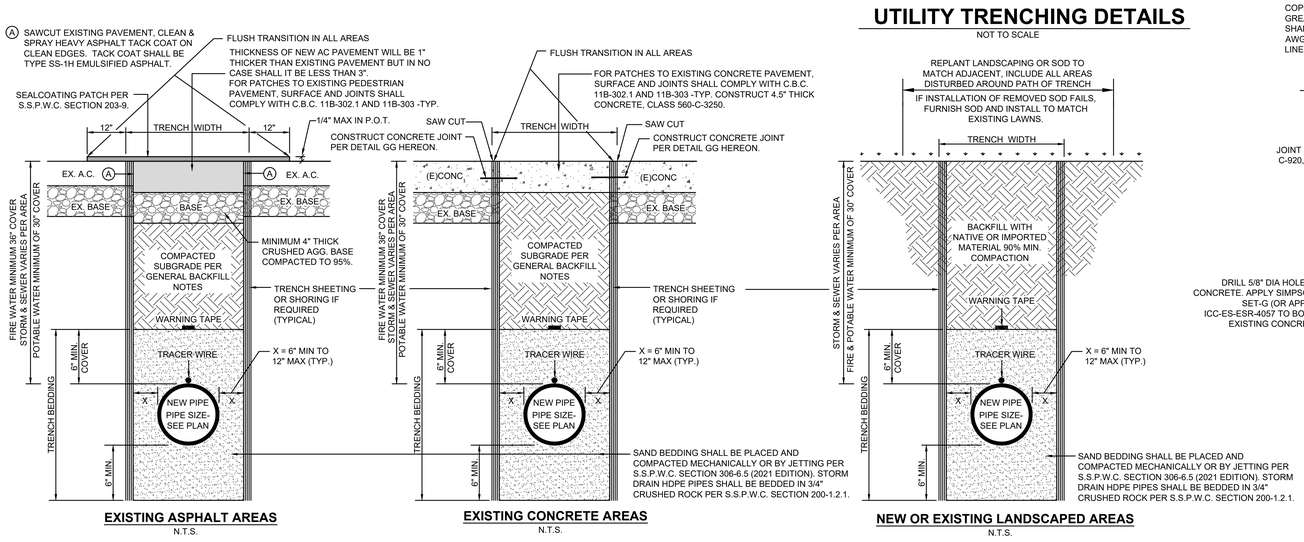
GRADING & DRAINAGE PLAN

C4.1

Plot Date: 8/7/2025 8:32:50 AM Last Save By: ron.comedy Login: Jessica Zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C4.1 Grading Plan.dwg

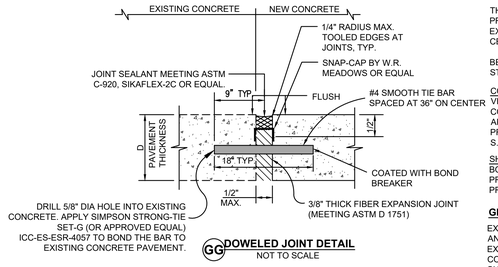
UTILITY TRENCHING DETAILS

NOT TO SCALE



TRACER WIRE NOTES:

COPPER TRACER WIRE SHALL BE INSTALLED ON ALL NON-METALLIC PIPELINES, 2" AND GREATER, JUST ABOVE THE HORIZONTAL CENTERLINE OF THE PIPE. THE COPPER WIRE SHALL BE TYPE THWN #12 AWG GAUGE FOR SEWER, STORM & POTABLE WATER, #14 AWG GAUGE FOR IRRIGATION PIPES AND #18 AWG GAUGE FOR POLYETHYLENE GAS LINES. ALL TRACER WIRE SHALL HAVE HEAT AND MOISTURE RESISTANT INSULATION.



GG **DOWELED JOINT DETAIL**
NOT TO SCALE

TRENCH EXCAVATION, BEDDING, & BACKFILL NOTES:

EXCAVATION NOTE: THE 2022 CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH REGULATIONS (CAL/OSHA) WILL REQUIRE A PERMIT FOR THE CONSTRUCTION OF TRENCHES OR EXCAVATIONS WHICH ARE FIVE (5) FEET OR DEEPER AND INTO WHICH A PERSON IS REQUIRED TO DESCEND. FOR PERMIT PURPOSES, "DESCEND" MEANS TO ENTER ANY PART OF THE TRENCH OR EXCAVATION ONCE THE EXCAVATION HAS ATTAINED A DEPTH OF 5 FEET OR MORE. FOR REGULATIONS RELATING TO PERMITS FOR EXCAVATIONS AND TRENCHES, REFER TO THE CALIFORNIA CODE OF REGULATIONS TITLE 8, CHAPTER 3.2, ARTICLE 2, SECTION 341 OF THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH REGULATIONS (CAL/OSHA)

THE CONTRACTOR SHALL SUBMIT A DETAIL SHOWING THE DESIGN OR SHORING; BRACING SLOPING OR OTHER PROVISIONS TO BE MADE FOR WORKER PROTECTION FROM THE HAZARDS OF CAVING GROUND DURING THE EXCAVATION. THE PLAN SUBMITTED SHALL BE SIGNED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER CERTIFIED THAT THE PLAN COMPLIES WITH ALL OSHA CONSTRUCTION SAFETY ORDERS.

BEDDING MATERIAL SHALL BE COARSE SAND WITH SAND EQUIVALENT OF 30 OR GREATER FOR ALL NON-HDPE STORM DRAIN PIPES. BEDDING FOR HDPE PIPE SHALL BE 3/4" CRUSHED ROCK PER S.S.P.W.C. SECTION 200-1.2.1

COMPACTION METHODS: ALL BEDDING & BACKFILL COMPACTION SHALL BE BY HAND-OPERATED, PLATE-TYPE, VIBRATORY, OR OTHER SUITABLE HAND-TAMPERS IN AREAS NOT ACCESSIBLE TO LARGER ROLLERS OR COMPACTERS. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO CONDUITS, PIPES, AND ANY APPURTENANCES. BACKFILL DENSIFICATION BY INUNDATION OR JETTING SHALL NOT BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL FROM CIVIL ENGINEER. SAND BEDDING SHALL BE PLACED AND COMPACTED MEETING S.S.P.W.C. SECTION 306-6.5 PLACEMENT AND COMPACTION, 2021 EDITION.

SHEETING: WHEN EXCAVATION DEPTHS OR SOIL CONDITIONS REQUIRE SHORING OR USE OF A TRENCH BOX, THE BOTTOM OF THE SHORING OR TRENCH BOX SHOULD BE PLACED NO LOWER THEN THE TOP OF THE PIPE. THIS PREVENTS DISRUPTION OF THE BACKFILL ENVELOPE WHEN REMOVING THE SHORING OR TRENCH BOX. IF THIS PRACTICE CANNOT BE FOLLOWED, CONSIDERATION SHOULD BE GIVEN TO LEAVING THE SHORING IN PLACE.

GENERAL BACKFILL NOTES:

EXCAVATED TRENCH MATERIAL TO BE INSTALLED FOR BACKFILLING SHALL BE CLEAN, FREE OF LARGE CLODS AND STONES LARGER THAN 3-INCHES IN ANY DIMENSION. INSTALL BACKFILL MATERIALS IN LAYERS NOT TO EXCEED 8 TO 10-INCHES IN THICKNESS. IN PAVED AREAS, THE SUBGRADE BELOW NEW PAVEMENT SHOULD BE COMPACTED TO A MINIMUM 95% RELATIVE COMPACTION. IN UNPAVED/LANDSCAPE AREAS, THE SUBGRADE SHOULD BE COMPACTED TO A MINIMUM 90% RELATIVE COMPACTION PER ASTM D1557. IN LIEU OF USING NATIVE MATERIAL IN PAVED AREAS, THE USE OF A SLURRY BACKFILL MAY BE SUBSTITUTED. SAND SLURRY SHALL CONSIST OF 2 SACK PORTLAND CEMENT (CLASS 200-E-200) PER CUBIC YARD OF SAND SLURRY MIX. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ANY EXCESS BACKFILL MATERIAL FROM THE SITE.

WARNING TAPE NOTES (POTABLE WATER):

A METALLIC LINED TAPED FOR UNDERGROUND PIPES, MARKED "CAUTION BURIED WATER LINE BELOW", IN POLYETHYLENE FILM COLOR BLUE, INSTALLED ABOVE PIPE, MINIMUM 2" WIDE.

WARNING TAPE NOTES (STORM DRAIN):

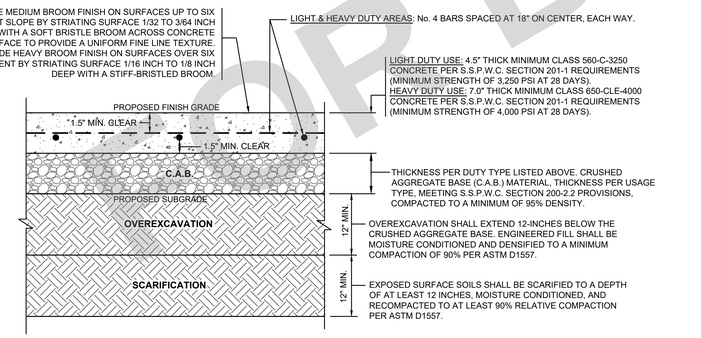
A METALLIC LINED TAPED FOR UNDERGROUND PIPES, MARKED "CAUTION STORM DRAIN LINE BELOW", IN POLYETHYLENE FILM COLOR GREEN, INSTALLED ABOVE PIPE, 6" WIDE.

WARNING TAPE NOTES (SANITARY SEWER):

A METALLIC LINED TAPED FOR UNDERGROUND PIPES, MARKED "CAUTION BURIED SEWER LINE BELOW", IN POLYETHYLENE FILM COLOR GREEN, INSTALLED ABOVE PIPE, 6" WIDE.

WARNING TAPE NOTES (FIRE WATER):

A METALLIC LINED TAPED FOR UNDERGROUND PIPES, MARKED "CAUTION FIRE LINE BELOW", IN POLYETHYLENE FILM COLOR RED, INSTALLED ABOVE PIPE, MINIMUM 3" WIDE.



2 **ASPHALT PAVEMENT DETAIL**
N.T.S.

FLOOD TEST NOTE:

BEFORE ACCEPTANCE, ALL NEW ASPHALT SHALL BE WATER TESTED TO ENSURE PROPER DRAINAGE AS DIRECTED BY THE INSPECTOR. THE CONTRACTOR SHALL PROVIDE WATER FOR THIS PURPOSE. THE FLOODING SHALL BE DONE BY WATER TANK TRUCK. DEPRESSIONS WHERE THE WATER PONDS TO A DEPTH OF MORE THAN 0.01 FOOT SHALL BE FILLED OR THE SLOPE CORRECTED TO PROVIDE PROPER DRAINAGE. THE EDGES OF THE FILL SHALL BE FEATHERED AND SMOOTHED SO THAT THE JOINT BETWEEN THE FILL AND THE ORIGINAL SURFACE IS INVISIBLE. PRACTICAL FIELD MEASUREMENT: 0.01 FOOT = TWO QUARTERS STACKED. NO STANDING WATER SHALL REMAIN AFTER 60 MINUTES ON A 70 DEGREE F (OR WARMER) DAY. INSTALL FIRST COAT OF SEAL COAT ON ASPHALT BEFORE FLOOD TESTING OCCURS.

USAGE TYPE	TABLE 1 CONCRETE PAVEMENT STRUCTURAL SECTION DETAIL
1A **LIGHT DUTY (PEDESTRIAN)**	4.5" THICK CONCRETE PAVEMENT OVER 4.0" THICK C.A.B. OVER PREPARED SUBGRADE PER DETAIL BELOW.
1C **HEAVY DUTY (FIRE LANE)**	7.0" THICK CONCRETE PAVEMENT OVER 6.0" THICK C.A.B. OVER PREPARED SUBGRADE (THIS COMPLIES WITH A TRAFFIC INDEX OF 6.0)

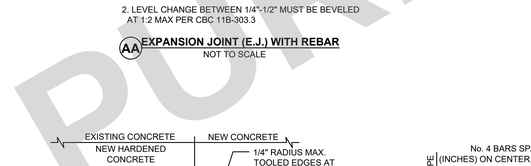
FLOOD TEST NOTE:

BEFORE ACCEPTANCE, ALL NEW CONCRETE SHALL BE WATER TESTED TO ENSURE PROPER DRAINAGE AS DIRECTED BY THE INSPECTOR. THE CONTRACTOR SHALL PROVIDE WATER FOR THIS PURPOSE. THE FLOODING SHALL BE DONE BY WATER TANK TRUCK. DEPRESSIONS WHERE THE WATER PONDS TO A DEPTH OF MORE THAN 0.01 FOOT SHALL BE FILLED OR THE SLOPE CORRECTED TO PROVIDE PROPER DRAINAGE. THE EDGES OF THE FILL SHALL BE FEATHERED AND SMOOTHED SO THAT THE JOINT BETWEEN THE FILL AND THE ORIGINAL SURFACE IS INVISIBLE. PRACTICAL FIELD MEASUREMENT: 0.01 FOOT = TWO QUARTERS STACKED. NO STANDING WATER SHALL REMAIN AFTER 60 MINUTES ON A 70 DEGREE F (OR WARMER) DAY.

NOTE TO CONTRACTOR:

A. **THE CONTRACTOR SHALL INSTALL EXPANSION AND CONTROL JOINTS IN CONCRETE FLATWORK PER DETAILS 'AA' THRU 'CC' HEREON. EXPANSION JOINTS IN CONCRETE SHALL NOT EXCEED 30 FEET ON CENTER.**

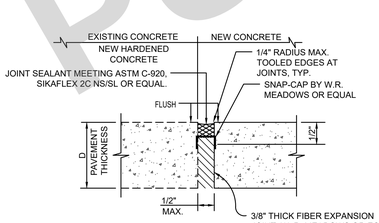
B. **CONTRACTOR SHALL FOLLOW DETAILS 'DD' THRU 'FF' HEREON WHEN CONSTRUCTING CONCRETE FLATWORK EDGE TREATMENTS.**



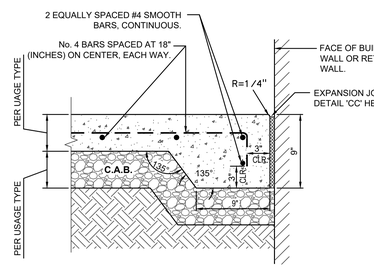
NOTE: 1. VERTICAL CHANGE IN ELEVATION ALONG ACCESSIBLE PATH OF TRAVEL CANNOT EXCEED 1/4" PER CBC 11B-303.2

2. LEVEL CHANGE BETWEEN 1/4"-1/2" MUST BE BEVELED AT 1:2 MAX PER CBC 11B-303.3

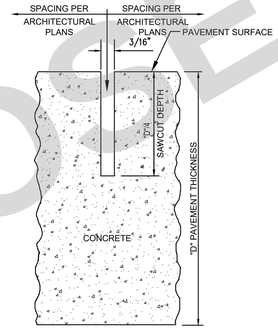
AA **EXPANSION JOINT (E.J.) WITH REBAR**
NOT TO SCALE



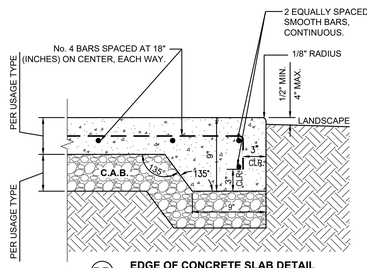
CC **EXPANSION JOINT (E.J.)**
NOT TO SCALE



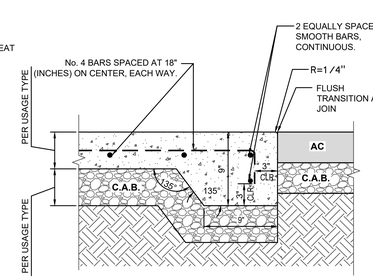
EE **EDGE OF CONCRETE SLAB DETAIL**
WHERE CONCRETE MEETS FACE OF BUILDING OR WALLS
NOT TO SCALE



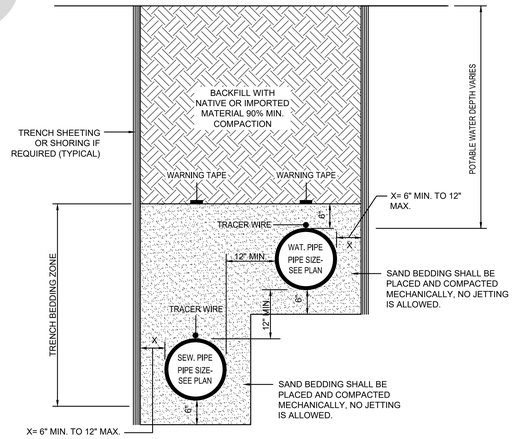
BB **CONTROL JOINT (C.J.)**
NOT TO SCALE



DD **EDGE OF CONCRETE SLAB DETAIL**
WHERE CONCRETE MEETS SOFTSCAPE
NOT TO SCALE



FF **EDGE OF CONCRETE SLAB DETAIL**
WHERE CONCRETE MEETS HARDSCAPE
NOT TO SCALE



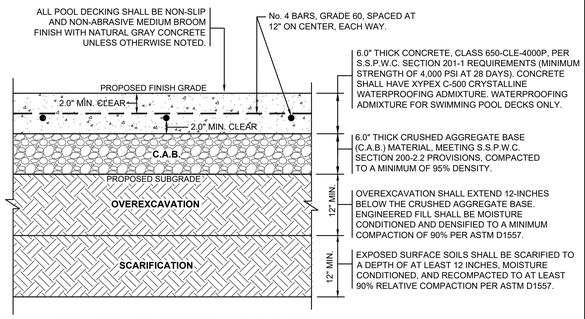
ALTERNATE TRENCH DETAIL
(ALLOWABLE WHERE CONDITIONS APPLY)
NOT TO SCALE

TRENCHING NOTICE TO CONTRACTOR

WATER PIPES SHALL NOT BE RUN OR LAID IN THE SAME TRENCH AS BUILDING SEWER UNLESS BOTH OF THE FOLLOWING CONDITIONS ARE MET PER 2022 CALIFORNIA PLUMBING CODE, SECTION 609.2:

THE BOTTOM OF THE WATER PIPE, AT ALL POINTS, SHALL BE AT LEAST TWELVE (12) INCHES ABOVE THE TOP OF THE SEWER LINE.

THE WATER PIPE SHALL BE PLACED ON A SOLID SHELF EXCAVATED AT ONE SIDE OF THE COMMON TRENCH WITH A MINIMUM CLEAR HORIZONTAL DISTANCE OF AT LEAST TWELVE (12) INCHES FROM THE SEWER.



1B **POOL DECK CONCRETE PAVEMENT DETAIL**
N.T.S.

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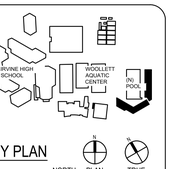
CLIENT LOGO

CITY OF IRVINE



KEY PLAN NORTH: PLAN TRUE

CONSULTANT
FPL
FPL and Associates, Inc.
Traffic • Transportation • Civil
30 Corporate Park, Suite 401
Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN. 8/31/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER No. 34971 Exp. 06-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

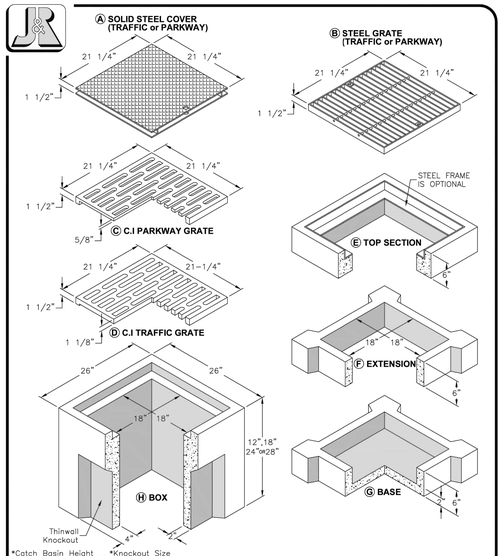
100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

DETAIL SHEET

C6.0

Plot Date: 8/7/2025 8:12:23 AM Last Save By: ron.canedy Login: Jessica Zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C6.0 Detail Sheet.dwg



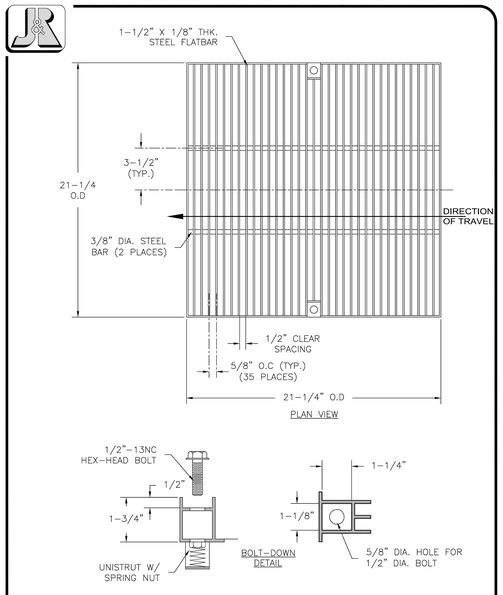
*Catch Basin Height *Knockout Size
12" High.....12"W X 7"H
18" High.....13"W X 12"H
24" High.....13"W X 18"H
28" High.....13"W X 22"H

NOTES
1. Steel Traffic Frames W/ Steel TFC Covers Or Steel TFC Grates Are Designed For AASHTO H-20 Wheel Loading, But Are Not Intended For Direct Traffic Installations.
2. Steel Frames W/ Steel Parkway Covers Or Steel Parkway Grates, Are Designed For A Live Load Of 300 p.s.f.
3. Cast Iron Traffic Grates Are Designed For AASHTO H-10 Wheel Loading, But Are Not Intended For Direct Traffic Installations
4. Cast Iron Parkway Grates Are Designed For 300 p.s.f Wheel Loading.

CB1818 SERIES
18" X 18" CATCH BASIN

D2D1 18" x 18" CATCH BASIN DETAIL
NOT TO SCALE

ALL GRATES MUST BE HOT-DIPPED GALVANIZED

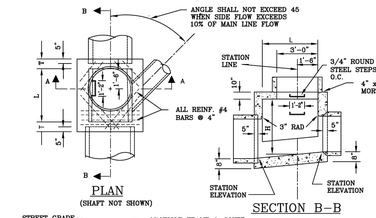


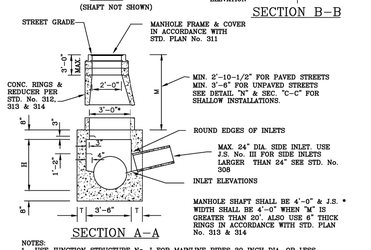
18" X 18" STEEL PARKWAY GRATE per ADA SPECIFICATIONS

1. All steel shall conform to ASTM A36.
2. Grate conforms to ADA requirements.
3. Galvanizing is available upon request.
4. Structures are designed for AASHTO 300 p.s.f Wheel Loading.

D2 18" x 18" ADA PARKWAY GRATE DETAIL
NOT TO SCALE

CITY OF IRVINE
PUBLIC WORKS





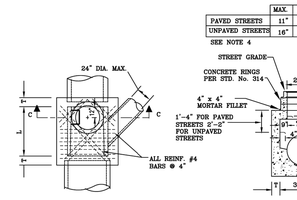
NOTES:
1. USE JUNCTION STRUCTURE No. I FOR MAINLINE PIPES 39 INCH DIA. OR LESS.
2. SEE STD. No. 306A FOR NOTES AND OTHER DETAILS.

JUNCTION STRUCTURE No. I

MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER
AUGUST 2013
DATE

STD. PLAN 306
SHEET 1 OF 1

CITY OF IRVINE
PUBLIC WORKS

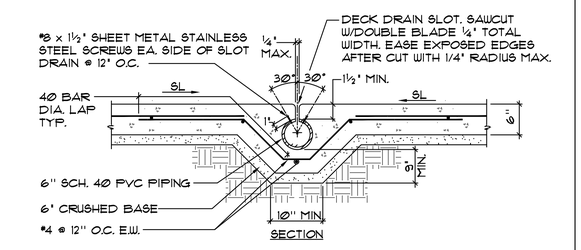


NOTES:
1. HEIGHT "H", IN SECTION A-A & SECTION B-B, SHALL NOT BE LESS THAN 4'-0", BUT MAY BE INCREASED AT THE OPTION OF THE ENGINEER, PROVIDED THAT THE VALUE OF "H" (SEE STD. PLAN No. 306) SHALL BE NOT LESS THAN THE MINIMUM SPECIFIED AND THAT THE REDUCER SHALL BE USED. FOR "H", IN SECTION C-C, SEE NOTE 4.
2. LENGTH "L" SHALL BE 4 FEET UNLESS OTHERWISE SHOWN ON THE PLANS.
3. THE SHAFT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION C-C & DETAIL "N" WHEN DEPTH "H" FROM STREET GRADE TO TOP OF BOX IS LESS THAN 2'-10-1/2" FOR PAVED STREETS OR 3'-6" FOR UNPAVED STREETS (SEE STD. No. 306).
4. DEPTH "P" MAY BE REDUCED TO AN ABSOLUTE LIMIT OF 6 INCHES WHEN LARGER VALUE OF "P" WOULD REDUCE "H", IN SECTION C-C, TO 3 FEET- 6 INCHES OR LESS.
5. STEPS SHALL BE 3/4 INCH ROUND GALVANIZED STEEL AND ANCHORED NOT LESS THAN 6 INCHES IN THE WALLS OF STRUCTURE, UNLESS OTHERWISE SHOWN. STEPS SHALL BE PLACED 1'-4" ON CENTER. THE LAST STEP SHALL BE NOT MORE THAN 2' ABOVE THE LEDGE AT THE SIDE OF THE MANHOLE FLOOR.
6. "P" SHALL BE 8 INCHES FOR VALUES OF "H" TO 8 FEET. "P" SHALL BE 10 INCHES FOR VALUE OF "H" OVER 8 FEET.
7. ALL REINFORCING STEEL SHALL HAVE 1-1/2 INCHES CLEAR FROM FACE OF CONCRETE.
8. FLOOR OF MANHOLE SHALL BE STEEL TROWELED.
9. RINGS, REDUCER AND PIPE FOR ACCESS SHAFT SHALL BE SEATED IN 1:2 MORTAR AND NEATLY POINTED OR WIPED INSIDE THE SHAFT.
10. LEDGE SHALL BE SLOPED AT 2 INCHES PER FOOT.
11. CONCRETE : f'c = 3250 p.s.i AT 28 DAYS.

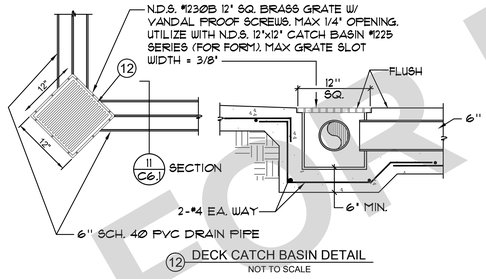
JUNCTION STRUCTURE No. I

MARK CARROLL, R.C.E. 31515
CITY OF IRVINE - CITY ENGINEER
AUGUST 2013
DATE

STD. PLAN 306A
SHEET 1 OF 1

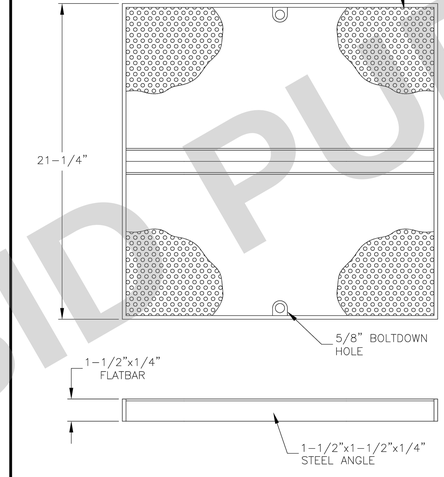


11 DECK SLOT DRAIN DETAIL
NOT TO SCALE



12 DECK CATCH BASIN DETAIL
NOT TO SCALE

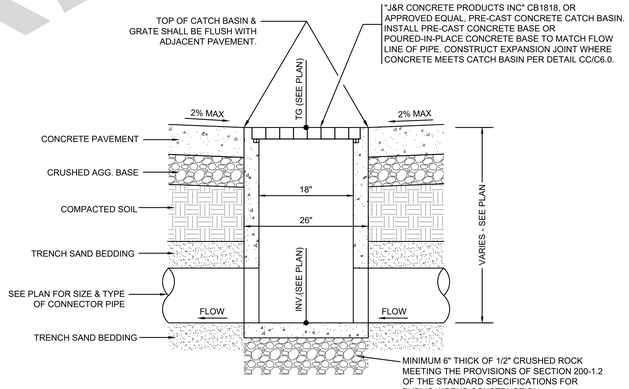
ALL GRATES MUST BE HOT-DIPPED GALVANIZED



18" X 18" STEEL HEEL-PROOF BOLTDOWN PARKWAY GRATE

NOTES
1. Steel Frames W/ Steel Parkway Covers Or Steel Parkway Grates, Are Designed For A Live Load Of 300 p.s.f.

D1 18" x 18" HEEL-PROOF PARKWAY GRATE DETAIL
NOT TO SCALE



D2D1 CATCH BASIN DETAIL
NOT TO SCALE

GRATE OPENINGS PER C.B.C. 11B-302.3:
OPENINGS IN FLOOR OR GROUND SURFACES SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2" (12.7mm) DIAMETER EXCEPT AS ALLOWED IN SECTIONS 11B-407.4.3, 11B-409.4.3, 11B-410.4, 11B-810.5.3 AND 11B-810.10. ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

PARKWAY GRATE NOTE:
IN AREAS WHERE THERE IS NO CLEAR PEDESTRIAN TRAFFIC DIRECTION, THE ½" PERFORATED GRATE SHALL BE USED.

FOR BID PURPOSES ONLY

PBK

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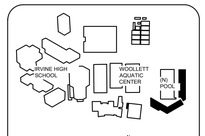
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



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DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

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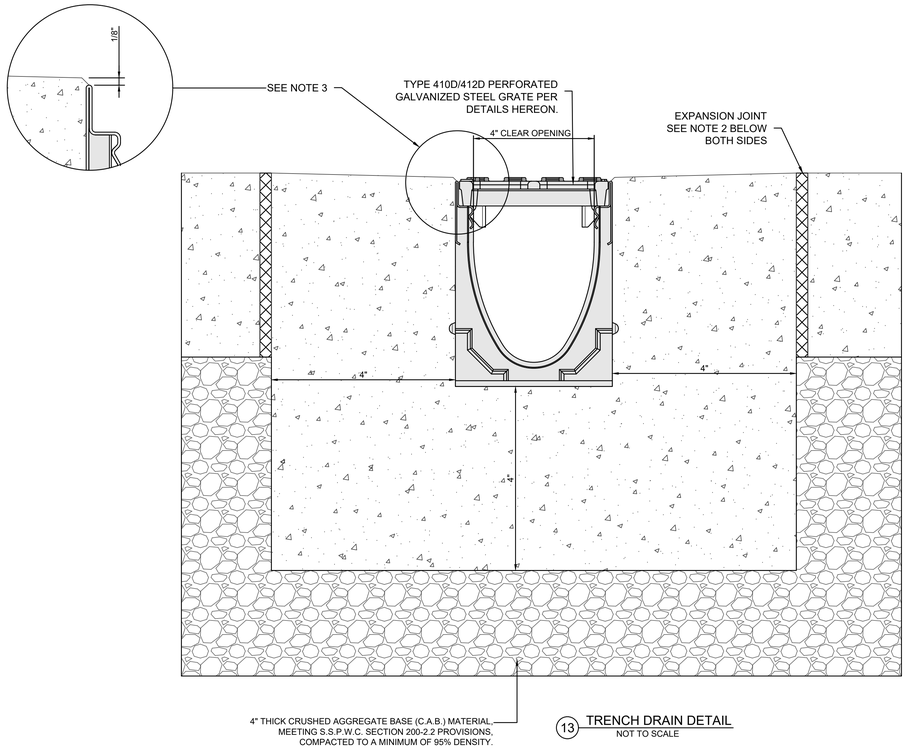
Plot Date: 8/7/2025 8:12:27 AM Last Save By: ron.conedy Login: Jessica Zia S:\Jobs\2777 - PBK\2777III - William Woollett Aquatic Center\Civil\WAC - C6.1 Detail Sheet.dwg



13 TRENCH DRAIN DETAIL
NOT TO SCALE

NOTES:
1. CONCRETE CLASS 560-C-3250 PER S.S.P.W.C. SECTION 201-1 REQUIREMENTS (MINIMUM STRENGTH OF 3,250 PSI AT 28 DAYS). CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
2. EXPANSION AND CONTROL JOINTS SHALL BE INSTALLED PER DETAILS ON C6.0.
3. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" ABOVE THE TOP OF THE CHANNEL EDGE.

K100 KLASSIKDRAIN "DRAINLOK' LOAD CLASS A

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

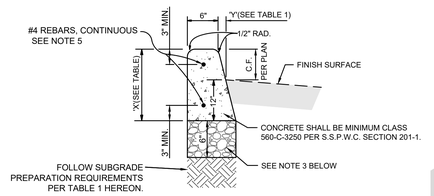
COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'DRAINLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

CURB FACE	0"	2"	4"	5"	6"	8"
'X'	12"	14"	16"	17"	18"	20"
'Y'	0"	0.5"	1"	1.25"	1.5"	2"



14 CONCRETE CURB DETAIL
NOT TO SCALE

CURB GENERAL NOTES:
1. ALL EXPOSED EDGES SHALL HAVE A 1/2" RADIUS.
2. CONTROL JOINTS SHALL BE PLACED IN CURBING AT REGULAR INTERVALS OF 10'. EXPANSION JOINTS AT 30' INTERVALS, AND AT DRIVE APPROACHES, B.C.'S, E.C.'S, CROSS GUTTERS AND CATCH BASIN TRANSITIONS PER JOINT DETAILS ON SHEET C6.0.
3. A 6" THICK LAYER OF CRUSHED AGGREGATE BASE SHALL BE PLACED UNDER ALL CURB. MINIMUM COMPACTION OF 95% RELATIVE DENSITY UNLESS WAIVED BY CIVIL ENGINEER.
4. CONCRETE CURB SHALL BE MINIMUM CLASS 560-C-3250 PER S.S.P.W.C. SECTION 201-1.
5. PLACE NO. 4 REBARS 3" MINIMUM FROM TOP AND BOTTOM OF CURB.

ACO DRAIN

Type 410D/412D Perforated galvanized steel grate (ADA)

Product Features

- Certified to EN 1433 Load Class A - 3,500 lbs - 70 psi
- Uses 'DrainLok' boltless locking system
- Suitable for use with K100, KS100, and H100K-8 channels
- Manufactured from 16 gauge galvanized steel
- Patented reinforcement underneath designed to prevent bowing and collapse
- Complies with ADA - American Disabilities Act of 1990 Section 4.5.4

Specifications

General
The surface drainage system shall be ACO Drain K100, KS100, and H100K-8 channels*, complete with ACO Type 410D/412D Perforated galvanized steel grate with 'DrainLok' locking as manufactured by ACO, Inc. or similar approved.

Materials
The covers shall be manufactured from galvanized steel and have ***minimum*** properties as follows:-

- ***Independently certified to meet Load Class A to EN 1433 - 3,500 lbs - 70 psi***
- ***16 gauge galvanized steel***
- ***Intake area of 14.1 sq. in. (91.0 cm²) per half meter of grate***

The overall width of 4.84" (123mm) and overall length of 39.37" (1000mm) (Type 410D) and 19.69" (500mm)(Type 412D). Perforations measure 0.25" (6.35mm) in diameter.

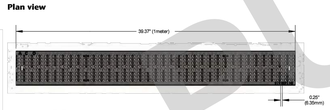
Installation
The trench drain system and grates shall be installed in accordance with the manufacturer's installation instructions and recommendations.
* delete as appropriate

13 TRENCH DRAIN DETAIL
NOT TO SCALE

ACO DRAIN

Type 410D/412D Perforated galvanized steel grate (ADA)

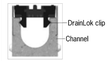
Plan view



Side elevation

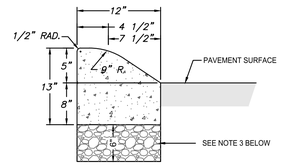
Description	Part No.	Length inches (mm)	Width inches (mm)	Weight lbs.
DrainLok grates				
Type 410D perforated galvanized grate	**12666**	39.37 (1000)	4.84 (123)	6.3
Type 412D perforated galvanized grate	**12667**	19.69 (500)	4.84 (123)	3.2

'DrainLok' locking mechanism



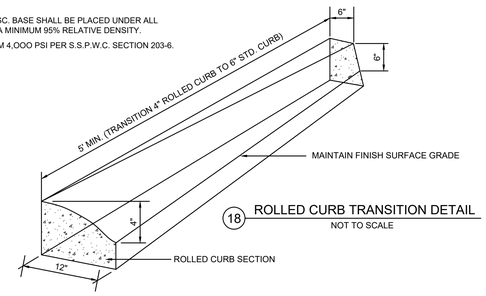
ACO DrainLok™ is a patented, boltless locking system that removes the need for bolts and bars and improves the hydraulic capacity of the channel. The DrainLok™ mechanism simply clips into the channel edge rail for rapid installation. ACO DrainLok™ grates are fitted with an anti-shunt mechanism that restricts unwanted grate movement when installed, improving durability and longevity of the system.

13 TRENCH DRAIN DETAIL
NOT TO SCALE



19 CONCRETE ROLLED CURB DETAIL
NOT TO SCALE

NOTES:
1. ALL EXPOSED EDGES SHALL HAVE A 1/2" RADIUS.
2. CONTROL JOINTS SHALL BE PLACED IN CURBING AT REGULAR INTERVALS OF 10'. EXPANSION JOINTS AT 30' INTERVALS, AND AT DRIVE APPROACHES, B.C.'S, E.C.'S, CROSS GUTTERS AND CATCH BASIN TRANSITIONS.
3. A MINIMUM 6" THICK LAYER OF CRUSHED MISC. BASE SHALL BE PLACED UNDER ALL CONCRETE ROLLED CURB, COMPACTED TO A MINIMUM 95% RELATIVE DENSITY.
4. CONCRETE ROLLED CURB SHALL BE MINIMUM 4,OOO PSI PER S.S.P.W.C. SECTION 203-6.



18 ROLLED CURB TRANSITION DETAIL
NOT TO SCALE

FOR BID PURPOSES ONLY

PBK

ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
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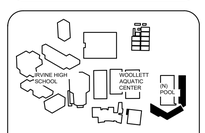
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE



CONSULTANT
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Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN. 11/30/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER No. C 74971 Exp. 09-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

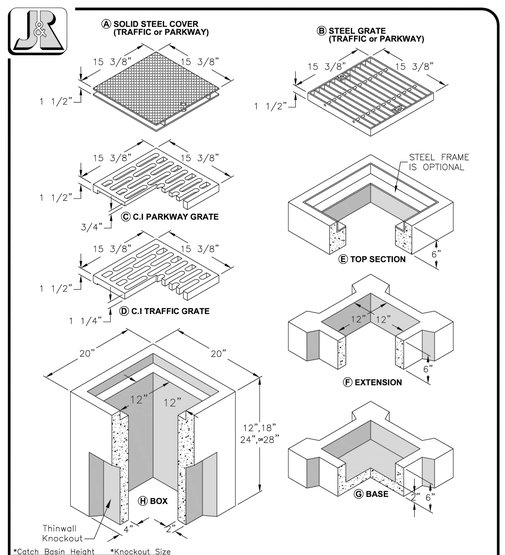
DETAIL SHEET

C6.2

Plot Date: 8/7/2025 8:12:33 AM Last Save By: Jessica Zia Login: Jessica Zia S:\Jobs\2777 - PBK\2777III - William Woollett Aquatic Center\Civil\WAC - C6.2 Detail Sheet.dwg

THIS DOCUMENT IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT A FINAL CONSTRUCTION CONTRACT

FOR BID PURPOSES ONLY



*Catch Basin Height — *Knockout Size
12" High.....8"W X 6"H
18" High.....8"W X 13"H
24" High.....7"W X 19"H
28" High.....7"W X 19"H

CB1212 SERIES
12" X 12" CATCH BASIN

NOTES
1. Steel Traffic Frames W/ Steel TFC Covers Or Steel TFC Grates Are Designed For AASHTO H-20 Wheel Loading, But Are Not Intended For Direct Traffic Installations.
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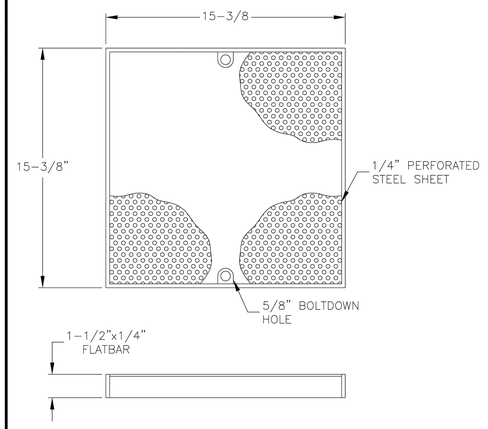
4. Cast Iron Parkway Grates Are Designed For 300 p.s.f Wheel Loading.

D3 12" x 12" CATCH BASIN DETAIL
NOT TO SCALE

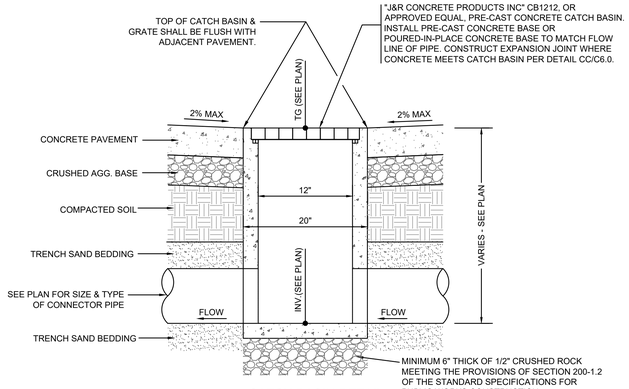
ALL GRATES MUST BE HOT-DIPPED GALVANIZED



12" X 12" STEEL HEEL-PROOF PARKWAY GRATE

NOTES
1. Steel Frames W/ Steel Parkway Covers Or Steel Parkway Grates, Are Designed For A Live Load Of 300 p.s.f.

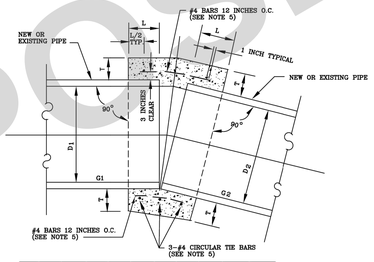
D3 12" x 12" HEEL-PROOF PARKWAY GRATE DETAIL
NOT TO SCALE



D3 CATCH BASIN DETAIL
NOT TO SCALE

GRATE OPENINGS PER C.B.C. 11B-302.3:
OPENINGS IN FLOOR OR GROUND SURFACES SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2" (12.7mm) DIAMETER EXCEPT AS ALLOWED IN SECTIONS 11B-407.4.3, 11B-409.4.3, 11B-410.4, 11B-810.5.3 AND 11B-810.10. ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

CITY OF IRVINE
PUBLIC WORKS



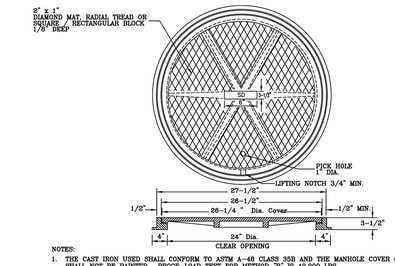
D	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"
L	1.0'	1.0'	1.0'	1.25'	1.5'	1.5'	1.5'	1.75'	1.75'	1.75'
T	4"	5"	6"	7"	8"	9"	10"	10"	11"	11"
A	.08	.067	.052	.042	.036	.040	.036	.032	.028	.026

G = SLOPE OF PIPE FT./FT.

NOTES:
1. A CONCRETE COLLAR IS REQUIRED WHERE $G_B - G_I > A$
2. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L AND T SHALL BE THOSE OF THE LARGER PIPE D = D_I OR D_B , WHICHEVER IS GREATER.
3. FOR PIPE LARGER THAN 66 INCHES A SPECIAL COLLAR DETAIL IS REQUIRED.
4. FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.
5. OMIT REINFORCING ON PIPES 24 INCHES AND LESS IN DIAMETER AND ON ALL PIPES WHERE $G_B - G_I < 3$ x A.
6. WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D+(2 x WALL THICKNESS)+2.
7. WHEN D_B IS EQUAL TO OR LESS THAN D_I, JOIN INVERTS AND WHEN D IS GREATER THAN D , JOIN SOFFITS.
8. BEVELED PIPE MAY BE USED IN LIEU OF CONCRETE COLLAR.
9. THIS CONCRETE COLLAR DETAIL SHALL NOT BE USED WHEN $G_B - G_I > 10\%$.

CONCRETE COLLAR	STD. PLAN 310
MARK CARROLL, R.C.E. 31515 CITY OF IRVINE - CITY ENGINEER — AUGUST 2013 DATE	SHEET 1 OF 1

CITY OF IRVINE
PUBLIC WORKS



NOTES:
1. THE CAST IRON USED SHALL CONFORM TO ASTM A-48 CLASS 35B AND THE MANHOLE COVER OR RING SHALL NOT BE PAINTED. PROOF-LOAD TEST FOR METHOD "B" IS 40,000 LBS.
2. COVERS SHALL BE CAST WITH THE LETTER "SD" (3"MIN. HEIGHT) FOR STORM DRAINS.
3. FOUNDRY IDENTIFYING MARK/NAME, SHALL BE CAST ON THE TOP OF THE COVER. IMPOSITED COVERS AND FRAMES SHALL HAVE THE COUNTRY OF ORIGIN MARKING ON THE TOP OF COVER AND ON THE FRAME IN COMPLIANCE WITH FEDERAL REGULATIONS.
4. FOUNDRY IDENTIFYING MARK/NAME, HEAT AND DATE SHALL BE CAST ON THE BOTTOM OF THE COVER AND ON THE INSIDE OF THE FRAME. IMPORTED COVERS AND FRAMES SHALL HAVE THE COUNTRY OF ORIGIN MARKING ON THE TOP OF COVER AND ON THE FRAME IN COMPLIANCE WITH FEDERAL REGULATIONS.
5. WEIGHT OF FRAME SHALL BE 160 LBS. WEIGHT OF COVER SHALL BE 155 LBS. ACTUAL WEIGHTS SHALL BE WITHIN A RANGE OF 95% TO 110%.
6. USE ONE OF THE FOLLOWING APPROVED PRODUCTS: ALHAMBRA FOUNDRY A-1254-4, NEENAH FOUNDRY — NF1-1060 OR APPROVED EQUAL.
7. REQUEST FOR APPROVED EQUAL WILL REQUIRE THE FOLLOWING:
   (a) A CERTIFICATE OF COMPLIANCE STATING THAT THE FURNISHED FRAME(S) AND COVER(S) COMPLY IN ALL RESPECTS WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATIONS. SUCH CERTIFICATES SHALL CLEARLY IDENTIFY THE FRAME AND COVER AND BE SIGNED BY THE MANUFACTURER.
   (b) MANHOLE FRAME(S) AND COVER(S) PRODUCED OUTSIDE THE UNITED STATES SHALL BE FURNISHED WITH A CERTIFICATE OF COMPLIANCE ALONG WITH COMPLETE COPIES OF ALL TESTS AND TEST RESULTS IN COMPLIANCE WITH APWA TEST REQUIREMENTS. THE CERTIFICATE SHALL BE ISSUED BY A PRIVATE TESTING FIRM LOCATED WITHIN CALIFORNIA AND WILL BE AT NO ADDITIONAL EXPENSE TO THE CITY OF IRVINE. THE TESTING FIRM SHALL BE EXPERIENCED AND KNOWLEDGEABLE OF THE TESTING OF MANHOLE FRAMES AND COVERS.

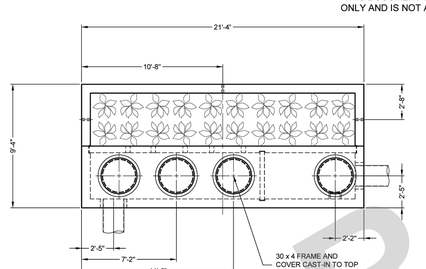
24" TRAFFIC MANHOLE FRAME & COVER	STD. PLAN 311
MARK CARROLL, R.C.E. 31515 CITY OF IRVINE - CITY ENGINEER — AUGUST 2013 DATE	SHEET 1 OF 3

SITE DESIGN DATA	
WATER QUALITY FLOW (CFS)	0.57
PEAK FLOW RATE (CFS)	17.03
RETURN PERIOD (YRS)	25
MAXIMUM POLLUTANT DENSITY (PREFILTER) (GPM/SF)	3.0
PREFILTER LOADING RATE (GPM/SF)	2.00
WETLAND MEDIA LOADING RATE (GPM/SF)	1.00
MEDIA OPERATING HEAD (FT)	3.36
SURFACE LOADING	PEDESTRIAN
GROUNDWATER ELEVATION*	109.5

*GROUNDWATER ELEVATION IS ASSUMED. EOR TO PROVIDE IF KNOWN

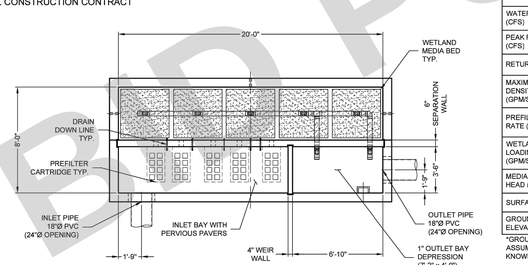
STRUCTURE DETAILS	
NUMBER OF DELIVERED PIECES (DOES NOT INCLUDE GRADE RINGS/RISERS)	3
MAXIMUM FOOTPRINT	9.33' x 21.33'
DELIVERED HEAVIEST PICK*	49000 LB.
TOP SECTION	28675 LB.
BASE SECTION	49000 LB.

*BASE SECTION SHIPPED WITH INTERNAL WALLS INSTALLED



PLAN VIEW

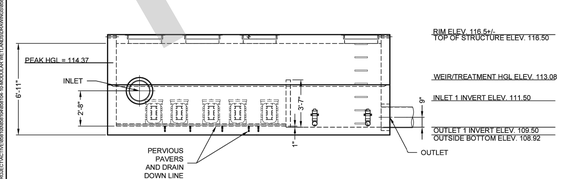
30 x 4 FRAME AND COVER CAST-IN TO TOP SLAB, TYP. OF 4



PLAN VIEW
TOP SLAB NOT SHOWN

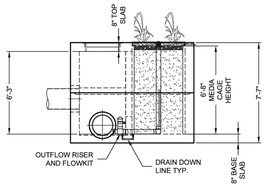
D7 MODULAR WETLAND SYSTEM DETAIL
NOT TO SCALE

MODULAR WETLAND SYSTEM IS A DEFERRED SUBMITTAL



ELEVATION VIEW*

*MEDIA CASTINGS, IF REQUIRED, NOT SHOWN



RIGHT END VIEW

RVRSD
6505 / 000000
LAYOUT 4
MWS-L-8-20-L
31.97 TS
4.90 TIW

MODULAR SUBSURFACE FLOW WETLAND SYSTEM (MSFWS) INSTALLATION: THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO INSTALL THE MSFWS MODULES AND APPURTENANCES IN ACCORDANCE WITH THE DRAWINGS AND THESE SPECIFICATIONS.

1. GRADING AND EXCAVATION SITE SHALL BE PROPERLY SURVEYED BY A REGISTERED PROFESSIONAL SURVEYOR, AND CLEARLY MARKED WITH EXCAVATION LIMITS AND ELEVATIONS. SOIL CONDITIONS SHALL BE TESTED IN ACCORDANCE WITH THE GOVERNING AGENCIES REQUIREMENTS. ALL EARTH REMOVED SHALL BE TRANSPORTED, DISPOSED, STORED, AND HANDLED PER GOVERNING AGENCIES STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL AND MAINTAIN PROPER EROSION CONTROL MEASURES DURING GRADING AND EXCAVATION OPERATIONS.
2. SUBBASE SHALL BE PLACED WITH A MINIMUM OF 6" OF GRAVEL UNDER ALL CONCRETE STRUCTURES.
3. CONCRETE STRUCTURES - AFTER THE SUBBASE HAS BEEN INSPECTED BY THE I.O.R. AND APPROVED, THE CONCRETE STRUCTURES SHALL BE LIFTED AND PLACED IN PROPER POSITION PER PLANS.
4. COMPACTION - ALL BACKFILL SOIL SHALL BE COMPACTED PRIOR TO INSTALLATION OF MSFWS COMPONENTS. COMPACTION SHALL BE TO 95% OF STANDARD PROCTOR OR 90% OF MODIFIED PROCTOR.
5. SUBSURFACE FLOW WETLAND MEDIA SHALL BE CAREFULLY LOADED INTO AREA SO NOT TO DAMAGE THE WETLAND LINER OR WATER TRANSFER SYSTEMS. THE ENTIRE WETLAND AREA SHALL BE FILLED TO A LEVEL 9 INCHES BELOW FINISHED SURFACE.
6. PLANTING LAYER SHALL BE INSTALLED PER MANUFACTURER'S DRAWINGS AND CONSIST OF A MINIMUM 3" GROW ENHANCEMENT MEDIA THAT ENSURES GREATER THAN 95% PLANT SURVIVAL RATE, AND 6" OF WETLAND MEDIA. PLANTING SHALL CONSIST OF NATIVE PLANTS RECOMMENDED BY MANUFACTURER AND/OR LANDSCAPE ARCHITECT. PLANTING SHALL BE DRIP IRRIGATED FOR AT LEAST THE FIRST 3 MONTHS TO INSURE LONG TERM PLANT GROWTH. NO CHEMICAL HERBICIDES, PESTICIDES, OR FERTILIZERS SHALL BE USED IN THE PLANTING OR CARE AND MAINTENANCE OF THE PLANTED AREA.
7. SHIPPING - MSFWS SHALL BE SHIPPED TO THE CONTRACTOR'S ADDRESS OR JOB SITE, AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO OFFLOAD THE UNIT(S) AND PLACE IN THE EXACT SITE OF INSTALLATION.
8. STORAGE AND HANDLING - THE CONTRACTOR SHALL EXERCISE CARE IN THE STORAGE AND HANDLING OF THE MSFWS AND ALL COMPONENTS PRIOR TO AND DURING INSTALLATION. ANY REPAIR OR REPLACEMENT COSTS ASSOCIATED WITH EVENTS OCCURRING AFTER DELIVERY IS ACCEPTED AND UNLOADING HAS COMMENCED SHALL BE BORN BY THE CONTRACTOR. THE MSFWS(S) AND ALL COMPONENTS SHALL ALWAYS BE STORED INDOORS AND TRANSPORTED INSIDE THE ORIGINAL SHIPPING CONTAINER UNTIL THE UNIT(S) ARE READY TO BE INSTALLED. THE MSFWS SHALL ALWAYS BE HANDLED WITH CARE AND LIFTED ACCORDING TO OSHA AND NIOSA LIFTING RECOMMENDATIONS AND/OR CONTRACTOR'S WORKPLACE SAFETY PROFESSIONAL RECOMMENDATIONS.
9. INSPECTION - AFTER INSTALLATION, THE CONTRACTOR SHALL DEMONSTRATE THAT THE MSFWS HAS BEEN PROPERLY INSTALLED AT THE CORRECT LOCATION(S), ELEVATIONS, AND WITH APPROPRIATE COMPONENTS. ALL COMPONENTS ASSOCIATED WITH THE MSFWS AND ITS INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE ENGINEER AT THE PLACE OF INSTALLATION. IN ADDITION, THE CONTRACTOR SHALL DEMONSTRATE THAT THE MSFWS HAS BEEN INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. ALL COMPONENTS SHALL BE INSPECTED BY A QUALIFIED PERSON ONCE A YEAR AND RESULTS OF INSPECTION SHALL BE KEPT IN AN INSPECTION LOG.

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MARK	DATE	REVISION DESCRIPTION	BY

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A QUIKTRIP COMPANY
12901 SE 97th Avenue, Clackamas, OR 97015
800-548-4667 503-240-3393 800-561-1271 FAX

CONTECH PROPOSAL DRAWING

MODULAR WETLANDS MWSL0820OP - 858104-010
WILLIAM WOOLLETT JR. AQUATICS CENTER
IRVINE, CA
SITE DESIGNATION: MWSL0820

PROJECT No.	SEQ. No.	DATE
858104	010	06/17/25
DESIGNED: RLH	DRAWN: RLH	
CHECKED: RLH	APPROVED: RLH	
SHEET NO.: 1 OF 1		

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Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CONSULTANT
FPL and Associates, Inc.
Traffic • Transportation • Civil
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Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 REN. 8/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER No. 73971 Exp. 09-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

DETAIL SHEET

C6.3

Plot Date: 8/7/2025 8:12:36 AM Last Save By: ron.conedy Login: Jessica Zia S:\Jobs\2777 - PBK\2777III - William Woollett Aquatic Center\Civil\WAC - C6.3 Detail Sheet.dwg
SPRUNKFONTCOMPETE CHARSETTE WITTMERLINEWEIGHTCHATTERBOXBRIDGEBASEFISH 1/8 INCH 0.4 INCH 1/4 INCH 0.8 INCH 3/8 INCH 1.2 INCH 1/2 INCH 1.6 INCH 3/4 INCH 2.4 INCH 1 INCH 3.2 INCH 8/7/2025 8:12:35 AM

SANITARY SEWER CONSTRUCTION NOTES

- (SA) CONSTRUCT 4" SDR-35 PVC PIPE & FITTINGS PER APPLICABLE TRENCHING DETAIL ON C6.0.
- (SB) CONSTRUCT 6" SDR-35 PVC PIPE & FITTINGS PER APPLICABLE TRENCHING DETAIL ON C6.0.
- (S1) CONSTRUCT SEWER CLEANOUT & YARD BOX PER DETAIL S1/C7.1.
- (S2) CONSTRUCT SEWER MANHOLE, PER S.P.P.W.C. STANDARD PLAN NO. 200-4, WITH 30" MANHOLE FRAME AND SOLID COVER WITH BITUMINOUS PAINT FINISH.
- (S3) CONNECT SEWER TO BUILDING SEWER WITH ANACO-HUSKY 2000 STAINLESS STEEL BANDED COUPLING OR APPROVED EQUAL.
- (S4) CONSTRUCT 6" HDPE SEWER PIPE MEETING AWWA C906, DR 9. PIPE TO BE MICROTUNNELED PER S.S.P.W.C. SECTION 308, 2021 EDITION. EXACT ROUTING TO BE DETERMINED BY THE CONTRACTOR.
- (S5) BREAK INTO EXISTING SEWER MANHOLE, PER S.S.P.W.C. STD. PLAN 206-3. RECHANNEL CONCRETE BASE OF MANHOLE PER THE STANDARD PLAN AND CONNECT NEW 6" PIPE INTO MANHOLE.

FIRE WATER CONSTRUCTION NOTES:

- (F1) HOT TAP EXISTING 8" WATER LINE WITH EPOXY COATED M.J. SLEEVE. TAPPING SLEEVE SHALL BE JCM INDUSTRIES MODEL 414 OR 432. CONTRACTOR SHALL POTHOLE AND ASCERTAIN THE EXACT SIZE OF THE EXISTING PIPING PRIOR TO ORDERING THE TAPPING SLEEVE.
- (F2) CONSTRUCT 6" GATE VALVE IN YARD BOX PER DETAIL F2/C7.1.
- (F3) CONSTRUCT CONCRETE THRUST BLOCK PER DETAIL F3/C7.1.
- (F4) CONSTRUCT 6" A.W.W.A. C900, DR-14, P.V.C. PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0.
- (F5) CONSTRUCT FIRE HYDRANT PER DETAIL F5 ON C7.1.
- (F6) CONSTRUCT 6" HDPE AWWA C906, DR 7 (335 PSI). PIPE TO BE MICROTUNNELED PER S.S.P.W.C. SECTION 308, 2021 EDITION. EXACT ROUTING TO BE DETERMINED BY THE CONTRACTOR.

DOMESTIC WATER CONSTRUCTION NOTES:

- (W1) HOT TAP EXISTING 4" WATER LINE WITH EPOXY COATED M.J. SLEEVE. TAPPING SLEEVE SHALL BE JCM INDUSTRIES MODEL 414 OR 432. CONTRACTOR SHALL POTHOLE AND ASCERTAIN THE EXACT SIZE OF THE EXISTING PIPING PRIOR TO ORDERING THE TAPPING SLEEVE.
- (W2) CONSTRUCT 4" HDPE AWWA C906, DR 7 (335 PSI). PIPE TO BE MICROTUNNELED PER S.S.P.W.C. SECTION 308, 2021 EDITION. EXACT ROUTING TO BE DETERMINED BY THE CONTRACTOR.
- (W3) CONSTRUCT 4" A.W.W.A. C900, DR-14, P.V.C. PIPE PER APPLICABLE TRENCHING DETAIL ON C6.0.
- (W4) CONSTRUCT 4" WATER SHUTOFF VALVE IN YARD BOX PER DETAIL F2/C7.1.
- (W5) CONSTRUCT 2" SCHEDULE 80 P.V.C. PIPE, FITTINGS AND COUPLINGS. CONSTRUCT PER APPLICABLE TRENCHING DETAIL ON SHEET C6.0.
- (W6) CONSTRUCT 3" SCHEDULE 80 P.V.C. PIPE, FITTINGS AND COUPLINGS. CONSTRUCT PER APPLICABLE TRENCHING DETAIL ON SHEET C6.0.
- (W7) CONSTRUCT 3/4" SCHEDULE 80 P.V.C. PIPE, FITTINGS AND COUPLINGS. CONSTRUCT PER APPLICABLE TRENCHING DETAIL ON SHEET C6.0.

HATCH LEGEND:

- = NEW BUILDING
- = NEW CONCRETE PAVEMENT
- = EXISTING CONCRETE TO BE PROTECTED
- = NEW LANDSCAPE
- = NEW SWIMMING POOL
- = FIRE LANE CONCRETE PAVEMENT

UNDERGROUND UTILITY LINETYPE LEGEND:

- (E)STORM DRAIN
- (E)DOMESTIC WATER
- (E)SANITARY SEWER
- (E)GAS
- (E)ELECTRICAL/POWER
- (E)COMMUNICATIONS
- (E)LIGHTING CONDUIT
- (E)FIRE WATER
- NEW STORM DRAIN
- NEW DOMESTIC WATER
- NEW SANITARY SEWER
- NEW FIRE WATER

NOTES TO CONTRACTOR:

A. FIRE SERVICE NOTE: INSTALLATION, INSPECTION, AND TESTING SHALL CONFORM TO 2022 N.F.P.A. 13 AND 2019 N.F.P.A. 24. DISINFECTION OF FIRE MAIN NOT REQUIRED.
B. ALL BOLTED JOINT ACCESSERIES ON FIRE SERVICE LINES AND FIRE SPRINKLER LATERALS SHALL BE CLEANED AND THOROUGHLY COATED WITH CORROSION RETARDING MATERIAL PER NFPA 24, 10.4.1.1.

SEWER LINE STAKING NOTE

ALL SEWER LINES AND CLEANOUTS SHALL BE STAKED BY A LICENSED SURVEYOR IF SLOPE OF GRADE IS LESS THAN 2% AND A COMPLETE SET OF CUT SHEETS SHALL BE SUPPLIED TO THE INSPECTOR. ALL CONSTRUCTION STAKING SHALL BE INSTALLED AND VERIFIED FOR GRADE AND ALIGNMENT PRIOR TO THE START OF CONSTRUCTION.

MICROTUNNELING NOTE:

A. THE CONTRACTOR SHALL MICROTUNNEL THE PROPOSED 6" FIRE WATER LINE, IN LIEU OF TRENCHING AS NOTED ON THIS PLAN. MICROTUNNELING SHALL COMPLY WITH THE S.S.P.W.C. (GREEN BOOK) SECTION 308, 2021 EDITION.
B. FIRE WATER PIPE SHALL BE H.D.P.E. AWWA C906, DR 7 (335 PSI). APPROVED MANUFACTURERS JM EAGLE, ISCO, OR APPROVED EQUAL.
B. SEWER PIPE SHALL BE H.D.P.E. AWWA C906, DR 9 (250 PSI). APPROVED MANUFACTURERS JM EAGLE, ISCO, OR APPROVED EQUAL.
C. ALL HDPE PIPE AND FITTINGS SHALL BE CUT, JOINED, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. JOINING, AND LAYING OF POLYETHYLENE PIPE SHALL BE ACCOMPLISHED BY PERSONNEL EXPERIENCED AND CERTIFIED IN WORKING WITH POLYETHYLENE PIPE SYSTEMS.
D. ALL HDPE PIPE SHALL BE JOINED TO ITSELF BY THE HEAT FUSION PROCESS WHICH PRODUCES HOMOGENEOUS, SEAL, LEAK TIGHT JOINTS. TIE-INS BETWEEN SECTIONS OF HDPE PIPE SHALL BE MADE BY BUTT FUSION WHENEVER POSSIBLE.
E. THE PIPE SHALL BE JOINED BY THE BUTT FUSION PROCEDURE OUTLINED IN ASTM F 2620 OR PPI TR-33. A RECORD OR CERTIFICATE OF TRAINING FOR THE FUSION OPERATOR MUST BE PROVIDED THAT DOCUMENTS TRAINING TO THE FUNDAMENTALS OF ASTM F 2620.
F. THE EMPLOYER OF THE FUSION MACHINE OPERATOR IS RESPONSIBLE FOR THE FUSION JOINT QUALITY OF THE FUSION WELD MADE BY THAT INDIVIDUAL. THE EMPLOYER IS RESPONSIBLE FOR DOCUMENTING ALL TRAINING AND QUALIFICATION RECORDS FOR THAT INDIVIDUAL, INCLUDING COMPLIANCE TO ANY CODE REQUIREMENTS FOR FUSION/BONDER OPERATORS.
G. ALL HDPE FUSION EQUIPMENT OPERATORS SHALL BE QUALIFIED TO THE PROCEDURE USED TO PERFORM PIPE JOINING. FUSION EQUIPMENT OPERATORS SHALL HAVE CURRENT, FORMAL TRAINING ON ALL FUSION EQUIPMENT EMPLOYED ON THE PROJECT APPROVED BY MANUFACTURER. TRAINING RECEIVED MORE THAN TWO YEARS PRIOR TO OPERATION WITH NO EVIDENCE OF ACTIVITY WITHIN THE PAST 6 MONTHS SHALL NOT BE CONSIDERED CURRENT.

NOTES TO CONTRACTOR:

1. ALL FIRE HYDRANTS SHALL HAVE A 3-FOOT CIRCUMFERENCE OF CLEAR SPACE AND AN 18-INCH CLEARANCE FROM THE CENTER OF THE 4 1/2-INCH DISCHARGE TO FINISH GRADE LEVEL PER CFC 507.5.5.
2. THE POST INDICATOR VALVES (PIV) SHALL BE SET SO THAT THE TOP OF THE POST WILL BE 32-INCHES TO 40-INCHES ABOVE FINISHED GRADE PER NFPA 24, 6.3.1.
3. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH BREAK-OFF BOLTS AND/OR BREAK-OFF SPOOLS.
4. ALL MECHANICAL JOINTS ON FIRE SERVICE LINES AND FIRE SPRINKLER LATERALS SHALL BE CLEANED AND THOROUGHLY COATED WITH CORROSION RETARDING MATERIAL PER NFPA 24, 10.4.1.1.
5. POST INDICATING VALVES (PIV) SHALL BE TESTED TO INSURE THAT THE "TARGETS" (OPEN, CLOSED) ARE CLEARLY IDENTIFIED WHEN VALVE IS OPENED AND CLOSED PER NFPA 24, 10.10.1 & 14.1.

NOTES FOR UNDERGROUND PIPING FOR PRIVATE HYDRANTS & SPRINKLERS

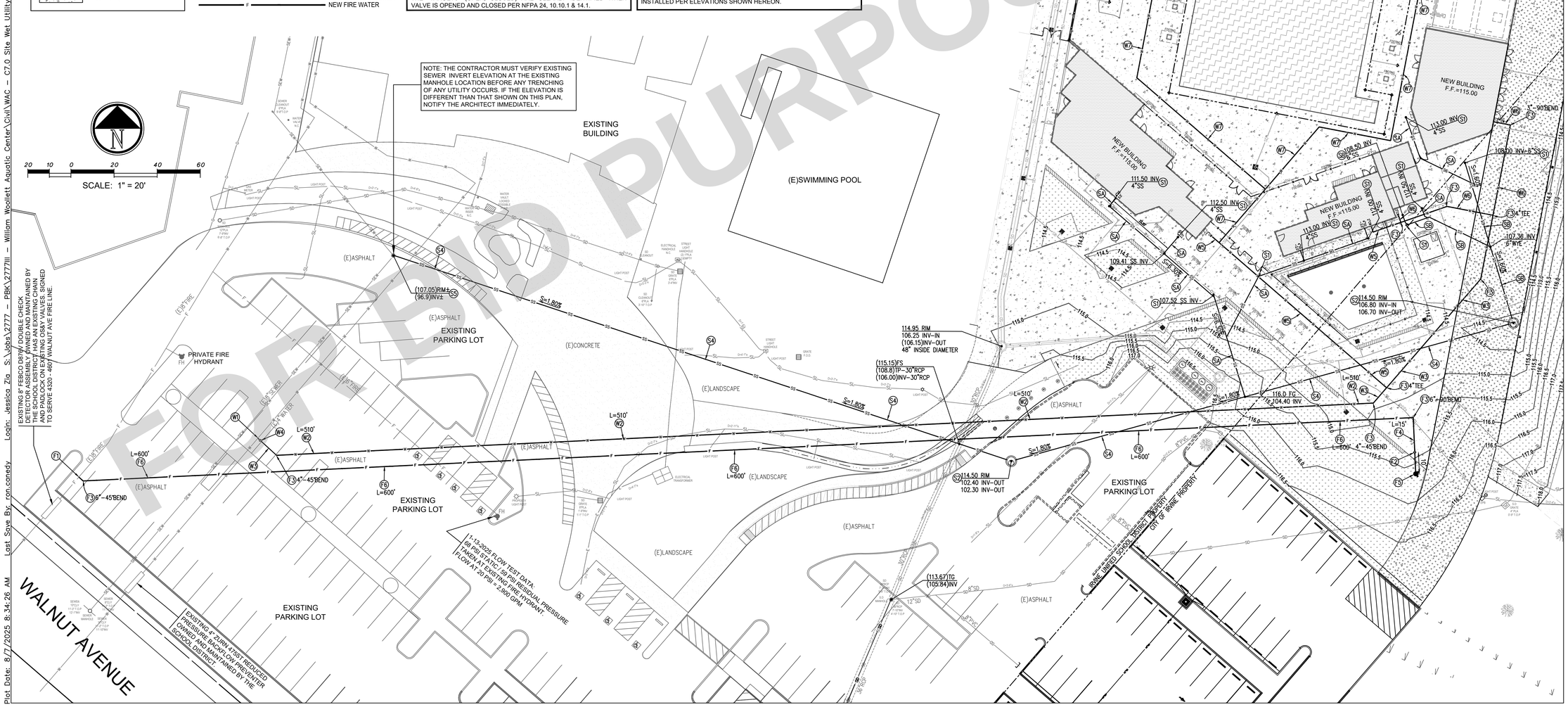
1. PRIOR TO INSTALLATION, ALL PLANS AND SPECIFICATIONS SHALL BE APPROVED BY D.S.A. REFER TO DSA IR A-25 FOR DESIGN, INSTALLATION AND MAINTENANCE GENERAL REQUIREMENTS.
2. INSPECTIONS ARE REQUIRED: 1) PRIOR TO POURING THRUST BLOCKS, 2) FOR HYDROSTATIC TESTING, AND 3) FOR FLUSH.
3. INSTALLATION, INSPECTION, AND TESTING SHALL CONFORM TO 2022 CFC, 2022 NFPA 13, AS AMENDED BY CBC CH. 35, 2019 NFPA 24, AS AMENDED BY CBC CH. 35.
4. PRIVATE FIRE HYDRANT SHALL BE APPROVED WET BARREL STYLE WITH A MINIMUM OF 2 1/2" AND ONE 4" OUTLET. THE 4" OUTLET SHALL FACE THE FIRE DEPARTMENT ACCESS ROAD. ALL OUTLETS SHALL BE PROVIDED WITH NHS EXTERNAL TRHEADS. NFPA 24, 7.1.2.
5. FIRE HYDRANT SUPPLY PIPING SHALL BE A MINIMUM OF SIX INCHES IN DIAMETER. THE CENTER OF THE HOSE OUTLET SHALL BE NOT LESS THAN 18" ABOVE FINAL GRADE OR, WHERE LOCATED IN A HOUSE, 12" ABOVE THE FLOOR. NFPA 24, 7.3.3 & 7.3.3.2.
6. FIRE HYDRANTS SHALL BE A MINIMUM OF 40 FEET FROM ALL STRUCTURES. NFPA 24, 7.2.3.
7. TEST SHALL BE MADE BY THE INSTALLING CONTRACTOR IN THE PRESENCE OF THE (IOR). PROVIDE A COMPLETED CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING TO DSA. NFPA 24, 10.10.1 & 14.1, CFC 901.5 & 6.
8. ALL PIPING SHALL BE LISTED FOR USE IN FIRE PROTECTION SERVICE AND COMPLY WITH AWWA STANDARDS (CLASS 150 MINIMUM) CLASS 200 PIPE SHALL BE USED WHERE THE PRESSURE MAY EXCEED 150 PSI. NFPA 24, 10.1.1 & 5.
9. ALL BOLTED JOINTS SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION RETARDING MATERIAL AFTER INSTALLATION. NFPA 24, 10.4.1.1.
10. POST INDICATING VALVES (PIV) SHALL BE TESTED TO INSURE THAT THE "TARGETS" (OPEN, CLOSED) ARE CLEARLY IDENTIFIED WHEN VALVE IS OPENED AND CLOSED. NFPA 24, 10.10.1 & 14.1.
11. FITTINGS SHALL BE OF AN APPROVED TYPE. NFPA 24, 10.2.1.
12. A MINIMUM OF 30" OF COVER, FROM FINISH GRADE TO THE TOP OF THE PIPE, SHALL BE PROVIDED. WHEN SURFACE LOADS ARE EXPECTED, A MINIMUM OF 36" COVER SHALL PROVIDED.
13. THRUST BLOCKS, OR OTHER APPROVED METHOD OF THRUST RESTRAINT, SHALL BE PROVIDED WHEREVER PIPE CHANGES DIRECTION. BACK-FILL BETWEEN THE JOINTS TO PREVENT MOVEMENT OF THE PIPE. PROVIDE DETAILS AND CALCULATIONS FOR SIZING THRUST BLOCKS BASE ON ACTUAL SOIL CONDITIONS. NFPA 24, 10.8.
14. A HYDROSTATIC TEST (200 PSI FOR TWO HOURS OR 50 PSI OVER MAXIMUM STATIC PRESSURE, WHICHEVER IS GREATER) SHALL BE PERFORMED. NFPA 24, 10.10.2.2.1.
15. THE SYSTEM SHALL BE THOROUGHLY FLUSHED BEFORE CONNECTION IS MADE TO OVERHEAD PIPING. FLOW SHALL BE THROUGH A MINIMUM OF 4" HOSE OF PIPE. NFPA 24, 10.10.2.2.1.
16. ALL CONTROL VALVES SHALL BE LOCKED IN THE OPEN POSITION. VALVES SHALL BE MONITORED IF THEY SERVE 6 OR MORE SPRINKLER HEADS. CBC/CFC 903.4.
17. ALL VALVES CONTROLLING CONNECTIONS TO WATER SUPPLIES AND TO SUPPLY PIPES TO WATER BASED FIRE PROTECTION SYSTEMS SHALL BE LISTED INDICATING VALVES, EXCEPT AS PERMITTED BY 6.1.1.3 AND 6.1.1.4.c.

EXISTING UNDERGROUND STRUCTURES

THE LOCATIONS OF THE EXISTING UNDERGROUND UTILITIES, AS SHOWN ON THIS PLAN, WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE LOCATIONS OF SUCH UNDERGROUND UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY EXCAVATION OR IMPROVEMENT. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN TO BE PROTECTED HEREON AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN HEREON.

UNDERGROUND UTILITY COORDINATION NOTE:

THE CONTRACTOR IS RESPONSIBLE TO COORDINATE AND CONSTRUCT ALL UNDERGROUND UTILITIES SO THAT THE PROPOSED STORM DRAIN & SEWER PIPES ARE INSTALLED AT THE ELEVATIONS SHOWN ON THESE PLANS. IF ELECTRICAL CONDUITS ARE INSTALLED PRIOR TO STORM DRAIN & SEWER, THE CONTRACTOR MUST CONSTRUCT THE CONDUITS SO THEY DO NOT CLASH WITH GRAVITY LINES. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCURRED FOR THE RE-DESIGN AND CONSTRUCTION OF GRAVITY LINES IF THEY ARE NOT INSTALLED PER ELEVATIONS SHOWN HEREON.



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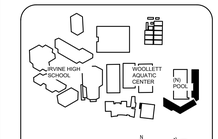

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DISCIPLINE
LICENSED ARCHITECT BRUCE OH C-34832 REN. 10/31/26 STATE OF CALIFORNIA
REGISTERED CIVIL ENGINEER No. C 34971 Exp. 09-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

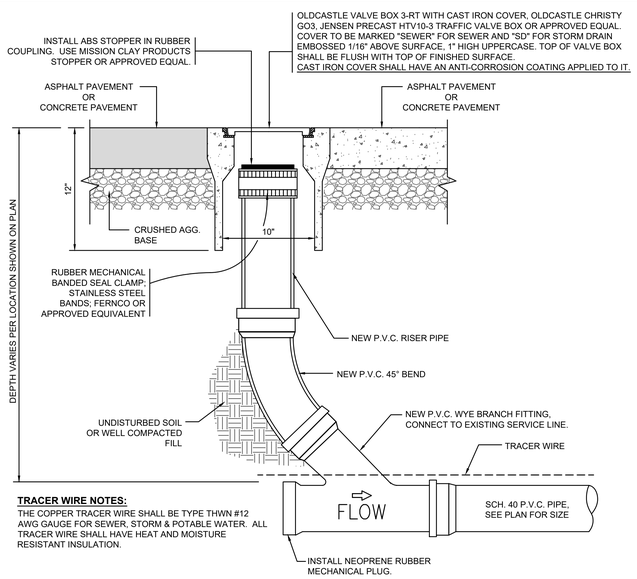
100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

SITE WET UTILITY PLAN

C7.0

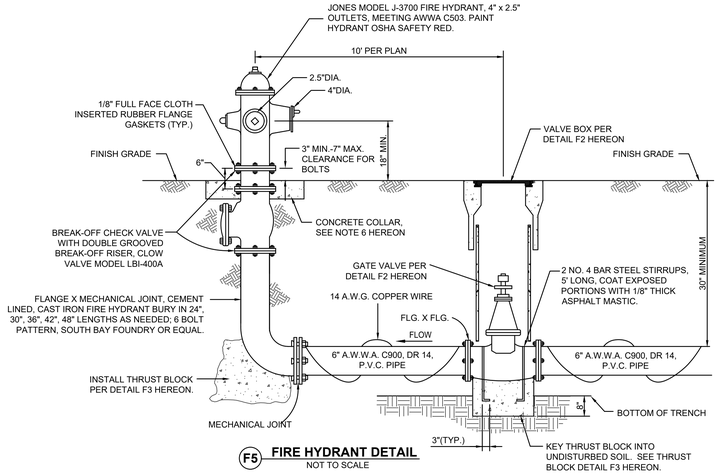
Plot Date: 8/7/2025 8:34:26 AM Last Save By: ron.canedy Login: Jessica Zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C7.0 Site Wet Utility Plan.dwg



TRACER WIRE NOTES:

THE COPPER TRACER WIRE SHALL BE TYPE THWN #12 AWG GAUGE FOR SEWER, STORM & POTABLE WATER. ALL TRACER WIRE SHALL HAVE HEAT AND MOISTURE RESISTANT INSULATION.

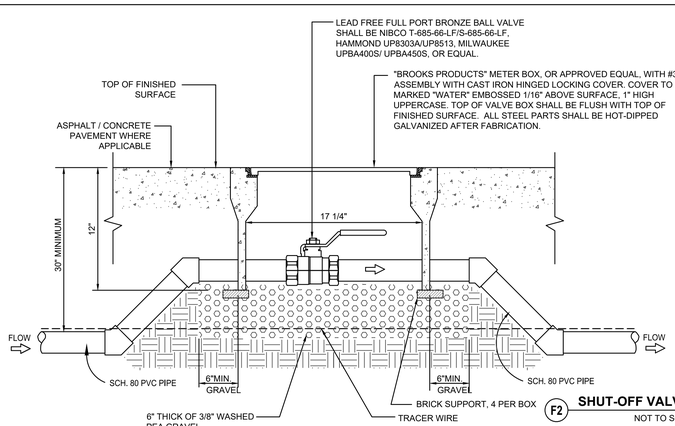
S1 CLEAN OUT & YARD BOX DETAIL
NOT TO SCALE



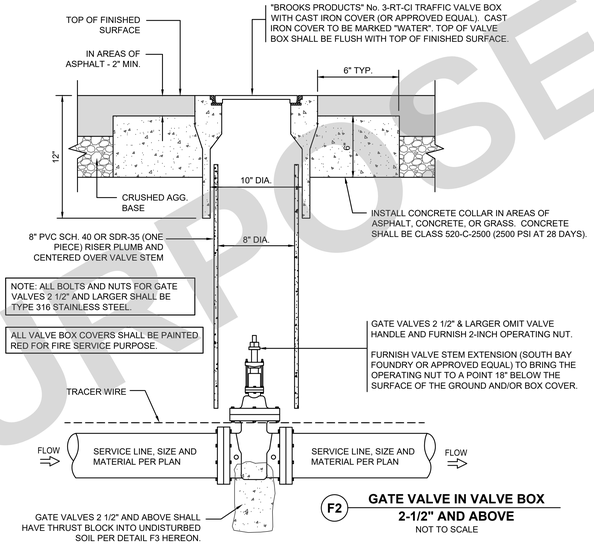
F5 FIRE HYDRANT DETAIL
NOT TO SCALE

FIRE HYDRANT GENERAL NOTES:

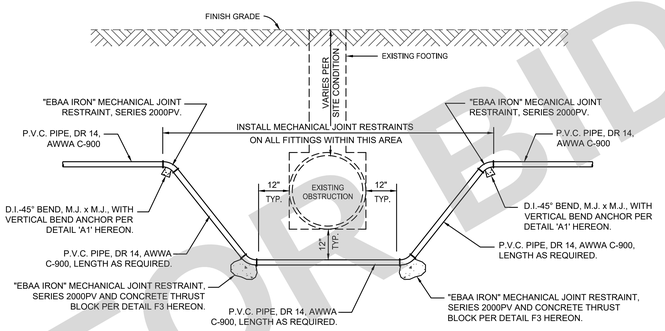
1. FIRE HYDRANT SUPPLY PIPING SHALL BE A MINIMUM OF SIX INCHES IN DIAMETER. THE LOWEST OPERATING NUT SHALL BE A MINIMUM OF 18" ABOVE GRADE AND THE HYDRANT FLANGE SHALL BE A MINIMUM OF 2" ABOVE GRADE.
2. ALL MECHANICAL JOINTS ON FIRE SERVICE LINES AND FIRE SPRINKLER LATERALS SHALL BE CLEANED AND THOROUGHLY COATED WITH CORROSION RETARDING MATERIAL. NFPA 24, 10.4.1.1.
3. ALL OUTLETS SHALL BE PROVIDED WITH NATIONAL STANDARD THREADS (NTS).
4. BREAK-AWAY FEATURES OTHER THAN BOLTS WILL NOT BE ACCEPTED.
5. ALL UNDERGROUND BOLTS TO BE COATED WITH KOPPERS BITUMASTIC #50 OR EQUAL.
6. IN SOFTSCAPE AREAS, INSTALL 6" THICK BY 2' X 2' CONCRETE COLLAR.
7. ALL FIRE HYDRANTS SHALL HAVE A 3-FOOT CIRCUMFERENCE OF CLEAR SPACE AND AN 18 INCH CLEARANCE FROM THE CENTER OF THE 4" DISCHARGE TO FINISHED GRADE LEVEL. CFC 507.5.5.
8. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH BREAK-OFF BOLTS AND/OR BREAK-OFF SPOOLS.



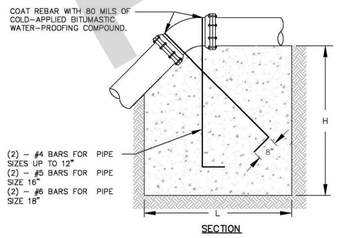
F2 SHUT-OFF VALVE IN YARDBOX
NOT TO SCALE



F2 GATE VALVE IN VALVE BOX 2-1/2" AND ABOVE
NOT TO SCALE



WATER MAIN VERTICAL OFFSET
NOT TO SCALE

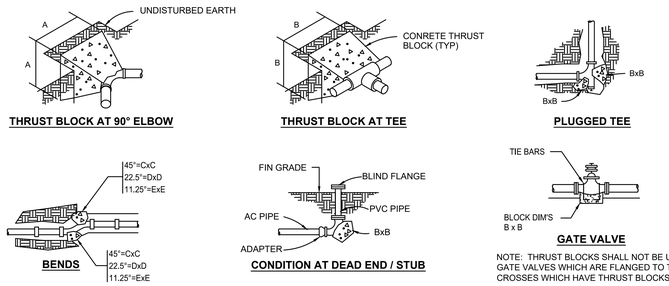


VERTICAL BEND ANCHOR

VERTICAL BEND ANCHOR						
PIPE SIZE	22 1/2° BEND L,H, AND *W(IN)	VOLUME (YD³)	THRUST (LBS)	45° BEND L,H, AND *W(IN)	VOLUME (YD³)	THRUST (LBS)
4"	26	0.4	1104	32	0.7	2165
6"	34	0.8	2483	42	1.6	4871
8"	41	1.5	4414	51	2.8	8659
10"	47	2.2	6897	59	4.4	13529
12"	53	3.2	9932	67	6.4	19482
16"	64	5.6	17657	81	11.4	34635
18"	70	7.4	22347	87	14.1	43835

* W = WIDTH OF VERTICAL BEND ANCHOR

A1 VERTICAL BEND ANCHOR DETAIL
NOT TO SCALE



F3 CONCRETE THRUST BLOCK DETAILS
NOT TO SCALE

PIPE SIZE (INCHES)	90° ELBOW	TEE / STUB	45° BEND	22.5° BEND	11.25° BEND
	A	B	C	D	E
2	14"	12"	10"	8"	6"
3	20"	17"	15"	11"	8"
4	28"	23"	20"	15"	10"
6	39"	33"	29"	21"	15"
8	52"	43"	38"	27"	19"
10	63"	53"	46"	33"	24"
12	75"	63"	55"	40"	28"

NOTE: THRUST BLOCKS SHALL NOT BE USED ON GATE VALVES WHICH ARE FLANGED TO TEES OR CROSSES WHICH HAVE THRUST BLOCKS.

THRUST BLOCK GENERAL NOTES:

1. ALL DUCTILE IRON FITTINGS BURIED UNDERGROUND SHALL BE PROTECTED WITH PLASTIC FILM WRAP IN ACCORDANCE WITH AWWA C105. WRAP SHALL BE A LOOSE 8-MIL-THICK POLYETHYLENE TUBE. ALL JOINTS BETWEEN PLASTIC TUBES SHALL BE WRAPPED WITH 2-INCH-WIDE POLYETHYLENE ADHESIVE TAPE, POLYKEN 900, SCOTCH WRAP 50, OR APPROVED EQUAL.
2. THRUST BLOCK AREAS ARE BASED ON 200 PSI PRESSURE AND 1,500 PSF ALLOWABLE SOIL BEARING PRESSURE & SIZED PER N.F.P.A. 24, TABLES A.10.6.1(a) and A.10.6.1(b), 2022 EDITION.
3. ALL BOLTS AND STUDS SHALL BE TYPE 316 STAINLESS STEEL PER ASTM A193 GRADE B8M. NUTS AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL PER ASTM A194 GRADE 8M.
4. THRUST BLOCKS SHALL BE INSTALLED AT EVERY CHANGE OF DIRECTION.
5. ALL THRUST BLOCKS SHOULD, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE IT IS NOT POSSIBLE TO PLACE THE BEARING SURFACE AGAINST UNDISTURBED SOIL, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY PER N.F.P.A. 24, ANNEX A.10.6.1, 2019 EDITION. THEY SHALL BE CENTERED VERTICALLY AND HORIZONTALLY ABOUT THE DIRECTION OF THE THRUST.
6. THRUST BLOCKS SHALL BE CONCRETE CLASS 520-C-2500 PER THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2021 EDITION, SECTION 201-1 WITH TYPE II CEMENT.
7. WHERE WATER MAIN DEAD ENDS ARE BLIND FLANGED OR CAPPED, THE THRUST BLOCK SHALL EXTEND A MINIMUM DISTANCE OF 6" INTO BOTH SIDES OF THE TRENCH.
8. CONCRETE POURED AGAINST PIPE FITTINGS SHALL BE PLACED SO THAT VALVES AND FITTINGS ARE ACCESSIBLE FOR REPAIR.
9. TIE BARS SHALL BE #4 REBAR (PER ASTM 767 AND D3963) OR STAINLESS STEEL WITH ACI HOOKED ENDS. WHEN TIE BARS ARE NOT EMBEDED IN CONCRETE THEY SHALL BE COATED WITH KOPPERS CO. BITUMASTIC NO. 5O OR EQUIVALENT.
10. ALL EXPOSED FLANGES AND OTHER METAL SURFACES AND ALL DAMAGED COATINGS SHALL BE COATED AFTER ASSEMBLY WITH A MASTIC, PER SPECIFICATIONS.
11. CONCRETE SHALL HAVE 3" MINIMUM CLEARANCE AROUND ALL JOINTS.

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KEY PLAN
NORTH: PLAN TRUE

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BRUCE OU
C-34832
REN. 10/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
No. 74971
Exp. 09-30-25
CIVIL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

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100% CONSTRUCTION DOCUMENTS

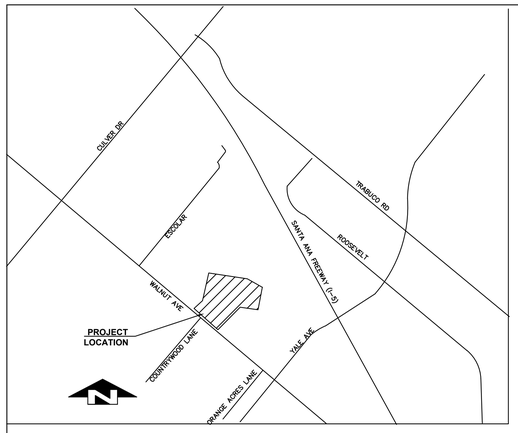
BUILDING NUMBER

SITE WET UTILITY DETAILS

C7.1

Plot Date: 8/7/2025 8:12:50 AM Last Save By: ron.canedy Login: Jessica Zia S:\Jobs\2777 – PBK\2777III – William Woollett Aquatic Center\Civil\WAC – C7.1 Site Wet Utility Details.dwg

DOMESTIC WATER AND SANITARY SEWER IMPROVEMENT PLAN
FOR
WOOLLETT AQUATICS CENTER
LOT 183, APN 449-021-11
IRVINE, CA 92604
IRWD CODE: XXXX



LOCATION MAP

SHEET INDEX

DESCRIPTION	NO.
TITLE SHEET.	.1
DOMESTIC WATER & SANITARY SEWER PLAN.	.2
DOMESTIC WATER & SANITARY SEWER DETAILS	.3

I.R.W.D. STANDARD SEWER NOTES:

A. THE SEWER SYSTEM IS TO BE INSTALLED BY THE DEVELOPER. ALL SEWER WORK SHALL CONFORM TO THE DISTRICT'S "PROCEDURAL GUIDELINES AND GENERAL DESIGN REQUIREMENTS" AND "CONSTRUCTION MANUAL", AS LAST REVISED.

B. THE SEWER CONTRACTOR SHALL HAVE A COPY OF THE DISTRICT'S CONSTRUCTION MANUAL ON THE JOB.

C. THE CONTRACTOR SHALL OBTAIN A CITY OR COUNTY PERMIT FOR WORK DONE ON PUBLIC RIGHT-OF-WAY.

D. THE DISTRICT ENGINEERING OFFICE SHALL BE CALLED FOR INSPECTION FORTY EIGHT (48) HOURS BEFORE START OF WORK AT (949) 453-4615 OR (949) 453-5300.

E. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD 48 HOURS BEFORE STARTING CONSTRUCTION WORK.

F. THE CONTRACTOR SHALL EXPOSE ALL JOIN POINTS TO THE EXISTING SEWER SYSTEM FOR VERIFICATION OF LOCATION AND ELEVATION BEFORE CONSTRUCTION.

G. STATIONS SHOWN AS 0+00.00 ARE SEWER STATIONS AND ARE INDEPENDENT OF ALL OTHER STREET AND PIPELINE STATIONS.

H. ALL LATERALS ARE TO BE STAKED BY A SURVEYOR BEFORE TRENCHING AND A COMPLETE SET OF CUT SHEETS SUPPLIED TO THE DISTRICT REPRESENTATIVE.

I. ALL SEWER MANHOLE LIDS ARE TO HAVE "IRWD" CAST THEREON AS SHOWN IN THE DISTRICT STANDARD DRAWINGS.

J. THE DISTRICT WILL INSPECT AND TEST THE SEWER COLLECTION SYSTEM AND LATERAL SEWERS TO THE LATERAL CONNECTION AT PROPERTY LINE CLEAN-OUT, TERMINAL CLEAN-OUT OR MANHOLE. PRIVATELY OWNED SEWER LATERALS, HOUSE LATERALS OR BUILDING SEWER LATERALS FROM THE PROPERTY LINE CLEAN-OUT ONTO PRIVATE PROPERTY WILL BE INSPECTED AND TESTED BY THE APPROPRIATE CITY OR COUNTY BUILDING AGENCY.

K. INFILTRATION AND AIR TESTING OF SEWER LINES SHALL BE IN ACCORDANCE WITH THE DISTRICT'S "PROCEDURAL GUIDELINES AND GENERAL DESIGN REQUIREMENTS" AND "CONSTRUCTION MANUAL" AS LAST REVISED.

L. ALL SEWER LINES SHALL BE CLEANED VIA "HYDRO-JET CLEANER" OR "WAYNE BALL" IN THE PRESENCE OF THE DISTRICT REPRESENTATIVE BEFORE COMPLETION OF ALL LEAKAGE TESTS.

M. PIPELINE LEAKAGE TESTS SHALL BE MADE IN THE PRESENCE OF THE DISTRICT REPRESENTATIVE, ONLY AFTER BACKFILL HAS BEEN COMPLETED, COMPACTION TESTS ON BACKFILL HAVE BEEN MADE, AND THE BACKFILL HAS BEEN ACCEPTED BY THE DISTRICT REPRESENTATIVE AND HAS RECEIVED WRITTEN CERTIFICATION FROM THE GEOTECHNICAL ENGINEER.

N. ALL SEWER MAIN LINES SHALL BE INSPECTED BY THE DISTRICT AND THEN SHALL BE CCTV VIDEO INSPECTED (BY IRWD FORCES OR AN APPROVED PRIVATE CONTRACT COMPANY UNDER THE OBSERVATION OF THE DISTRICT REPRESENTATIVE) USING A HIGH-RESOLUTION CLOSED CIRCUIT TELEVISION SYSTEM. A DVD VIDEO RECORDING SHALL BE MADE OF THE INSPECTION AND PROVIDED TO THE DISTRICT REPRESENTATIVE.

O. THE CONTRACTOR IS TO PROVIDE THE DISTRICT WITH AN AS-BUILT SET OF CONSTRUCTION PLANS.

P. BEFORE FINAL ACCEPTANCE, THE DEVELOPER'S ENGINEER SIGNING THE PLANS SHALL FURNISH THE DISTRICT WITH A SET OF AS-BUILT MYLARS, A PDF SCAN OF THE RED-LINE MARK-UP AND AN AS-BUILT CAD FILE OF THE SEWER PLAN.

Q. CURBS SHALL BE INSCRIBED WITH AN "S" INDICATING LOCATIONS OF ALL SEWER LATERALS USING A 4-INCH POWER TOOL WHEEL-GRINDER.

R. CURBS SHALL BE INSCRIBED WITH TIE DOWNS FOR ALL MANHOLE LOCATIONS USING A 4-INCH POWER TOOL WHEEL-GRINDER.

S. THE CONTRACTOR WORKING ON IRWD SEWER MAINS MUST HAVE A C-34 LICENSE OR A CLASS A CONTRACTORS LICENSE.

T. MANHOLES DEEPER THAN TWENTY (20') FEET SHALL HAVE STEEL-REINFORCED CONCRETE BASES. REINFORCEMENT SHALL BE PROVIDED FOR THE SPECIFIC SOILS CONDITIONS AT EACH DEEP MANHOLE LOCATION. THE REINFORCEMENT DESIGN SHALL BE SUBMITTED TO THE DISTRICT UNDER THE SIGNATURE AND STAMP OF A LICENSED CALIFORNIA CIVIL ENGINEER.

U. TRENCH BACKFILL, ON ALL SEWER AND WATER TO BE DEDICATED TO THE DISTRICT, SHALL BE COMPACTED TO 90% RELATIVE DENSITY AS DETERMINED BY TEST METHOD ASTM 1557. TESTS WILL BE REQUIRED EVERY TWO HUNDRED (200') FEET OF TRENCH AND EVERY TWO (2') OF RISE (BACKFILL) OR AS DETERMINED BY THE DISTRICT REPRESENTATIVE. THE DEVELOPER SHALL SUBMIT WRITTEN RESULTS OF COMPACTION TESTING TO THE DISTRICT PRIOR TO ACCEPTANCE. IF THE TRENCH LOCATION IS WITHIN DEDICATED STREET OR FUTURE STREET RIGHT-OF-WAY, COMPACTION SHALL BE AS REQUIRED BY THE LOCAL GOVERNMENTAL AGENCY HAVING JURISDICTION, BUT IN NO CASE, LESS THAN 90% RELATIVE COMPACTION.

V. MAXIMUM SLOPE ON SEWER LATERAL IS 10%.

I.R.W.D. STANDARD DOMESTIC WATER NOTES:

A. ALL WATER SYSTEM WORK SHALL CONFORM TO THE DISTRICT'S "PROCEDURAL GUIDELINES AND GENERAL DESIGN REQUIREMENTS" AND "CONSTRUCTION MANUAL", AS LAST REVISED.

B. A PRE-CONSTRUCTION CONFERENCE OF REPRESENTATIVES FROM AFFECTED UTILITIES, AGENCIES AND THE CONTRACTOR SHALL BE HELD ON THE JOB SITE (OR A LOCATION APPROVED BY THE DISTRICT) AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE START OF WORK.

C. THE DISTRICT ENGINEERING OFFICE SHALL BE CALLED FOR INSPECTION FORTY-EIGHT (48) HOURS BEFORE START OF WORK AT (949)453-5615 OR (949) 453-5300.

D. THE PROPOSED WATER SYSTEM IS TO BE STAKED AT A MINIMUM 50-FOOT STATIONING IF THERE ARE NO EXISTING CURBS.

E. WATER METERS SHALL NOT BE LOCATED WITHIN A DRIVEWAY OR SIDEWALK. ALL WATER SERVICE LATERALS SHALL BE CONSTRUCTED PERPENDICULAR TO THE WATER MAIN WITHOUT BENDS OR ANGLES FROM THE CONNECTION POINT ON THE MAIN.

F. ALL MAIN LINE VALVES SHALL BE MAINTAINED SO AS TO BE ACCESSIBLE DURING TRACT DEVELOPMENT AND CONSTRUCTION. ALL VALVE STEM TOPS HAVING OVER 84-INCHES OF COVER REQUIRE AN EXTENSION MEETING DISTRICT STANDARDS.

G. IN RESIDENTIAL STREETS, THE TOP OF THE PIPE, 10-INCHES AND SMALLER, SHALL BE A MINIMUM OF 42-INCHES BELOW THE FINISHED STREET SURFACE AND 48-INCHES BELOW FINISHED STREET SURFACE FOR ALL PIPE 12-INCHES IN DIAMETER AND LARGER.

H. ALL FIRE HYDRANTS SHALL BE SET WITH THE BOTTOM FLANGE 4-INCHES ABOVE THE CONCRETE PAD OR SIDEWALK USING ONE SCORED-SPOOL AS INDICATED IN THE CONSTRUCTION MANUAL AND SHALL BE LOCATED A MINIMUM OF 3 FEET FROM THE ECR OR BCR AT INTERSECTION.

I. ALL WATER MAINS 4-INCHES THROUGH 12-INCHES SHALL BE DR-14 OR THICKER, AWWA C-900 PVC, UNLESS OTHERWISE APPROVED BY THE DISTRICT.

J. NO "HOT-TAPS" OR OTHER TIE-IN CONNECTIONS SHALL BE MADE TO EXISTING DISTRICT WATER MAINS PRIOR TO CONDUCTING AND PASSING AN APPROVED PRESSURE TEST AND A BACTERIOLOGICAL TEST ON THE NEW WATER DISTRIBUTION SYSTEM.

K. TAPPING SLEEVES, WHERE CALLED FOR ON THE PLANS, SHALL BE PRESSURE TESTED IN AN APPROVED MANNER IN THE FIELD, IN THE PRESENCE OF THE DISTRICT REPRESENTATIVE, PRIOR TO TAPPING THE MAIN LINE. TAPPING OF THE MAIN LINE SHALL NOT PROCEED UNLESS A DISTRICT REPRESENTATIVE IS PRESENT. SIZE ON SIZE TAPS OF WATER MAINS ARE NOT ALLOWED.

L. WHERE METERS AND METER BOXES ARE LOCATED WITHIN SLOPES, THE ANGLE METER STOPS SHALL BE LOCATED SUCH THAT THE METERS AND BOXES ARE PARALLEL AND FLUSH, WITH THE FINISHED SURFACE. WHEREVER THE SURROUNDING GRADE EXCEEDS EIGHT (8%) PERCENT, OR IN THE OPINION OF THE DISTRICT REPRESENTATIVE, THE ADJACENT SLOPE IS TOO GREAT, A SMALL RETAINING WALL, CLEAR OF THE METER BOX, SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE DISTRICT REPRESENTATIVE.

M. CURB FACES SHALL BE INSCRIBED WITH THE LETTER "W" INDICATING LOCATIONS OF ALL DOMESTIC WATER SERVICES. LETTER INSCRIPTION SHALL BE MADE USING A 4-INCH POWER TOOL WHEEL GRINDER.

N. INDIVIDUAL PRESSURE REGULATORS ARE REQUIRED BY THE UNIFORM PLUMBING CODE IF AVERAGE STATIC PRESSURE IN THE MAIN IS 80 PSI OR MORE.

O. CURBS SHALL BE INSCRIBED WITH TIE DOWNS FOR ALL VALVE LOCATIONS. LETTER INSCRIPTIONS SHALL BE MADE USING A 4-INCH POWER TOOL WHEEL GRINDER.

P. THE CONTRACTOR SHALL EXPOSE ALL POINTS OF CONNECTION TO THE EXISTING DOMESTIC WATER SYSTEM FOR VERIFICATION OF HORIZONTAL AND VERTICAL LOCATION BEFORE CONSTRUCTION.

Q. FINAL INSPECTION FOR WATERLINES MUST INCLUDE WATER SAMPLES THAT WILL BE TESTED FOR THE PRESENCE OF BACTERIA, CONDUCTIVITY, TURBIDITY AND ODOR. THE TURBIDITY MUST BE LESS THAN 2.5 NTU AND THE ODOR MUST BE LESS THAT 1.0 TON, NOT TO INCLUDE CHLORINE ODOR, TO BE ACCEPTABLE. TWO (2) CONSECUTIVE "PASSINS" SAMPLES ARE REQUIRED FOR ACCEPTANCE.

R. THE CONTRACTOR WORKING ON IRWD WATERLINES MUST HAVE A C-34 LICENSE ISSUED BY THE STATE CONTRACTOR'S LICENSE BOARD OR CLASS "A" GENERAL CONTRACTORS LICENSE (WITH SPECIAL APPROVAL OF THE DISTRICT, BASED UPON ACTUAL WATER AND SEWER PIPELINE CONSTRUCTION EXPERIENCE.)

S. CONTRACTOR SHALL OBTAIN AND SHOW PROOF OF A CONSTRUCTION DEWATERING PERMIT FROM THE STATE OF CALIFORNIA, REGIONAL WATER QUALITY CONTROL BOARD PRIOR TO THE START OF CONSTRUCTION.

T. ALL BUTTERFLY VALVES 12-INCHES IN DIAMETER AND LARGER SHALL BE FLANGED AND SHALL BE BI-DIRECTIONALLY TESTED WITH THE OPERATOR INSTALLED IN ACCORDANCE WITH THE DISTRICT'S REQUIREMENTS OUTLINED IN THE CONSTRUCTION MANUAL.

HOLD HARMLESS & INDEMNIFICATION CLAUSE:

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER, THE CITY OF IRVINE, AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE CITY OF IRVINE, OR THE ENGINEER.

EXISTING UNDERGROUND STRUCTURES:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UNDERGROUND UTILITY PIPES, CONDUITS, OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

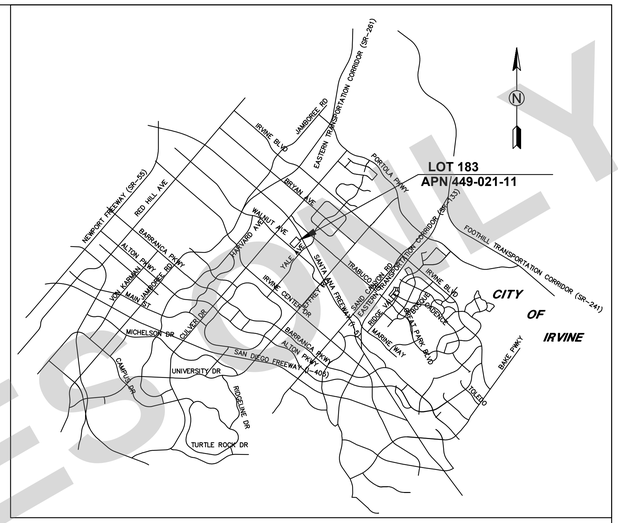
UNDERGROUND SERVICE ALERT

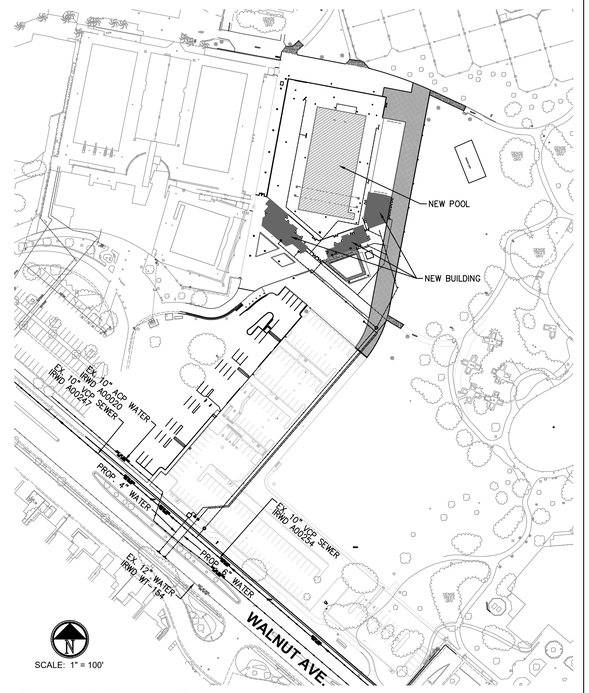
NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 3019, NO EXCAVATION PERMIT IS VALID UNLESS THE FOLLOWING IS PERFORMED:

1. UNDERGROUND SERVICE ALERT HAS BEEN CONTACTED AND HAS PROVIDED INQUIRY I.D.# _____
2. THE UNDERSIGNED AGREES TO CONTACT AND OBTAIN AN INQUIRY I.D.# FROM UNDERGROUND SERVICE ALERT (1-800-422-4133) AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF EXCAVATION

SIGNED _____ DATE _____





SCALE: 1" = 100'

SHEET INDEX MAP

OCFA SR#: XXXXXX

I.R.W.D. CODE: xxxx

BASIS OF BEARINGS:

COORDINATES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE 6, NAD83 (2017.50 EPOCH) BASED ON TIES TO CSRS WEBSITE (OEOC, SACY and LGWD.)

BENCHMARK:

BENCHMARKS PER ORANGE COUNTY SURVEY DEPT. BENCHMARK - 3ZZ-3-01 (158.942 FEET NAVD 88 2012 ADJUSTMENT) LOCATION: SWLY CORNER OF REMINGTON AND TRABUCO PROJECT COMBINATION FACTOR = 0.99997143

IRVINE RANCH WATER DISTRICT

APPROVAL OF DOMESTIC WATER AND SANITARY SEWER FACILITIES

CODE: XXXX PROJECT No.: XXXXX

APPROVED BY _____ DATE _____

SUPERVISED BY _____ DATE _____

REVIEWED BY _____ DATE _____

NO.	DATE	REVISION

DRAWN: APPROVED CHECKED:

REGISTERED PROFESSIONAL ENGINEER ALAN WING-CHI LEE No. C 34971 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:

FPL FPL and Associates, Inc.
Traffic • Transportation • Civil CAD
30 Corporate Park, Suite 401
Irvine, CA 92606
Phone: 949-252-1688

ALAN WING-CHI LEE R.C.E. 34971 EXP. 09/30/27 — 12/29/2025 DATE:

DOMESTIC WATER & SANITARY SEWER IMPROVEMENT PLAN FOR WOOLLETT AQUATICS CENTER LOT 183, APN 449-021-11 IRVINE, CA 92604

DRAWN: J.C.Z.
CHECKED: R.L.C.
DATE: 12-29-2025
SHEET 1 OF 2

PBK

ARCHITECT PBK, Inc.
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P
PBK.com

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE

IRVINE HIGH SCHOOL | WOOLLETT AQUATIC CENTER | 50 METER POOL
KEY PLAN
NORTH: PLAN TRUE

CONSULTANT
FPL
FPL and Associates, Inc.
Traffic • Transportation • Civil
30 Corporate Park, Suite 401
Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE
LICENSED ARCHITECT BRUCE CUI C-34832 REN. 10/31/26 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER ALAN WING-CHI LEE No. C 34971 Exp. 09-30-25 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 06/30/2025 PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

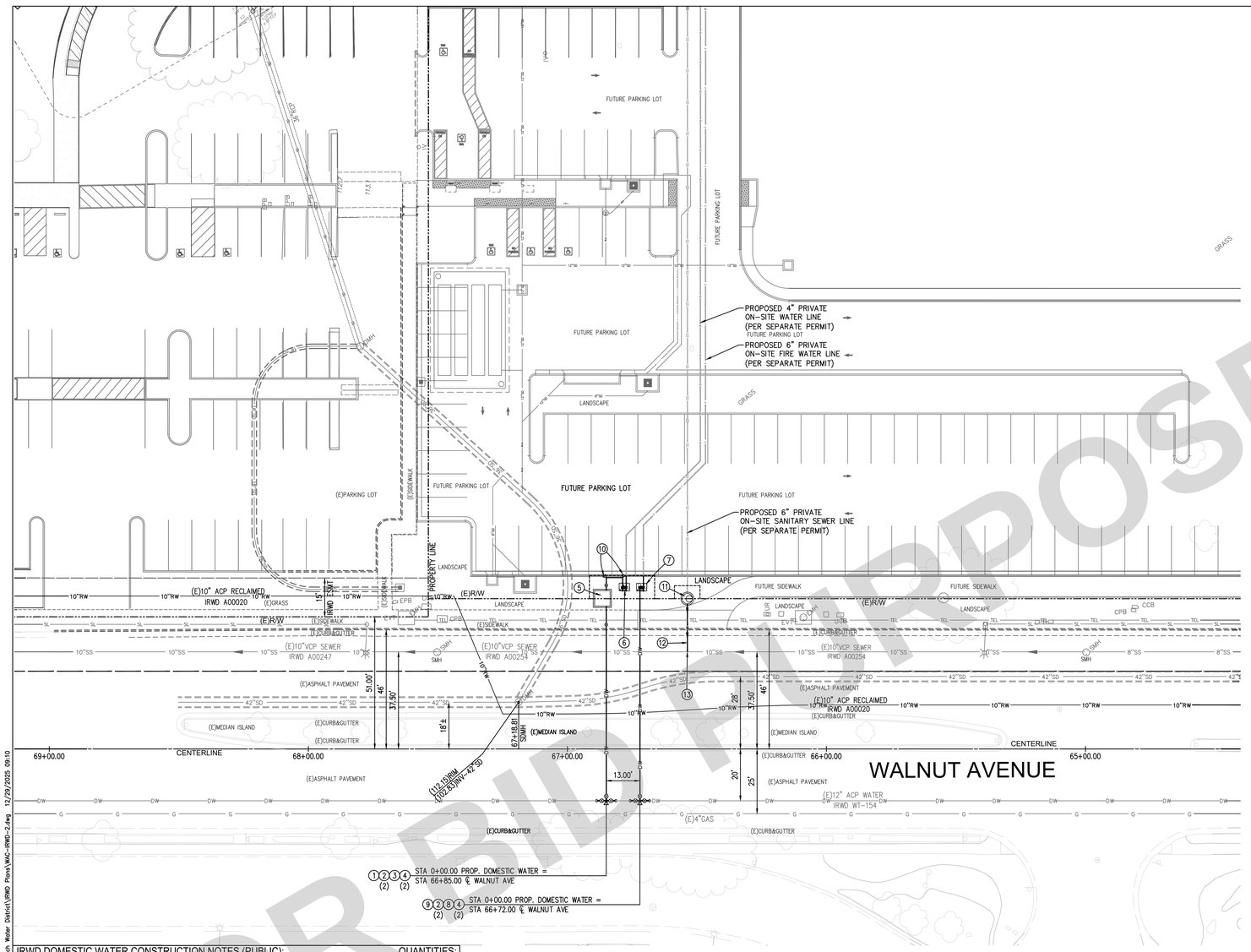
BUILDING NUMBER

DOMESTIC WATER & SANITARY SEWER IMPROVEMENT PLAN

C8.1

POSTED ONLY
NOT BID READY

S:\Jobs\2777 - PBK\27778 - William Woollett Aquatic Center\Irvine Ranch Water District\IRWD Plans\WAC-IRWD-1.dwg 12/29/2025 09:01



UTILITY LINETYPE LEGEND:

- (E)STORM DRAIN
- (E)DOMESTIC WATER
- (E)SANITARY SEWER
- (E)GAS
- (E)ELECTRICAL/POWER
- (E)COMMUNICATIONS
- (E)UNIDENTIFIED UTILITY
- (E)STREET LIGHTING
- NEW DOMESTIC WATER
- NEW SANITARY SEWER

FOR BID PURPOSES ONLY

IRWD DOMESTIC WATER CONSTRUCTION NOTES (PUBLIC):

		QUANTITIES:
1	INSTALL 12" X 12" X 4" DI CUT-IN TEE (F.E. X F.E.) AND THRUST BLOCK PER I.R.W.D. STD. DWG. W-19 AND W-16.	1 EA.
2	INSTALL 12" RW GATE VALVE (F.E. X F.E.) PER I.R.W.D. STD. DWG. W-22 & SPECIFICATIONS.	2 EA.
3	INSTALL 4" RW GATE VALVE (F.E. X PO) PER I.R.W.D. STD. DWG. W-22 & SPECIFICATIONS.	1 EA.
4	INSTALL 12" D.I. FLANGED COUPLING ADAPTER PER I.R.W.D. STD. DWG. W-19.	2 EA.
5	INSTALL 3" METER PER I.R.W.D. STD. DWG. W-2. (METER TO BE APPLIED FOR SEPARATELY, 6 WEEKS IN ADVANCE)	1 EA.
6	INSTALL 4" REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY PER IRWD STD. DWG. W-7.	1 EA.
7	INSTALL 6" DOUBLE CHECK BACKFLOW ASSEMBLY (N-PATTERN) PER IRWD STD. DWG. W-6. (BY-PASS METER TO BE APPLIED FOR PRIOR TO PRE-CONSTRUCTION MEETING)	1 EA.
8	INSTALL 6" RW GATE VALVE (F.E. X PO) PER I.R.W.D. STD. DWG. W-22 & SPECIFICATIONS.	1 EA.
9	INSTALL 12" X 12" X 6" DI CUT-IN TEE (F.E. X F.E.) AND THRUST BLOCK PER I.R.W.D. STD. DWG. W-19 AND W-16.	1 EA.
10	INSTALL THRUST BLOCK PER I.R.W.D. STD. DWG. W-16 & SPECIFICATIONS.	1 EA.

IRWD SEWER CONSTRUCTION NOTES (PUBLIC):

		QUANTITIES:
11	INSTALL 48" MANHOLE PER I.R.W.D. STD. DWG. S-1.	1 EA.
12	INSTALL 6" PVC SDR-35 SEWER PER I.R.W.D. STD. DWG. S-6.	19 L.F.
13	INSTALL 10" X 6" CUT-IN WYE CONNECTION PER I.R.W.D. STD. DWG. S-4.	1 EA.

IRVINE RANCH WATER DISTRICT

APPROVAL OF DOMESTIC WATER AND SANITARY SEWER FACILITIES

CODE: xxxx PROJECT No.: xxxxx

APPROVED BY DATE

SUPERVISED BY DATE

REVIEWED BY DATE

ALL WATER FACILITIES BEYOND THE WATER METERS ARE PRIVATE AND ARE TO BE OWNED, OPERATED, AND MAINTAINED BY THE PROPERTY OWNER AND ARE TO BE REVIEWED AND APPROVED BY IRVINE UNIFIED SCHOOL DISTRICT UNDER SEPARATE PERMIT. NON-DOMESTIC IRRIGATION SYSTEMS AND INTERNAL BACKFLOW PREVENTION ASSEMBLIES REQUIRE IRVINE RANCH WATER DISTRICT REVIEW AND APPROVAL.

NO.	DATE	REVISION

DRAWN: O.A.D. APPROVED CHECKED:

NOTES:

1. THIS PLAN IS INTENDED FOR PUBLIC WATER CONSTRUCTION ONLY. REFER TO ON-SITE UTILITY PLAN FOR PRIVATE WATER CONSTRUCTION.
2. CONTRACTOR TO POTHOLE AND VERIFY THE LOCATION OF EXISTING UTILITIES AT JOINS AND CROSSINGS AND IDENTIFY ANY CONFLICTS PRIOR TO CONSTRUCTION.

SCALE: 1" = 20'

UNDERGROUND SERVICE ALERT

NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 3019, NO EXCAVATION PERMIT IS VALID UNLESS THE FOLLOWING IS PERFORMED:

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SIGNED _____ DATE _____

I.R.W.D. CODE: XXXX

REGISTERED PROFESSIONAL ENGINEER ALAN WING-CHI LEE No. C 34971 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:

FPL FPL and Associates, Inc.
Traffic • Transportation • Civil • CAD
30 Corporate Park, Suite 401
Irvine, CA 92606
Phone: 949-252-1688

ALAN WING-CHI LEE — R.C.E. 34971 EXP. 09/30/27 — DATE: 12-29-25

DOMESTIC WATER IMPROVEMENT PLAN
FOR
WOOLLETT AQUATICS CENTER
LOT 183, APN 449-021-11
IRVINE, CA 92604

DRAWN: J.C.Z.
CHECKED: R.L.C.
DATE: 12-29-2025
SHEET 2 OF 2

S:\Jobs\2777 - PBK\2777ill - William Woollett Aquatic Center\Irvine Ranch Water District\IRWD Plans\WAC-IRWD-2.dwg 12/29/2025 09:10

PBK

ARCHITECT PBK, Inc.
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P
PBK.com

WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604

DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE

KEY PLAN — NORTH: PLAN TRUE

CONSULTANT

FPL
FPL and Associates, Inc.
Traffic • Transportation • Civil
30 Corporate Park, Suite 401
Irvine, CA 92606
Phone: 949-252-1688

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN.10/31/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER ALAN WING-CHI LEE No. C 34971 Exp. 09-30-27 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

DOMESTIC WATER IMPROVEMENT PLAN

C8.2

GENERAL NOTES:
THE FOLLOWING GENERAL NOTES ARE PROVIDED BY THE LANDSCAPE ARCHITECT WITH THE INTENTION OF PROVIDING OVERALL DIRECTIONS FOR THE CONTRACTOR. THE CITY ENGINEER'S SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY OF THESE NOTES AND THE CITY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT.

1. CONTRACTOR SHALL COORDINATE LANDSCAPE WORK WITH THE WORK OF OTHER TRADES AND PROFESSIONS PRESENT ON SITE. CONTRACTOR SHALL MAINTAIN PROPER DRAINAGE THROUGHOUT THE ENTIRE CONSTRUCTION CYCLE.

1.1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF EXISTING AND PROPOSED UTILITIES WITHIN THE PROJECT LIMITS WHICH MAY BE AFFECTED BY INSTALLATION. IMMEDIATELY CONTACT THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IN THE CASE OF A CONFLICT.

2. CONTRACTOR SHALL VERIFY WITH THE LANDSCAPE ARCHITECT / OWNER'S REPRESENTATIVE THAT PLANS IN HAND ARE CURRENT AND APPROVED.

2.1. DO NOT SCALE DRAWINGS

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND AND NOTIFY LANDSCAPE ARCHITECT / OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT IMMEDIATELY. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.

4. ALL WORK CONSTRUCTION AND MATERIALS SHALL COMPLY WITH ALL PROVISIONS OF THE LATEST BUILDING CODE AND WITH OTHER RULES, REGULATIONS AND ORDINANCES GOVERNING THE PLACE OF THE WORK. BUILDING CODE REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWINGS AND IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR OR MATERIALS OR BOTH TO BRING TO THE ATTENTION OF THE ARCHITECT ANY DISCREPANCIES OR CONFLICT BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.

5. REFERENCE TO ANY DETAIL OR DRAWING IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT THE APPLICATION OF SUCH DETAIL OR DRAWINGS.

6. THE CONTRACTOR SHALL OBTAIN NECESSARY AND / OR REQUIRED PERMITS AND PAY ALL RELATED FEES AND / OR TAXES REQUIRED TO INSTALL THE WORK ON THESE PLANS.

7. THE CONTRACTOR SHALL BE APPROPRIATELY LICENSED AS REQUIRED BY THE STATE IN WHICH THE WORK IS TO TAKE PLACE.

8. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS UNLESS SPECIFICALLY NOTED OTHERWISE.

9. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE UNLESS OTHERWISE SHOWN; THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT AND HIS ENGINEERS SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME, WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT AND HIS ENGINEERS DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES, WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT AND HIS ENGINEERS, WHETHER OF MATERIAL OR WORK, AND WHETHER PERFORMED TO, DURING OR AFTER COMPLETION OF CONSTRUCTION ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS, BUT THEY DO NOT GUARANTEE GENERAL CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

10. A PROTECTION FENCE SHALL BE CONSTRUCTED AND MAINTAINED DURING CONSTRUCTION CONFORMING TO THE REQUIREMENTS OF THE BUILDING CODE.

11. MAINTAIN SANITARY TOILET FACILITIES DURING CONSTRUCTION AS REQUIRED BY APPLICABLE REGULATIONS.

12. THE GENERAL CONTRACTOR WARRANTS TO THE OWNER AND THE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW UNLESS OTHERWISE SPECIFIED AND THAT ALL WORK WILL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS.

13. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK AND/OR EQUIPMENT SUPPLIED BY THE OWNER.

14. PROVIDE FACILITIES FOR THE PHYSICALLY HANDICAPPED IN ACCORDANCE WITH C.A.C. TITLE 24 AND AS REQUIRED BY THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE (IBC).

15. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE GENERAL CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.

16. PAVING, MASONRY AND CONCRETE SUBCONTRACTORS ARE TO COORDINATE WITH THE ELECTRICIAN, DRAIN LINE SUBCONTRACTOR AND IRRIGATION SUBCONTRACTOR FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS.

17. VERIFY ALL PROPERTY LINES OR OTHER LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.

18. IN THE CASE OF DISCREPANCIES IN THE DRAWINGS, SPECIFICATIONS TAKE PRECEDENCE OVER DETAILS, AND DETAILS TAKE PRECEDENCE OVER PLANS.

19. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE PROJECT LANDSCAPE ARCHITECT..

20. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL TRADES ARE PROVIDED WITH CURRENT DRAWINGS AND SPECIFICATIONS APPROVED FOR CONSTRUCTION. DO NOT ALLOW DOCUMENTS NOT APPROVED FOR CONSTRUCTION TO BE USED IF SEEN ON SITE.

21. ALL LOCAL, MUNICIPAL, COUNTY AND STATE REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF WORK ARE HEREBY INCORPORATED INTO THE PROJECT PLANS AND SPECIFICATIONS TO BE CARRIED OUT BY THE CONTRACTOR.

JOINT LAYOUT NOTES:
1. WHENEVER POSSIBLE, JOINTS SHALL BE ALIGNED WITH FACE OF WALL, MULLION, PAVING INTERSECTION, OR OTHER OBVIOUS ARCHITECTURAL FEATURE. CONTRACTOR SHALL COORDINATE IN FIELD BY CHALKING JOINT LINES WITH PROJECT LANDSCAPE ARCHITECT PRIOR TO FINAL CUT AND FABRICATION, TYP.

2. INSTALL EXPANSION JOINTS AT ALL INSTANCES WHERE CONCRETE PAVING ABUTS A VERTICAL SURFACE, TYP.

3. ALL SAW CUT JOINTS SHALL BE A WIDTH OF 1/8"; RE: SPECIFICATIONS

4. ALL EXPANSION JOINTS SHALL BE A WIDTH OF 3/16". RE: SPECIFICATIONS

CONSTRUCTION NOTES:
THE FOLLOWING CONSTRUCTION AND DESIGN LAYOUT NOTES ARE PROVIDED BY THE LANDSCAPE ARCHITECT WITH THE INTENTION OF PROVIDING GENERAL DIRECTIONS TO THE CONTRACTOR FOR THE INSTALLATION OF HARDSCAPE AND RELATED MATERIALS.

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, LAYOUT, AND WORK FROM PREVIOUS, AS WELL AS, ONGOING CONTRACTS / CONSULTANTS IN THE FIELD. CONTRACTOR SHALL REPORT AND DISCREPANCIES TO THE LANDSCAPE ARCHITECT IMMEDIATELY BEFORE PROCEEDING WITH THAT PORTION OF WORK.

2. CONTRACTOR SHALL REQUEST A FIELD REVIEW BY THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE OF THE LAYOUT OF ALL ELEMENTS, AS SHOWN. CONTRACTOR SHALL STAKE ALL LOCATIONS AND OBTAIN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF WORK.

3. CONTRACTOR SHALL VERIFY THE LAYOUT OF ALL MATERIALS IN THE FIELD FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO: PAVING, BOLLARDS, TREE GRATES, LIGHT POLE BASES, FOUNTAINS, STEPS, SEATS, AND WALLS.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING HARDSCAPE AND OTHER IMPROVEMENTS OUTSIDE THE LIMITS OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY DAMAGES INCURRED AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION PROCESS.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL MEP AND IRRIGATION SLEEVING BENEATH AND THROUGH HARDSCAPE.

6. CONTRACTOR SHALL REQUEST A FIELD REVIEW BY THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE OF ALL SITE LIGHTING FIXTURES, JUNCTION BOXES, TRANSFORMERS, AND PANELS. CONTRACTOR SHALL STAKE ALL LOCATIONS AND OBTAIN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

7. CONTRACTOR SHALL COORDINATE ALL LAYOUT WORK POINTS, MONUMENTS, GRID LINES, AND CONTROLS, AMONG ALL TRADES; SPECIFICALLY, BUT NOT LIMITED TO, SITE FORMATION, FLATWORK, AND WALL WORK.

8. CONTRACTOR SHALL REFER TO PAVING OR MATERIALS PLAN(S) FOR ALL FLATWORK AND WALL WORK JOINT LOCATIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS VERIFYING JOINT LAYOUT PRIOR TO INSTALLATION.

9. CONTRACTOR SHALL ERECT AND INSTALL ALL WORK LEVEL, PLUMB, SQUARE, TRUE, STRAIGHT, AND IN PROPER ALIGNMENT.

10. CONTRACTOR SHALL NOT SCALE DRAWINGS; CONTRACTOR SHALL USE DIMENSIONS SHOWN, TYP.

11. NO DIMENSIONS ARE ADJUSTABLE WITHOUT THE REVIEW AND APPROVAL OF LANDSCAPE ARCHITECT UNLESS NOTED [+/-] FV (FIELD VERIFY).

12. DIMENSIONS NOTED AS [CLR] CLEAR SHALL BE STRICTLY MAINTAINED ALLOWING FOR THICKNESS OF ALL FINISHES. CONTRACTOR SHALL FIELD VERIFY [FV] PRIOR TO CONSTRUCTION.

13. ALIGN MEANS ACCURATELY LOCATE FINISH FACES IN THE SAME PLANE.

14. ALL ANGLES ARE ASSUMED TO BE 90 DEGREES UNLESS OTHERWISE NOTED IN THE PLANS.

15. ALL CURVES FOR PAVING, BANDS, PATHS, EDGING, AND HEADER BOARDS SHALL BE ALIGNED IN A SMOOTH AND CONTINUOUS FASHION AND SHALL MEET ADJACENT SURFACES AT 90 DEGREES, UNLESS OTHERWISE NOTED ON THE PLANS. ALL WALK RADII AND CURVES SHALL BE SMOOTH AND CONTINUOUS WITHOUT ABRUPT CHANGES OR BENDS UNLESS OTHERWISE SHOWN.

DESIGN MATERIAL NOTES:
THE FOLLOWING DESIGN MATERIAL NOTES ARE PROVIDED BY THE LANDSCAPE ARCHITECT WITH THE INTENTION OF PROVIDING GENERAL DIRECTIONS TO THE CONTRACTOR FOR THE INSTALLATION OF HARDSCAPE AND RELATED MATERIALS.

1. ALL FINISHED GRADES AND LANDSCAPE OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT DRAWINGS INCLUDING: PROJECT PLANS, DETAILS, AND SPECIFICATIONS.

2. ANY DISCREPANCIES BETWEEN DISCIPLINES, PLANS, DETAILS, AND SPECIFICATIONS SHALL BE BROUGHT TO THE LANDSCAPE ARCHITECT'S ATTENTION IMMEDIATELY PRIOR TO CONTINUANCE OF RELATED OR AFFECTED WORK.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING QUANTITIES FOR ALL MATERIALS, FIXTURES, FURNISHINGS, ETC.

4. CONTRACTOR SHALL PROVIDE PHYSICAL SAMPLES OF EACH FINISH TYPE, AND PROVIDE SHOP DRAWINGS OF ALL FABRICATED CONDITIONS FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION, TYP.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL HARDSCAPE IN PLACE ONCE CONSTRUCTED AND SHALL BE HELD RESPONSIBLE FOR THE REPLACEMENT / RECONSTRUCTION / COST OF ANY HARDSCAPE OR RELATED CONSTRUCTION ELEMENTS DAMAGED, CRACKED, OR DESTROYED.

6. CONTRACTOR SHALL REQUEST A FIELD REVIEW BY THE LANDSCAPE ARCHITECT OF ALL FORMWORK OR A TYPICAL PORTION OF FORMWORK REPRESENTING SIMILAR WORK. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE LANDSCAPE ARCHITECT OF ALL FORMWORK FOR FLATWORK AND WALL WORK PRIOR TO CONCRETE POURING.

FENCING AND GATE NOTES:
THE FOLLOWING NOTES ARE PROVIDED BY THE LANDSCAPE ARCHITECT WITH THE INTENTION OF PROVIDING GENERAL DIRECTIONS TO THE CONTRACTOR.

1. SUBMIT SHOP DRAWINGS TO LANDSCAPE ARCHITECT OF ALL FENCE AND GATE COMPONENTS INCLUDING PLANS, ELEVATIONS AND DETAILS NECESSARY FOR COMPLETE INSTALLATION.

2. ALL WELDS SHALL BE 1/8" CONTINUOUS FILLET WELDS ALL AROUND, GRIND SMOOTH. COLD GALVANIZE ALL FIELD WELDS UNLESS NOTED OTHERWISE.

3. ALL PICKETS AND POSTS SHALL HAVE WELDED METAL CAPS.

4. ALL MEMBERS TO BE 11 GAUGES MINIMUM UNLESS NOTED OTHERWISE.

5. ALL GATES AND FENCES, INCLUDING CORRUGATED METAL PANEL TO BE PAINTED, SEE CONSTRUCTION SCHEDULE FOR COLOR.

6. FOR LOCATIONS OF FENCES, POSTS AND GATES SEE PLANS AND ELEVATIONS.

7. SUBMIT SAMPLES OF ALL COMPONENTS AND MATERIALS TO LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

8. GATE HARDWARE FINISH AND COLOR TO MATCH GATE/FENCE.

9. PROVIDE FIRE DEPARTMENT APPROVED "KNOX" KEY SWITCH LOCK WHERE NECESSARY.

10. ANY COMPONENTS REQUIRED FOR A COMPLETE FENCE/GATE SYSTEM, BUT NOT SHOWN, SHOULD BE CONSIDERED A PART OF THESE DRAWINGS AND INCLUDED IN THE FINAL INSTALLED SYSTEM.

11. CONTRACTOR TO VERIFY ALL ATTACHMENTS AND DIMENSIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

12. ALL JOINTS TO BE WELDED TO MAKE A SOLID GATE FRAME.

GRADING AND DRAINAGE NOTES:
1. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT/OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.

2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UNDERGROUND UTILITY LINES, VAULTS, OR BOXES PRIOR TO EXCAVATION. ANY DAMAGE INCURRED TO ANY EXISTING UTILITY ELEMENTS SHALL BE REPAIRED PROPERLY AND IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.

3. CONTRACTOR SHALL SUBMIT A UNIT COST FOR IMPORT SOIL IN-PLACE AND SHALL BE COMPLETELY AWARE OF THE AMOUNT OF SOIL NECESSARY TO REACH THE SATISFACTORY GROUND LEVEL.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE DRAINAGE ON SURFACE FLOW AREAS AT 1% (MIN.) ON HARDSCAPE AND 2% (MIN.) ON GRADE UNLESS OTHERWISE INDICATED.

5. WHERE PAVING AND FINISH GRADE MEET, THE FINISH GRADE SHALL BE DEPRESSED 1" IN TURF AREAS, 1 ½" IN GROUND COVER AREAS, 3" IN CRUSHED GRAVEL AREAS, 4" IN DECOMPOSED GRANITE AREAS, AND 4" IN MULCHED PLANTING AREAS.

6. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE.

7. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ADOPTED EDITION OF THE UNIFORM BUILDING CODE, THE AMERICANS WITH DISABILITIES ACT OF 2010, AND ALL OTHER APPLICABLE LOCAL AND STATE CODES, ORDINANCES, AND REGULATIONS.

8. SUB-CONTRACTORS SHALL BRING DISCREPANCIES IN PLANS, SITE CONDITIONS, AND PRIOR WORK TO THE GENERAL CONTRACTOR'S ATTENTION BEFORE ANY ADDITIONAL WORK IS PERFORMED.

9. CONTRACTOR SHALL REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL DEBRIS AND EXCAVATED MATERIAL NOT REQUIRED FOR FILL. NO RUBBISH OR DEBRIS SHALL BE BURIED ON THE SITE.

10. SLOPE IN LAWN AREAS NOT TO EXCEED 3:1.

11. PROJECT WALKS NOT TO EXCEED A SLOPE OF 20:1 OR 5% GRADIENT.

12. SLOPE IN GROUND COVER NOT TO EXCEED 2:1.

13. RAMPS INTO BUILDINGS NOT TO EXCEED 12:1 OR 8.33%

14. SLOPE OF DRAIN LINES SHALL BE 1% MINIMUM AND 50% MAXIMUM.

15. HOLD FINISH GRADE A MINIMUM OF 6" BELOW FINISH FLOOR UNLESS OTHERWISE NOTED.

16. ALL PROPERTY LINES AND LOT LINES SHALL BE VERIFIED PRIOR TO COMMENCING WORK.

17. IF AVAILABLE, SEE CIVIL ENGINEER'S PLAN FOR PRECISE GRADING AND DRAINAGE ELEVATIONS.

18. CROSS SLOPE IN PAVED AREAS NOT TO EXCEED 2%.

19. GRADIENTS FROM RIDGE LINES AND HIGH POINTS TO DRAINS SHALL BE CONSTANT AND EVEN WITH NO ABRUPT DIPS, BUMPS AND CHANGES IN ELEVATION.

PUBLIC RIGHT OF WAY:
ANY EXISTING CONCRETE STAMPS ON EXISTING RIGHT OF WAY CONCRETE SHALL BE PRESERVED/PROTECTED IN PLACE. ANY NEW OR REPLACEMENT OF SIDEWALK WILL MAINTAIN THE SAME WIDTH, TEXTURE, SCORING PATTERN, COLOR AND MATERIAL OF THE EXISTING OR BE IN SUBSTANTIAL CONFORMANCE WITH THE HISTORIC DESIGN OF SIDEWALKS OF ADJACENT PROPERTIES.

DEMOLITION NOTES:
1. REMOVE ITEMS NOT REQUIRED FOR FILL OR RE-USE FROM THE JOB SITE, AND DISPOSE OF IN ACCORDANCE WITH LOCAL CODES AT NO ADDITIONAL COST TO AGENCY. DO NOT BURN RUBBISH OR DEBRIS.

2. ANY DAMAGE TO EXISTING PLANT MATERIAL OR HARDSCAPE ELEMENTS THAT ARE TO REMAIN (I.E., CURBS, WALLS, ADJACENT PROPERTY, ETC.) SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE AGENCY.

3. ALL SURFACES WHERE GROUND COVER HAS BEEN REMOVED SHALL BE GRUBBED AND BROUGHT TO A CONSISTENT GRADE WITH NO IRREGULARITIES, TO THE SATISFACTION OF THE AGENCY.

4. VERIFY LOCATIONS OF ALL UNDERGROUND UTILITY LINES, PIPES, VAULTS, OR BOXES PRIOR TO ANY EXCAVATION. NOTIFY CITY IMMEDIATELY AND REPAIR ANY SUCH DAMAGED ITEMS IF DAMAGED. REPAIRS SHALL BE MADE AT NO ADDITIONAL COST TO THE AGENCY.

5. THE CONTRACTOR SHALL NOTIFY AGENCY'S AUTHORIZED REPRESENTATIVE IMMEDIATELY IF FIELD CONDITIONS SHOULD VARY FROM THOSE SHOWN ON PLAN.

6. LOCATIONS OF EXISTING SITE ELEMENTS, WHEN SHOWN, ARE APPROXIMATE. NOTIFY THE AGENCY'S AUTHORIZED REPRESENTATIVE IMMEDIATELY IF THE LOCATION OF THESE ITEMS INTERFERES WITH THE PROPER EXECUTION OF WORK.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND CAPPING ALL EXISTING IRRIGATION (MAIN AND LATERAL) LINES AFFECTED BY DEMOLITION OR GRADING.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL DEMOLISHED IRRIGATION LINES IN ACCORDANCE WITH LOCAL CODES AT NO ADDITIONAL EXPENSE TO THE AGENCY.

9. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO VISIT THE SITE PRIOR TO SUBMITTING BID.

10. NOTE SITE AND ACCESS CONDITIONS. THE CONTRACTOR SHALL TAKE THESE CONDITIONS INTO ACCOUNT WHEN PREPARING BIDS.

11. CLEAR SITE TO LIMIT OF WORK AND TO THE CORRECT DEPTH OF: GRASS, WEEDS, RUBBISH, DEBRIS, PAVEMENT, CONCRETE, INACTIVE OR ABANDONED FACILITIES (VERIFIED BY THE AGENCY'S AUTHORIZED REPRESENTATIVE.) ETC. THAT ARE TO BE REMOVED FOR CONSTRUCTION OF IMPROVEMENTS.

12. ALL DELETERIOUS MATERIALS WITHIN THE LIMITS OF WORK SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR IN A MANNER CONSISTENT WITH ALL LOCAL CODES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY ARRANGEMENTS AND PAY FOR ALL RELATED COSTS.

13. REQUIRED UTILITIES SHALL BE MAINTAINED IN OPERATION CONDITION DURING THE ENTIRE PERIOD OF WORK. ACTIVE UTILITIES SHALL BE PROTECTED IN PLACE BY AND AT THE EXPENSE OF THE CONTRACTOR.

14. ABANDONED UNDERGROUND UTILITIES (VERIFIED BY THE AGENCY'S AUTHORIZED REPRESENTATIVE), ROOTS (LARGER THAN 3" IN DIAMETER), ROCKS AND MASONRY LARGER THAN 4" SHALL BE REMOVED TO A MINIMUM DEPTH OF 12" BELOW THE FINISHED SURFACE.

15. THE CONTRACTOR SHALL COMPLY WITH SOILS REPORT FOR CLEARING AND GRUBBING REQUIREMENTS.

GENERAL MAINTENANCE NOTES:

1. GENERAL LANDSCAPE MAINTENANCE
   A. PLANTING AREAS SHALL BE PRUNED AND MAINTAINED TO ENSURE A HEALTHY AND THRIVING CONDITION.
   B. DEAD, DYING AND DISEASED VEGETATION SHALL BE REPLACED.
   C. PLANTED AREAS SHALL BE MAINTAINED IN A RELATIVELY WEED-FREE CONDITION AND CLEAR OF UNDERGROWTH WHICH MAY CAUSE UNDUE FIRE HAZARDS.
   D. INVASIVE SPECIES SHALL BE ERADICATED.
   E. LANDSCAPE SHALL BE MAINTAINED TO AVOID OBSTRUCTING MOTORIST'S VIEWS.
   F. MULCH SHALL BE REPLENISHED AS NEEDED. SUPPLEMENTAL SOIL AMENDMENTS SHALL BE ADDED WHEN NECESSARY TO SUPPORT AND MAINTAIN HEALTHY PLANT GROWTH.
   G. PLANTS SHALL BE FERTILIZED AND WATERED AT SUCH INTERVALS AS ARE NECESSARY TO PROMOTE OPTIMUM GROWTH.
   H. INTEGRATED PEST MANAGEMENT PRINCIPLES AND PRACTICES SHALL BE INCLUDED IN THE MAINTENANCE PROGRAM.

2. GENERAL IRRIGATION MAINTENANCE
   A. LANDSCAPE IRRIGATION SHALL BE APPLIED AT A RATE NOT EXCEEDING THE INFILTRATION RATE OF THE SOIL (MINIMIZING EROSION AND WATER WASTE) BUT SUFFICIENTLY TO ALLOW FOR HEALTHY PLANT GROWTH.
   B. ROUTINE INSPECTIONS SHALL BE PERFORMED TO GUARD AGAINST RUNOFF AND EROSION AND TO DETECT PLANT OR IRRIGATION SYSTEM FAILURE.
   C. THE IRRIGATION SYSTEM AND ITS COMPONENTS SHALL BE REPAIRED AND REPLACED AS NECESSARY.

3. MAINTENANCE OF FUEL MODIFICATION ZONES
   A. AREAS OF DEVELOPMENTS APPROVED AND SUBJECT TO THE REQUIREMENTS OF SECTION 5 (FIRE PROTECTION REQUIREMENTS) OF THIS MANUAL SHALL BE MAINTAINED BY THE RESPONSIBLE PRIVATE PARTY (IE: UNDERLYING PROPERTY OWNER OR EASEMENT HOLDER) IN CONFORMANCE WITH THE APPROVED FIRE PROTECTION PLAN.
   B. PLANTS SHALL BE KEPT PRUNED TO THE VOLUME REQUIREMENTS OF THE APPLICABLE FUEL MODIFICATION ZONE.

HARDSCAPE SCHEDULE

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	MATERIAL	MFG.	COLOR	FINISH	
01 PAVEMENTS, RAMPS, CURBS									
	01-01	CONCRETE PAVING	91,573 SF		CONCRETE	LOCAL BATCH	NATURAL GRAY	TOPCAST 3	SEE CIVIL PLANS
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	MATERIAL	MFG.	COLOR	FINISH	COMMENT
04 SITE WALLS / EMBANKMENTS									
	04-01	CONCRETE SEATWALL	191 LF		CONCRETE				SEE CIVIL AND ARCHITECTURE PLANS
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	MATERIAL	MFG.	COLOR	FINISH	SPEC.
09 PLANTING AND LANDSCAPE									
	09-01	PLANTING AREA	9,491 SF	L2.02	SEE PLANTING PLAN				
	09-02	LARGE LANDSCAPE BOULDER	29	1/L1.02	STONE	SOUTHWEST BOULDER & STONE	MIXED	3.5' - 4.5' DIA	SIERRA SELECT
	09-03	SMALL LANDSCAPE BOULDER	21	1/L1.02	STONE	SOUTHWEST BOULDER & STONE	MIXED	2' - 3' DIA	SIERRA SELECT

LANDSCAPE SHEET INDEX

Sheet Number	Sheet Title
L1.00	HARDSCAPE NOTES & SCHEDULES
L1.01	HARDSCAPE PLAN
L1.02	HARDSCAPE DETAILS
L2.00	PLANTING NOTES & SCHEDULES
L2.01	PLANTING PLAN
L2.02	PLANTING DETAILS
L3.00	IRRIGATION NOTES & SCHEDULES
L3.01	IRRIGATION PLAN
L3.02	IRRIGATION DETAILS
L3.03	IRRIGATION DETAILS

FOR BID PURPOSES ONLY

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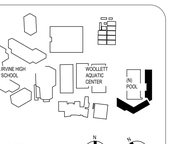
DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



KEY PLAN
NORTH: PLAN TRUE

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DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 REN. 8/31/25 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

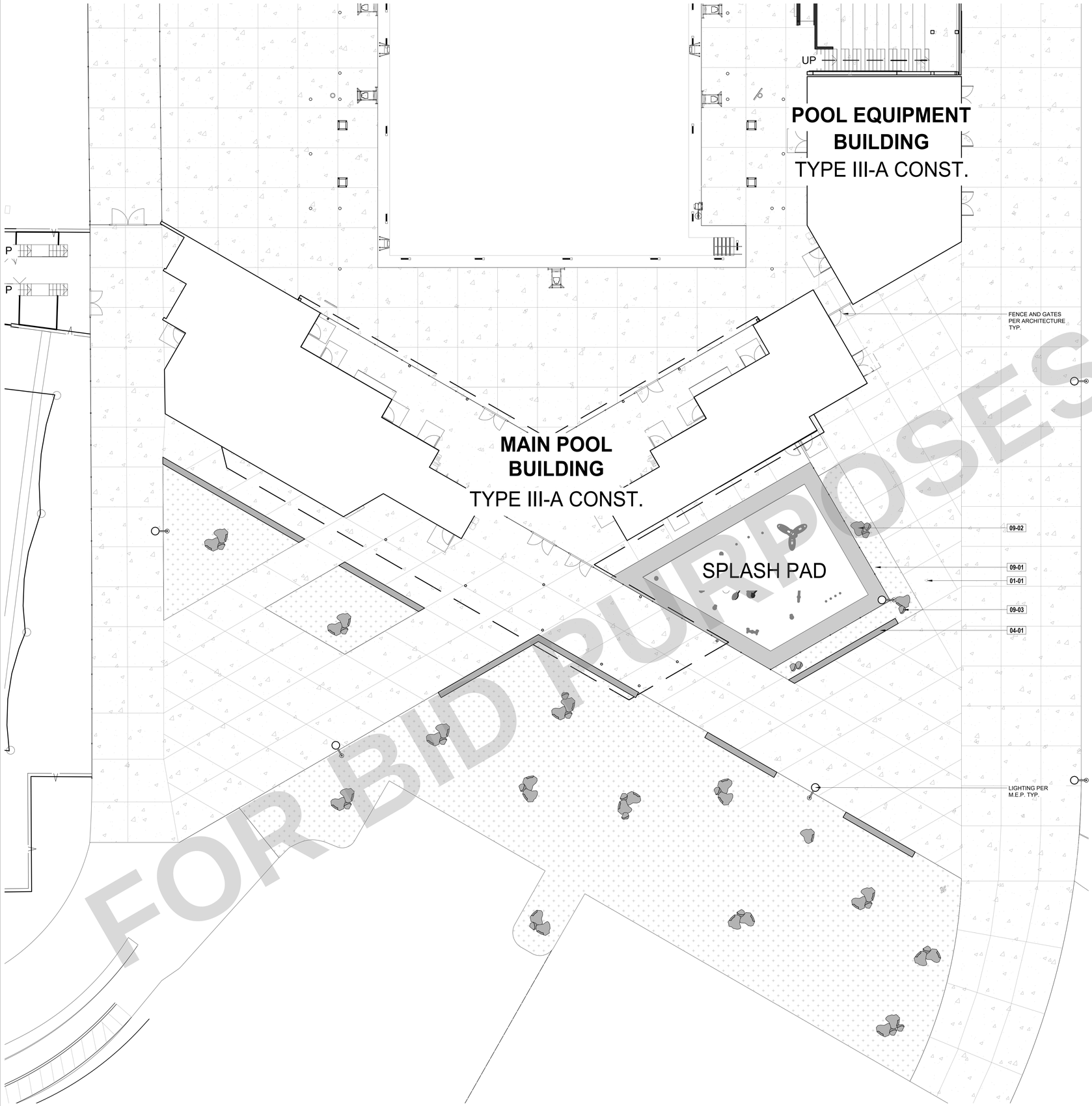
No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

HARDSCAPE NOTES & SCHEDULES

L1.00



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01 PAVEMENTS, RAMPS, CURBS					
	01-01	CONCRETE PAVING	91,573 SF		CONCRETE
SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	MATERIAL
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SYMBOL	CODE	DESCRIPTION	QTY	DETAIL	MATERIAL
09 PLANTING AND LANDSCAPE					
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	09-02	LARGE LANDSCAPE BOULDER	29	1/L1.02	STONE
	09-03	SMALL LANDSCAPE BOULDER	21	1/L1.02	STONE

N
0 5 10 20
SCALE: 1"=10'-0"

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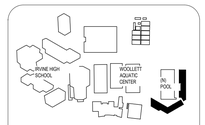

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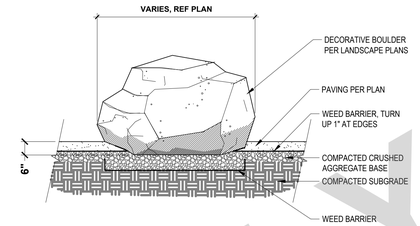
HARDSCAPE PLAN

L1.01



1 LANDSCAPE BOULDERS (SMALL/LARGE)

3/4" = 1'-0" P-BR-50

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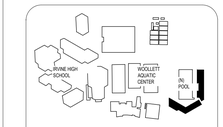

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HARDSCAPE DETAILS

L1.02

PLANTING NOTES:

1. REFER TO PLANTING SPECIFICATIONS AND DETAILS FOR SOIL PREPARATION, FERTILIZATION, MULCHING AND OTHER PLANTING INFORMATION.
2. NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
3. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.
4. REPORT DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTION SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.
5. LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND PROTECT THEM FROM DAMAGE. NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY AND ASSUME FULL RESPONSIBILITY FOR EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH DAMAGED UTILITIES.
6. LOCATION OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS HYDRANTS, TRANSFORMERS, ETC. ARE APPROXIMATE. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD THE LOCATION OF THESE ITEMS INTERFERE WITH THE PROPER EXECUTION OF WORK.
7. OBTAIN ALL SOIL FOR LANDSCAPE PLANTING AREAS OR BERMS FROM ON-SITE EXCAVATIONS. SHOULD IMPORT SOIL BE NECESSARY, SUBMIT IMPORT SOIL TESTING RESULTS FOR APPROVAL PRIOR TO IMPORTATION. SOIL SHALL BE SANDY LOAM CONTAINING NO TOXIC CHEMICALS OR ELEMENTS WHICH MAY INHIBIT OR RETARD NORMAL PLANT GROWTH.
8. HAVE SAMPLES TESTED BY A CERTIFIED AGRONOMIC SOILS TESTING LAB, FOR SOIL FERTILITY, AGRICULTURAL SUITABILITY TEST AND SOIL PREPARATION RECOMMENDATIONS. TAKE TWO SAMPLES AT EACH LOCATION: (1) GROUND LEVEL TO 10" DEEP, (2) 24" TO 36" DEEP. EACH SAMPLE SHALL CONTAIN APPROXIMATELY 1 QUART OF SOIL TO BE LABELED PER LOCATION AND DEPTH. INSTALL SOIL PREPARATION AND BACK FILL MIX TO CONFORM TO THESE RECOMMENDATIONS ONLY UPON RECEIPT OF WRITTEN CHANGE ORDER FROM OWNER. SUBMIT SOIL REPORT TO LANDSCAPE ARCHITECT PRIOR TO PLANTING. IF LOCATIONS FOR SOILS TEST ARE NOT FOUND ON PLANS IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE LANDSCAPE ARCHITECT FOR SAID LOCATIONS PRIOR TO BEGINNING ANY WORK. FOR BID PURPOSES, PROVIDE SOIL PREPARATION AND BACKFILL BID BASED ON SOILS RECOMMENDATIONS REPORT PROVIDED BY OWNER.
9. KILL AND REMOVE ALL EXISTING WEEDS FROM SITE AREAS PER SPECIFICATIONS.
10. ASSURE POSITIVE DRAINAGE IN ALL PLANTING AREAS, 2% MINIMUM.
11. LOCATE AND TAG ALL PLANT MATERIAL. MATERIAL SHALL BE IN CONFORMANCE WITH PLANTING PLAN DESCRIPTIONS AND SPECIFICATIONS. ALL PLANT MATERIAL IS SUBJECT TO REVIEW AND APPROVAL PRIOR TO INSTALLATION. PROVIDE PHOTOS OF REPRESENTATIVE EXAMPLES OF EACH TAGGED BLOCK TO LANDSCAPE ARCHITECT MINIMUM 21 DAYS BEFORE ANTICIPATED DELIVERY. PHOTOS SHALL INCLUDE A PERSON FOR SCALE PURPOSES. LANDSCAPE ARCHITECT MAY OPT TO REVIEW MATERIAL AT GROWING NURSERY. MATERIAL DELIVERED TO THE SITE MAY BE REJECTED BASED ON UNHEALTHFUL APPEARANCE OR NON CONFORMANCE WITH SPECIFICATIONS EVEN IF PREVIOUSLY REVIEWED BY THE LANDSCAPE ARCHITECT OR OWNER.
12. ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM.
13. FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE.
14. PLANTING QUANTITIES ARE GIVEN FOR CONVENIENCE ONLY. PLANT SYMBOLS AND SPECIFIED SPACING SHALL TAKE PRECEDENCE.
15. AT EDGES OF PLANTING AREAS, THE CENTER LINE OF THE LAST ROW OF SHRUBS AND/OR GROUND COVER SHALL BE LOCATED NO FARTHER FROM THE EDGE THAN ONE-HALF THE SPECIFIED ON-CENTER SPACING.
16. INSTALL GROUND COVER AND/OR SHRUB MASSES WITH TRIANGULAR SPACING UNLESS OTHERWISE INDICATED.
17. PROVIDE FERTILIZER TABLETS FOR EACH CONTAINER GROWN PLANT 1 GALLON AND LARGER PER SPECIFICATIONS.
18. FOR ALL TREES WITHIN 10'-0" OF PAVING, INSTALL ROOT BARRIER ALONG PAVING EDGE BY DEEP ROOT CORPORATION (800) 458-7668.
19. ALL CURVE TO CURVE AND CURVE TO TANGENT LINES SHALL BE NEAT, TRIM, SMOOTH AND UNIFORM.
20. REMOVE ALL NURSERY STAKES AND ESPALIER RACKS IMMEDIATELY AFTER INSTALLATION UPON PROVIDING SUPPORT PER PLAN.
21. LIST ON THE PLANT MATERIAL GUARANTEE ALL EXISTING TREES THAT HAVE HAD WORK PERFORMED WITHIN 6' OF TRUNK.
22. PALMS - ANY PALMS INDICATED ON THE PLANS SHALL BE FURNISHED BY THE CONTRACTOR IN A "SKINNED" TRUNK CONDITION UNLESS NOTED OTHERWISE OR INDICATED BY THE LANDSCAPE ARCHITECT.
23. DURING THE LENGTH OF THE GUARANTEE PERIOD BE RESPONSIBLE FOR PROPER STAKING AND/OR GUYING OF TREES TO ENSURE STABILITY.
24. MULCH ALL LANDSCAPE AREAS (EXCLUDING TURF) HAVING LESS THAN A 2:1 SLOPE WITH A 3" DEEP LAYER OF DECORATIVE BARK MULCH - SMALL BARK; OBTAINED FROM SOCAL MULCH, INC. @ https://socalmulch.com/decorative-ground-cover/

TREE PROTECTION NOTES:

LARGE ELEMENTS LIKE TREES ARE SLOW TO ADJUST TO CHANGES IN THEIR ENVIRONMENT. TYPICALLY THE MOST DAMAGING IMPACTS TO TREES ARE FROM LOSS OF ROOTS, REDUCED WATER AVAILABILITY AND CHANGES IN SOIL LEVEL OR GRADE. THESE CHANGES RESULT IN A SLOW DECLINE OF TREES HEALTH OVER MANY YEARS AND OFTEN IS IRREVERSIBLE. IF A ROOT OR TREE CONFLICT OCCURS THE LANDSCAPE ARCHITECT MUST BE CONTACTED SO THAT APPROPRIATE ACTION IS TAKEN TO RESOLVE THE CONFLICT.

CONSTRUCTION IMPACTS ARE GENERALLY AS FOLLOWS:

COMPACTION - SOIL MUST BE POROUS TO ALLOW WATER AND AIR TO BE AVAILABLE TO ROOTS. COMPACTED SOIL WHILE REQUIRED FOR STRUCTURAL BUILDING DOES REDUCE OR ELIMINATE THE ROOT GROWTH REQUIREMENTS OF AN EFFECTIVE ROOTING AREA.

DRAINAGE - SOIL MOISTURE CAN BE AFFECTED BY ALTERED DRAINAGE PATTERNS. TOO MUCH OR TOO LITTLE SOIL MOISTURE CAN HAVE A DETRIMENTAL EFFECT ON TREE ROOT GROWTH AND TREE ANCHORAGE AS WELL AS TREE HEALTH.

GRADE CHANGES - ADDING SOIL OVER EXISTING ROOTS OF TREES IS DETRIMENTAL TO THEIR HEALTH. REMOVING SOIL AND THE ROOTS IT CONTAINS IS ALSO DETRIMENTAL TO TREE HEALTH. THE TREES WILL DECLINE AND DIE OVER A PERIOD OF YEARS. PAST PRACTICES WITH TREE WELLS AND TREE ISLANDS HAVE NOT PROVEN EFFECTIVE AS A TREE PRESERVATION METHOD.

TREE ROOT DAMAGE - TREE ROOT DAMAGE USUALLY RESULTS FROM EXCAVATING, SOIL TRENCHING AND GRADE CHANGES. WHEN ROOTS ARE ENCOUNTERED THEY SHOULD NOT BE PULLED OR TORN OUT IF THEY ARE ATTACHED TO A PRESERVED TREE. ROOTS OVER 1 INCH IN DIAMETER WITHIN A RADIUS OF 8 FEET OF A PROTECTED TREE WILL REQUIRE DISCUSSION WITH THE LANDSCAPE ARCHITECT TO DETERMINE IMPACT OF LOSS. WHEN ROOT PRUNING IS REQUIRED, ROOTS SHALL BE SQUARE CUT IN A PROPER MANNER TO AVOID FRAYED ENDS. THIS REDUCES DECAY AND PROMOTES FASTER CLOSURE AND RE-GROWTH. WOUND DRESSING MATERIAL IS NOT REQUIRED. DURING HARDSCAPE, WALKWAYS, ETC. REMOVAL, PLEASE ARRANGE FOR A LANDSCAPE ARCHITECT TO BE PRESENT TO ENSURE THAT ANY ROOT REMOVAL DOES NOT CREATE UNNECESSARY IMPACT OF TREES TO BE PRESERVED.

TREE PHYSICAL INJURY - THIS OCCURS FROM DIRECT EQUIPMENT IMPACT AND CULTURAL CHANGES TO SOIL MOISTURE OR CHEMICAL / PETROL CONTAMINATION TO SOIL. MAINTAINING SUFFICIENT CLEARANCE AWAY FROM THE TREE WILL REDUCE THE DIRECT IMPACT FROM EQUIPMENT. IF OVERHEAD CLEARANCE IS REQUIRED CONTACT THE LANDSCAPE ARCHITECT FOR RESOLUTION.

THE FOLLOWING GUIDELINES ARE NECESSARY TO PROTECT TREES DURING CONSTRUCTION PROJECTS:

1. A ROOT PROTECTION ZONE SHALL BE DEFINED BY A FOUR-FOOT HIGH TWO-BY-FOUR BARRIER CONSTRUCTED AROUND ANY POTENTIALLY IMPACTED TREE. THIS BARRIER SHALL BE AT THE DRIP LINE OR AT A DISTANCE FROM THE TRUNK EQUAL TO 6 INCHES FOR EACH INCH OF TRUNK DIAMETER 4 1/2 FEET ABOVE THE GROUND IF THIS METHOD DEFINES A LARGER AREA.
2. SHOULD IT BE NECESSARY TO TRENCH WITHIN THE 8 FT RADIUS OF TREE, TRENCHES SHALL BE HAND DUG. NO ROOTS LARGER THAN ONE INCH SHALL BE CUT UNLESS NO OTHER ALTERNATIVE IS FEASIBLE. ALL SMALLER ROOTS THAT MUST BE CUT SHALL BE SAW CUT (NO TRENCHERS) FLUSH WITH THE SIDE OF THE TRENCH. IF AT ANY TIME 25 PERCENT OF THE AREA WITHIN THE ROOT PROTECTION ZONE IS BEING SEPARATED FROM THE TREES BY A TRENCH, THE LINE SHALL BE LOCATED BY BORING OR AN ALTERNATIVE LOCATION FOR THE TRENCH ESTABLISHED. THE MINIMUM CLEARANCE BETWEEN AN OPEN TRENCH AND A STREET TREE SHALL BE ONE (1) FOOT, OR SIX (6) INCHES FOR EACH INCH OF TRUNK DIAMETER MEASURED AT 4.5 FEET ABOVE EXISTING GRADE IF THIS METHOD DEFINES A LARGER DISTANCE. THE MAXIMUM CLEARANCE SHALL BE TEN (10) FEET. THE CONTRACTOR SHALL CONFORM TO THESE PROVISIONS UNLESS OTHERWISE DIRECTED OTHERWISE.
3. AT NO TIME SHALL ANY EQUIPMENT, MATERIALS, SUPPLIES OR FILL BE ALLOWED WITHIN THE PRESCRIBED ROOT PROTECTION ZONE UNLESS OTHERWISE DIRECTED. THE ROOT PROTECTION ZONE IS DEFINED AS THE LARGER OF THE DRIP LINE OF THE TREE OR THE DISTANCE FROM THE TRUNK EQUAL TO SIX (6) INCHES FOR EACH INCH OF TRUNK DIAMETER MEASURED AT 4.5 FEET ABOVE EXISTING GRADE.
4. WHEN DEALING WITH COLUMNAR TREE SPECIES THE DRIP LINE AND ROOT PROTECTION ZONE IS INADEQUATE AND MUST BE ADJUSTED TO REFLECT A ROOT PROTECTION RADIUS OF 40% OF THE OVERALL TREE HEIGHT.

HYDROSEEDING PROCEDURES:

1. SEED MIXES SHALL BE SPECIFIED BY THE PURE LIVE SEED OF EACH SPECIES.
2. FIBER MULCH SHALL BE APPLIED AT A MINIMUM RATE OF 2,000 POUNDS PER ACRE EXCEPT WHEN USED IN CONJUNCTION WITH STRAW MULCH, WHEN IT SHALL BE APPLIED AT A MINIMUM RATE OF 400 POUNDS PER ACRE.
3. A WETTING AGENT CONSISTING OF 95 PERCENT ALKYL POLYETHYLENE GLYCOL ETHER SHALL BE APPLIED AS PER MANUFACTURERS RECOMMENDATIONS.
4. EQUIPMENT USED FOR THE APPLICATION OF SLURRY SHALL HAVE A BUILT-IN AGITATION SYSTEM TO SUSPEND AND HOMOGENEOUSLY MIX THE SLURRY. THE SLURRY MIX SHALL BE DYED GREEN. THE EQUIPMENT MUST HAVE A PUMP CAPABLE OF APPLYING SLURRY UNIFORMLY.

MAINTENANCE REQUIREMENTS:

1. PERMANENTLY IRRIGATED SLOPES SHALL BE MAINTAINED FOR A PERIOD NO LESS THAN 90 DAYS.
2. NONPERMANENTLY IRRIGATED AREAS SHALL BE MAINTAINED FOR A PERIOD NOT LESS THAN 25 MONTHS.
3. ALL REVEGETATED AREAS SHALL BE MAINTAINED. MAINTENANCE PERIOD BEGINS ON THE FIRST DAY FOLLOWING ACCEPTANCE AND MAY BE EXTENDED AT THE DETERMINATION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
4. PRIOR TO FINAL APPROVAL, THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE MAY REQUIRE CORRECTIVE ACTION INCLUDING BUT NOT LIMITED TO, REPLANTING, THE PROVISION OR MODIFICATION OF IRRIGATION SYSTEMS, AND THE REPAIR OF ANY SOIL EROSION OR SLOPE SLIPPAGE.

LONGTERM MAINTENANCE:

ALL REQUIRED LANDSCAPE AREAS TO BE MAINTAINED BY OWNER. THE LANDSCAPED AREAS SHALL BE MAINTAINED FREE OFF DEBRIS AND LITTER AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. LANDSCAPE AS PART OF THE PROJECT SHALL BE MAINTAINED AND IRRIGATED FOR THE LIFE OF THE PERMIT.

DISTURBED AREA NOTE:

ALL GRADED, DISTURBED OR ERODED AREAS THAT WILL NOT BE PERMANENTLY PAVED OR COVERED BY STRUCTURES SHALL BE PERMANENTLY RE-VEGETATED AND IRRIGATED.

INVASIVE PLANT NOTE:

ALL EXISTING, INVASIVE PLANT SPECIES, INCLUDING VEGETATIVE PARTS AND ROOT SYSTEMS, SHALL BE COMPLETELY REMOVED FROM THE PREMISES WHEN THE COMBINATION OF SPECIES, TYPE, LOCATION, AND SURROUNDING ENVIRONMENTAL CONDITIONS PROVIDES A MEANS FOR THE SPECIES TO INVADE OTHER AREAS OF NATIVE PLANT MATERIAL THAT ARE ON OR OFF OF THE PREMISES.

UTILITY SCREENING:

ALL WATER, SEWER, AND GAS UTILITIES SHALL BE EFFECTIVELY SCREENED WITH PLANT MATERIAL AT THE TIME OF PLANT INSTALLATION.

ROOT BARRIER:

NON-BIODEGRADEABLE ROOT BARRIERS SHALL BE INSTALLED AROUND ALL NEW STREET TREES WITHIN 10' OF HARDSCAPE SURFACES.

EXISTING TREE MAINTENANCE NOTE:

CARE SHALL BE USED DURING THE DEMOLITION AND CONSTRUCTION PROCESS TO ENSURE THAT EXISTING TREES TO REMAIN ARE PROPERLY MAINTAINED. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION FENCING AROUND EACH EXISTING TREE TO REMAIN. TREES SHALL BE PROPERLY IRRIGATED AND KEPT IN A HEALTHY GROWING CONDITION.

PLANT SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	QTY	SIZE	FORM	WUCOLS
TREES					
	LAGERSTROEMIA INDICA X FAURIEI 'MUSKOGEE' MUSKOGEE CRAPE MYRTLE	13	36" BOX	STANDARD	M: 0.4- 0.6
	TECOMA STANS YELLOW BELLS	3	24" BOX	STANDARD	L: 0.1 - 0.3
SHRUBS					
	ACHILLEA X 'MOONSHINE' MOONSHINE YARROW	285	5 GAL		L: 0.1 - 0.3
	DIANELLA REVOLUTA 'DR5000' LITTLE REV™ FLAX LILY	276	5 GAL		L: 0.1 - 0.3
	SALVIA CLEVELANDII 'ALLEN CHICKERING' ALLEN CHICKERING CLEVELAND SAGE	47	5 GAL		VL: <0.1
	WESTRINGIA FRUTICOSA 'WESI03' BLUE GEM™ COAST ROSEMARY	265	5 GAL		L: 0.1 - 0.3

TREE SHADING CALCULATIONS

TOTAL SQ FT.	% REQUIRED	SHADE PROVIDED
HARDSCAPE	20%	
3,200 SQ FT	640 SQ FT	900 SQ FT
LANDSCAPE	20%	
9,490 SQ FT	1,898 SQ FT	SQ FT

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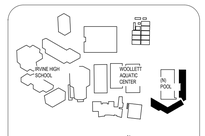
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

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C-34832
REN. 10/31/25
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

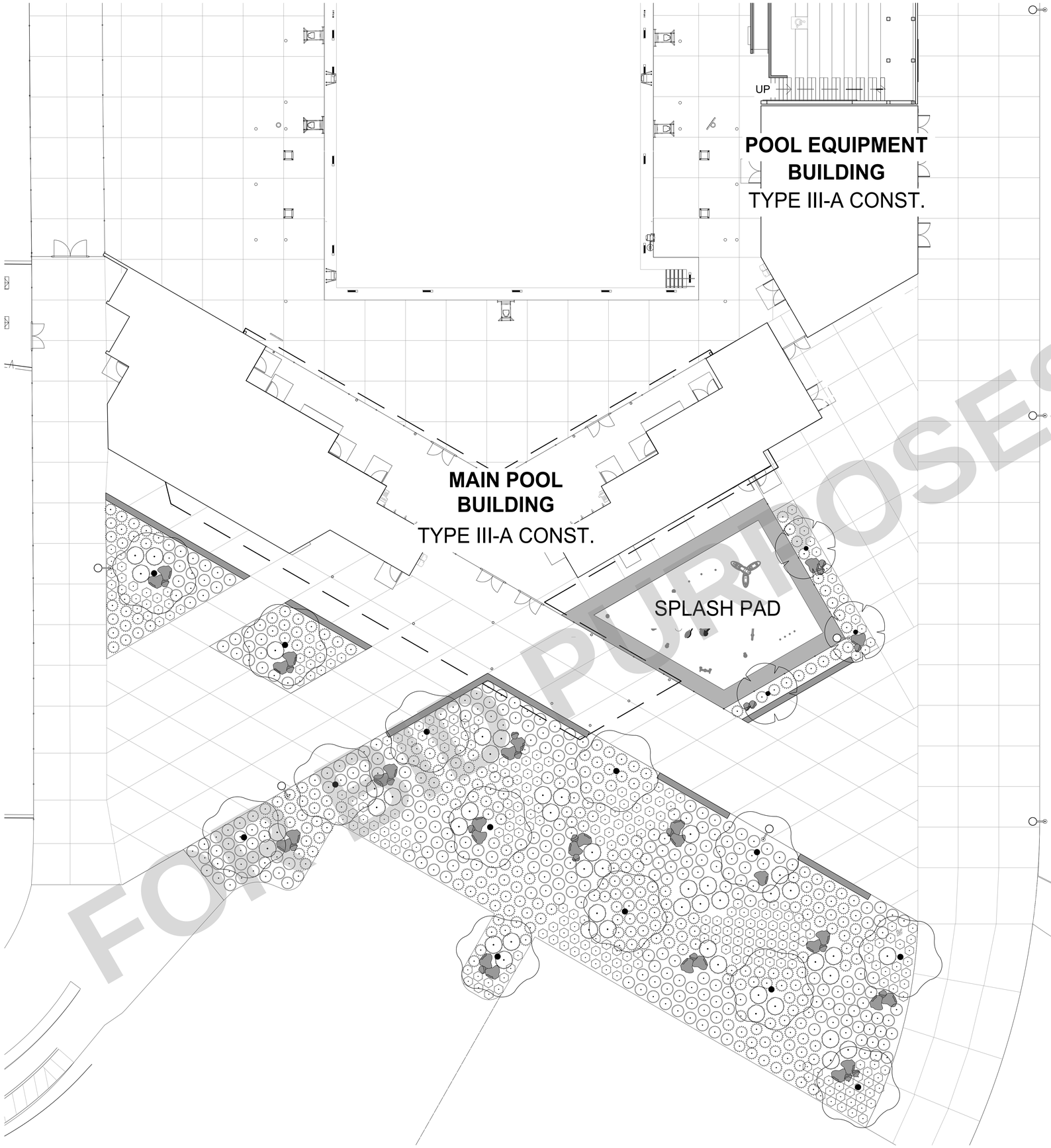
No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLANTING NOTES & SCHEDULES

L2.00



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PLANT SCHEDULE

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LANDSCAPE	20%	
9,490 SQ FT	1,898 SQ FT	SQ FT

N

0 5 10 20

SCALE: 1"=10'-0"

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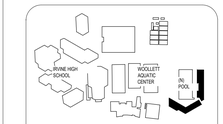
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE 1971



KEY PLAN

NORTH: N PLAN N TRUE

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STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE: 06/30/2025

PROJECT NUMBER: 230538

DRAWING HISTORY

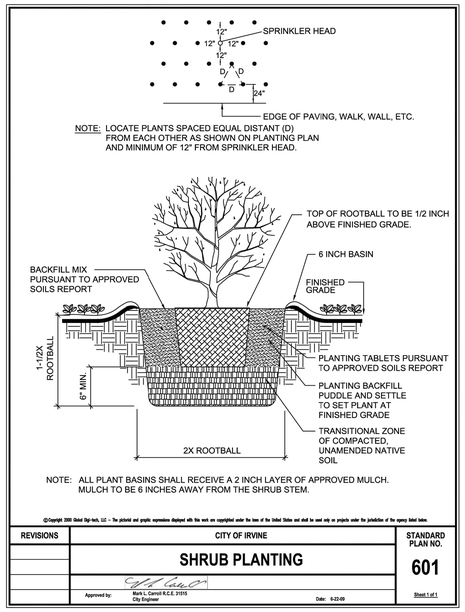
No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLANTING PLAN

L2.01



REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	SHRUB PLANTING	601
	Approved by: Mark L. Carroll R.C.E. 31015 City Engineer Date: 6-22-09	Sheet 1 of 1

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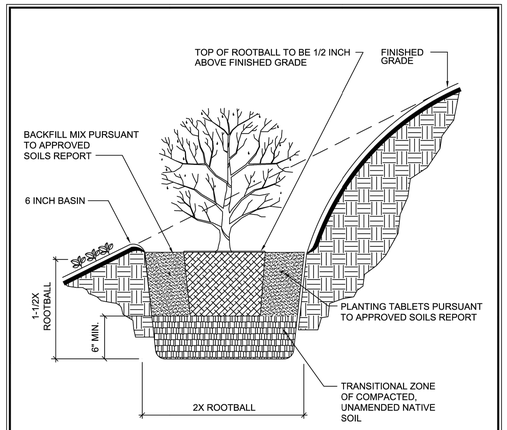

REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	SHRUB PLANTING ON SLOPE	602
	Approved by: Mark L. Carroll R.C.E. 31015 City Engineer Date: 6-22-09	Sheet 1 of 1

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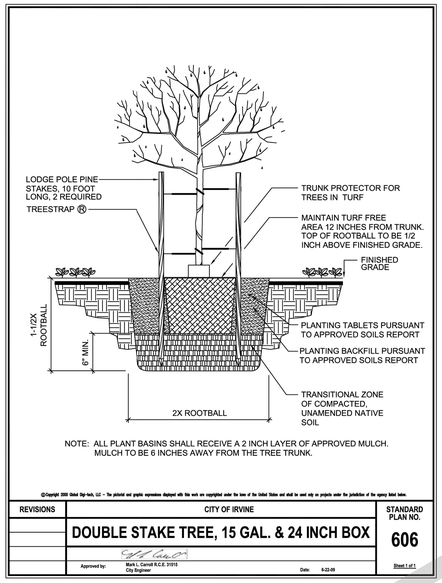

REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	DOUBLE STAKE TREE, 15 GAL. & 24 INCH BOX	606
	Approved by: Mark L. Carroll R.C.E. 31015 City Engineer Date: 6-22-09	Sheet 1 of 1

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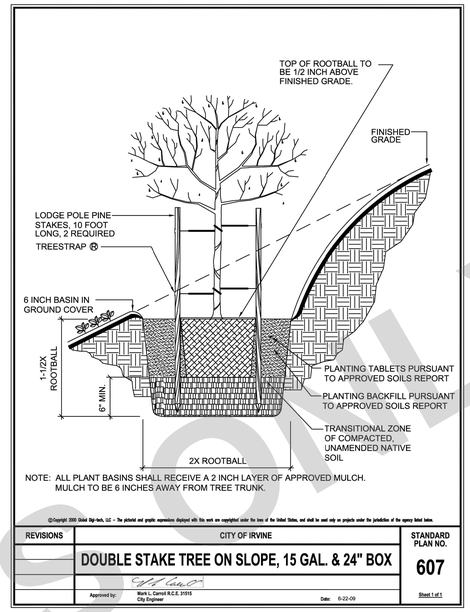

REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	DOUBLE STAKE TREE ON SLOPE, 15 GAL. & 24" BOX	607
	Approved by: Mark L. Carroll R.C.E. 31015 City Engineer Date: 6-22-09	Sheet 1 of 1

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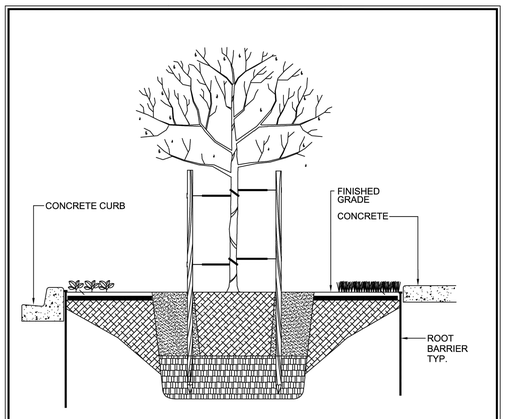

NOTE:
1. TOP OF ROOT CONTROL BARRIER MUST BE AT GRADE.
2. POSITION ROOT CONTROL BARRIER ADJACENT TO STRUCTURE.
3. RAISED ROOT DEFLECTORS MUST BE FACING PLANTED AREA.
4. PROVIDE A MIN. OF 12 FEET OF ROOT BARRIER EACH SIDE OF TREE TRUNK.
5. ROOT BARRIER SHALL EXTEND A MIN. OF 18 INCHES BELOW GRADE ON WALK SIDE.
6. ROOT BARRIER SHALL EXTEND A MIN. OF 24 INCHES BELOW GRADE ON CURB SIDE.
7. TREE PLANTING AND STAKING SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD PLAN NOS. 604 THROUGH 607.

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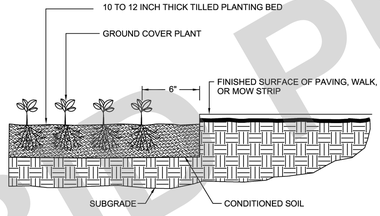
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	ROOT BARRIER	608
	Approved by: Mark L. Carroll R.C.E. 31015 City Engineer Date: 6-22-09	Sheet 1 of 1



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REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	GROUND COVER PLANTING	609
	Approved by: Mark L. Carroll R.C.E. 31015 City Engineer Date: 6-22-09	Sheet 1 of 1

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CLIENT
CITY OF IRVINE
DATE 06/30/2025
PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLANTING DETAILS

L2.02

0" 1"

EXISTING IRRIGATION NOTES

A. CONTRACTOR SHALL MAINTAIN EXISTING MAINLINES IN WORKING ORDER. COORDINATE ALL INTERRUPTIONS OF OPERATION OF THE EXISTING IRRIGATION TO A MINIMUM. COORDINATE ALL INTERRUPTIONS WITH THE OWNER'S REPRESENTATIVE.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING IRRIGATION EQUIPMENT DAMAGED DURING CONSTRUCTION AND IF DAMAGED, SHALL REPLACE WITH SAME MANUFACTURER AND MODEL.

C. ANY EXISTING IRRIGATION CONTROL VALVES CONNECTED TO EXISTING CONTROLLER SHALL BE RECONNECTED TO EXISTING CONTROLLER. CONFIRM PROPER CONTROLLER OPERATION AND INSTALLATION WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK AND UPON COMPLETION OF WORK.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR/MODIFICATION/REROUTING OF ALL ADJACENT IRRIGATION SYSTEM EQUIPMENT THAT IS AFFECTED BY NEW CONSTRUCTION IMPROVEMENTS. CONTRACTOR SHALL REPAIR SAID SYSTEMS TO A LIKE NEW MANNER, PROVIDING NO LESS THAN 100% OF HEAD RADIUS COVERAGE IN ALL AREAS WITH SYSTEM LAYOUT AS APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONTRACTOR SHALL CONFIRM ALL AREAS REQUIRING MODIFICATION WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING WORK AND PRIOR TO COMMENCING WORK.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL AND DISPOSAL OF ALL EXISTING IRRIGATION EQUIPMENT AFFECTED BY THE NEW CONSTRUCTION IMPROVEMENTS, IF NECESSARY. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO BE REMOVED AND DISPOSED OF IN FIELD PRIOR TO BIDDING WORK AND PRIOR TO COMMENCING WORK.

F. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO BIDDING WORK AND AGAIN PRIOR TO COMMENCING WORK. VERIFICATION SHALL BE DOCUMENTED AND DELIVERED TO OWNER'S REPRESENTATIVE.

G. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF ALL SCH. 40 PVC SLEEVING UNDER PAVING, WALLS AND CURBS AT NO LESS THAN 18" BELOW GRADE AND NO LESS THAN 2X DIAMETER OF IRRIGATION PIPE IN AREAS WHERE PIPE CROSSING WILL OCCUR. WHEN PIPE SIZE IS NOT AVAILABLE USE 6" SLEEVING MATERIAL. CONFIRM CROSSINGS WITH OWNER'S REPRESENTATIVE PRIOR TO PAVING AND HARDSCAPE CONSTRUCTION.

H. EXISTING IRRIGATION IN THIS AREA SHALL BE PROTECTED IN PLACE FOR CONTINUED USE. CONTRACTOR SHALL VERIFY THE EXTENT OF THE EXISTING SYSTEM AND MAKE ADJUSTMENTS TO CAP OFF OR MODIFY THE EXITING SYSTEM TO MEET THE NEW LANDSCAPE CONDITION IF NECESSARY.

I. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING WITHIN THE DRIPLINE OF EXISTING TREES. NO MECHANICAL TRENCHING WITHIN THE DRIPLINE OF THE EXISTING TREE WILL BE ALLOWED. CONTRACTOR SHALL REFER TO ARBORIST REPORT FOR ADDITIONAL PRECAUTIONS REQUIRED FOR THE EXISTING TREES. VERIFY ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE.

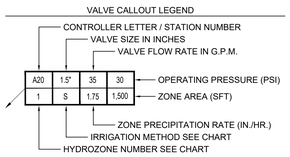
IRRIGATION NOTES

1. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
3. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING OR ARCHITECTURAL PLANS BEFORE BEGINNING WORK.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.
5. THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO BE INSTALLED WITHIN PLANTING AREAS.
6. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER.
7. INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH LOCAL CITY, COUNTY AND STATE REQUIREMENTS FOR BOTH EQUIPMENT AND INSTALLATION.
8. ALL PIPE UNDER PAVED AREAS TO BE INSTALLED IN SLEEVING TWICE THE DIAMETER OF THE PIPE CARRIED. SEE LEGEND FOR TYPE. ALL WIRE UNDER PAVED AREAS TO BE INSTALLED IN A SCH. 40 SLEEVE THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES TO BE INSTALLED WITH A MINIMUM DEPTH AS SHOWN ON THE SLEEVING DETAILS. SLEEVES TO EXTEND AT LEAST 6" PAST THE EDGE OF THE PAVING.
9. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHERE POSSIBLE. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED AS SHOWN ON THE INSTALLATION DETAILS. INSTALL ALL QUICK COUPLER AND REMOTE CONTROL VALVES WITHIN 18" OF HARDSCAPE. CONTROL VALVES SHALL BE SET A MINIMUM OF 2' APART IN SHRUB AREAS.
10. ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALLS, FENCES AND HARDSCAPE. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREW, REPLACEMENT OF PRESSURE COMPENSATING SCREENS, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE REPLACEMENT OF NOZZLES WITH ADJUSTABLE ARC UNITS.
11. CONTRACTOR SHALL INSTALL ADDITIONAL CHECK VALVES TO HEADS AND LATERALS AS REQUIRED TO PREVENT LOW HEAD DRAINAGE.
12. THE CONTRACTOR IS REQUIRED TO CONTACT DIGALERT OR 811 A MINIMUM OF TWO (2) DAYS PRIOR TO THE START OF ANY EXCAVATIONS ON THE PROJECT AND SPECIFICALLY PRIOR TO THE INSTALLATION OF ANY GROUNDING RODS. DIAL 811 OR LOG ONTO WWW.DIGALERT.ORG TO START A PROJECT TICKET. DIGALERT AND 811 IS A FREE SERVICE PROVIDED TO THE PROJECT. FAILURE TO CONTACT AND HAVE THE EXISTING UTILITIES IDENTIFIED, LOCATED AND MARKED SHALL MAKE THE CONTRACTOR SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES.
13. THE IRRIGATION SYSTEM SHALL BE PROGRAMMED TO OPERATE DURING PERIODS OF MINIMAL USE OF THE SERVICE AREA, TYPICALLY BETWEEN THE HOURS OF 9 P.M. AND 6 A.M.

IRRIGATION MATERIAL LEGEND

SYMBOL Q	T	H	F	MANUFACTURER	MODEL NO. / DESCRIPTION	FLOW RATE (GPM)	PSI	RADIUS	P.R. (TRI.)	DETAIL
			▽	RAIN BIRD	1402 SERIES BUBBLER HEAD WITH 4" x 36" PERFORATED PVC DRAIN PIPE AND RUBBER DRAIN CAP. PROVIDE TWO BUBBLER ASSEMBLIES PER TREE.	.50 (1.00 TOTAL)	30	N/A	3.00 IN./HR.	519
◣	◠			RAIN BIRD	1812-SAM-PRS 12" POP-UP SHRUB HEAD WITH 5Q/5H MPR NOZZLES	.10, .20	30	5 FT	1.54 IN./HR.	521
◷	◓	○		RAIN BIRD	1812-SAM-PRS 12" POP-UP SHRUB HEAD WITH 8Q/8H/8F MPR NOZZLES	.26, .52, 1.05	30	8 FT	1.56 IN./HR.	521
◔	◓	●		RAIN BIRD	1812-SAM-PRS 12" POP-UP SHRUB HEAD WITH 10Q/10H/10F MPR NOZZLES	.39, .79, 1.58	30	10 FT	1.52 IN./HR.	521
◔	◓	●		RAIN BIRD	1812-SAM-PRS 12" POP-UP SHRUB HEAD WITH 12Q/12H/12F MPR NOZZLES	.65, 1.30, 2.60	30	12 FT	1.74 IN./HR.	521
◷	◓	◎		RAIN BIRD	1812-SAM-PRS 12" POP-UP SHRUB HEAD WITH 15Q/15H/15F MPR NOZZLES	.92, 1.85, 3.70	30	15 FT	1.58 IN./HR.	521
	◭	◠		RAIN BIRD	1812-SAM-PRS 12" POP-UP SHRUB HEAD WITH LCS/RCS/SS530 NOZZLES	.61, 1.21	30	4X15 FT 4X30 FT	1.95 IN./HR.	521
◔	◔	◓	■	RAIN BIRD	5012-PL-(PC)-SAM-R 12" POP-UP SHRUB ROTOR WITH MPR-25 NOZZLES (RED)	1.00, 1.38, 1.98, 3.82	45	25 FT	0.70 IN./HR.	521
◔	◔	◓	◎	RAIN BIRD	5012-PL-(PC)-SAM-R 12" POP-UP SHRUB ROTOR WITH MPR-30 NOZZLES (GREEN)	1.40, 1.85, 2.96, 5.78	45	30 FT	0.70 IN./HR.	521
◔	◔	◓	●	RAIN BIRD	5012-PL-(PC)-SAM-R 12" POP-UP SHRUB ROTOR WITH MPR-35 NOZZLES (BEIGE)	1.92, 2.46, 3.81, 7.58	45	35 FT	0.70 IN./HR.	521
	▶◀			NIBCO	F-619 IRON BODY GATE VALVE, 2-1/2" SIZE, WITH FLANGED CONNECTIONS AND SQUARE OPERATING NUT. INSTALL WITH SCH. 80 PVC FLANGE ADAPTERS. SET ASSEMBLY ON PIPE SUPPORTS. MIN. 6" HEIGHT, AND A CONCRETE SUPPORT PAD. MAINTAIN CLEARANCE AROUND OPERATING NUT USING 6" CL 160 PIPE SLEEVE. INSTALL INSIDE A 10" ROUND VALVE BOX.					507
	◉			NELSON	7645 1" QUICK COUPLER VALVE WITH LOCKING PURPLE VINYL COVER AND A BRASS SWING JOINT. INSTALL INSIDE A 10" ROUND VALVE BOX. ALL QUICK COUPLER VALVE ASSEMBLIES TO HAVE A T. CHRISTY RECLAIMED WATER IDENTIFICATION TAG CONFORMING TO IRWD STANDARDS.					508
	●			GRISWOLD	2000 SERIES BRASS REMOTE CONTROL VALVE (RCV) (1" AND 1-1/2"), INSTALL IN ANGLE CONFIGURATION AND SET ASSEMBLY INSIDE A STANDARD RECTANGULAR VALVE BOX. ALL REMOTE CONTROL VALVES SHALL BE INSTALLED WITH T. CHRISTY VALVE ID TAGS. T. CHRISTY #3800 RECLAIMED WATER NAMEPLATES SHALL BE RIVETED TO THE LID OF EACH VALVE BOX.					510
	———			AS APPROVED	PURPLE "NON-POTABLE WATER" PVC PIPE 3/4" - 2" SCH. 40, SOLVENT WELD WITH SCH. 40 PVC FITTINGS, AS LATERAL LINES INSTALLED 12" BELOW FINISHED GRADE					500
	— — —			AS APPROVED	PVC PIPE 2-1/2" CL. 315, SOLVENT WELD WITH SCH. 80 PVC FITTINGS, AS MAINLINES INSTALLED 18" BELOW FINISHED GRADE					500
	— — —			AS APPROVED	PVC PIPE SCH. 40 AS SLEEVING, 2 TIMES THE DIAMETER OF PIPE OR WIRE BUNDLE CARRIED PLACE BELOW ALL PAVING, HARDSCAPE ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. SLEEVES SHALL EXTEND A MINIMUM OF 6 FEET BEYOND EDGE OF PAVEMENT.					501
	NO SYMBOL			LASCO	ALL FITTINGS USED WITH SOLVENT WELD MAINLINE PIPE SHALL BE SCH. 80 PVC FITTINGS, GRAY IN COLOR, AND SIZED TO MATCH THE MAINLINE PIPE. ALL FITTINGS USED WITH SOLVENT WELD LATERAL LINE PIPE SHALL BE SCH. 40 PVC, WHITE IN COLOR, AND SIZED TO MATCH THE LATERAL LINE PIPE. ALL THREADED PVC NIPPLES SHALL BE SCH. 80 PVC PIPE, DARK GRAY IN COLOR, WITH MOLDED THREADS.					N/A
	NO SYMBOL			AS APPROVED	ALL SOLVENT WELD CONNECTIONS FOR BOTH MAINLINE AND LATERAL LINE SHALL BE MADE USING THE TWO-STEP PROCESS OF PRIMER AND SOLVENT CEMENT. PRIMER SHALL BE LOW VOC "PURPLE PRIMER", MAINLINE SOLVENT CEMENT SHALL BE LOW VOC, "GRAY-HEAVY BODY" CEMENT. LATERAL LINE SOLVENT CEMENT SHALL BE LOW VOC, GRAY OR BLUE COLORED MEDIUM BODIED CEMENT. USE DAUBERS SIZED AT LEAST ONE-HALF THE SIZE OF THE LARGEST PIPE BEING JOINED. ALL SOLVENT CEMENTED JOINTS SHALL BE MADE PER THE PIPE AND FITTING MANUFACTURER'S RECOMMENDATIONS.					N/A
	NO SYMBOL			PAIGE ELECTRIC	P7079D POLYETHYLENE INSULATED, SOLID COPPER CONDUCTOR IRRIGATION CONTROL WIRE #14UF AWG DIRECT BURIAL (U.L. APPROVED). PILOT WIRES SHALL BE RED IN COLOR, COMMON GROUND WIRE SHALL BE WHITE IN COLOR, SPARE WIRES SHALL BE YELLOW IN COLOR. WHERE MULTIPLE CONTROLLERS ARE USED ON THE PROJECT, EACH CONTROLLER SHALL HAVE A DIFFERENT COLOR FOR PILOT WIRES. THE CONTRACTOR SHALL ROUTE TWO (2) SPARE CONTROL WIRES (YELLOW) FROM THE CONTROLLER ALONG THE MAINLINE IN ALL DIRECTIONS AWAY FROM THE CONTROLLER. LOOP SPARE WIRES UP AND INTO EACH VALVE BOX ALONG THE MAINLINE, PROVIDING A 3 FOOT MINIMUM LOOP.					N/A
	NO SYMBOL			3M	DBR/Y-6 DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS (U.L. APPROVED)					516
	NO SYMBOL			NDS (K.B.I.)	KSC-XXX-S SWING CHECK VALVE, LATERAL LINE SIZE, INSTALL ONE (1) ON THE DOWNSTREAM SIDE OF EACH RCV WHEN THE RCV IS LOWER THAN THE SPRINKLERS, BUBBLERS OR DRIP EMITTERS. INSTALL WITHIN SPRINKLER / BUBBLER / DRIP ZONES AS REQUIRED TO PREVENT LOW HEAD DRAINAGE.					N/A
	NO SYMBOL			NDS (K.B.I.)	KC-XXX-S SPRING CHECK VALVE, LATERAL LINE SIZE, INSTALL ONE (1) ON THE DOWNSTREAM SIDE OF EACH RCV WHEN THE RCV IS HIGHER THAN THE SPRINKLERS, BUBBLERS OR DRIP EMITTERS. INSTALL WITHIN SPRINKLER / BUBBLER / DRIP ZONES AS REQUIRED TO PREVENT LOW HEAD DRAINAGE.					N/A
	NO SYMBOL			CARSON	ALL VALVE BOXES SHALL BE PLASTIC TYPE WITH OVERLAPPING LIDS. VALVE BOX BODIES AND LIDS SHALL BE GREEN IN COLOR. ALL BOXES SHALL BE SECURED WITH A PENTA HEAD BOLT, WASHER AND CLIP. BOXES SHALL BE AS SHOWN BELOW: DESCRIPTION — MODEL 10" ROUND BOXES — 910 STANDARD RECTANGULAR BOXES — 1419					N/A

VALVE CALLOUT LEGEND



HYDROZONE DESCRIPTION CHART			
NUMBER	DESCRIPTION OF THE HYDROZONE	WUCOLS	PLANT FACTOR
HZ 1	MIXED VLOW/LOW WATER USE	L	0.30
HZ 2	MIXED LOW/MED WATER USE	M	0.50

IRRIGATION METHOD DESCRIPTION CHART			
LETTERS	DESCRIPTION OF THE IRRIGATION	TYPE	IR. EFFICIENCY
TB	TREE BUBBLER	SPRAY	0.75
SS	POP-UP SPRAY	SPRAY	0.75
SR	POP-UP ROTOR	SPRAY	0.75

5.11 SPECIAL ON-SITE RECYCLED WATER NOTES

A. THE INSTALLATION OF THE IRRIGATION WATER SYSTEM SHALL CONFORM TO THE REGULATIONS FOR THE CONSTRUCTION OF IRRIGATION WATER SYSTEMS WITHIN IRWD AND THE ACCOMPANYING PLANS AND SPECIFICATIONS.

B. ALL ON-SITE RECYCLED AND POTABLE WATER PIPING INSTALLED ON THIS PROJECT SHALL BE IDENTIFIED IN ACCORDANCE WITH THE IRWD RULES AND REGULATIONS AND THE IRRIGATION SPECIFICATIONS.

C. RECYCLED WATER PIPING SHALL BE PURPLE PVC. CONSTANT PRESSURE MAIN LINE PIPING 2" AND LARGER: RUBBER-RING JOINT, PVC CLASS 200; SOLVENT WELD JOINT: PVC CLASS 315. CONSTANT PRESSURE MAIN LINE PIPING 1 ½" AND SMALLER: PVC SCHEDULE 40. INTERMITTENT PRESSURE LATERAL LINE PIPING: SOLVENT WELD JOINT, PVC CLASS 200, SCHEDULE 40.

D. MARKING ON THE PURPLE PVC PIPE SHALL INCLUDE THE FOLLOWING: "CAUTION: RECYCLED WATER - DO NOT DRINK," NOMINAL PIPE SIZE, PVC-1120, PRESSURE RATING IN POUNDS PER SQUARE INCH AT 73 DEGREES, AND ASTM DESIGNATIONS SUCH AS 1785, 2241, 2672, 3139. PRINTING SHALL BE PLACED CONTINUOUSLY ON TWO SIDES OF THE PIPE.

E. ALL RECYCLED WATER SPRINKLER CONTROL VALVES, ISOLATION VALVES, QUICK COUPLERS, AND ALL APPURTENANCES SHALL BE TAGGED WITH IDENTIFICATION TAGS.

(1) TAGS SHALL BE WEATHERPROOF PLASTIC, 3-INCH X 4-INCH, PURPLE IN COLOR WITH THE WORDS "WARNING - RECYCLED WATER - DO NOT DRINK" IMPRINTED ON ONE SIDE, AND "AVISO - AGUA IMPURA - NO TOMAR" ON THE OTHER SIDE. IMPRINTING SHALL BE PERMANENT AND BLACK IN COLOR. USE TAGS AS MANUFACTURED BY T. CHRISTY ENTERPRISES OR APPROVED EQUAL.

(2) ONE TAG SHALL BE ATTACHED TO EACH APPURTENANCE AS FOLLOWS:

(A) ATTACH TO VALVE STEM DIRECTLY OR WITH PLASTIC TIE-WRAP OR

(B) ATTACH TO SOLENOID WIRE DIRECTLY OR WITH PLASTIC TIE-WRAP OR

(C) ATTACH TO VALVE COVER WITH EXISTING VALVE COVER BOLT.

(D) ATTACH TO THE BODY OF THE RELATIVE APPURTENANCE WITH A PLASTIC TIE WRAP.

F. WARNING TAPE SHALL BE USED ON ALL CONSTANT PRESSURE MAIN LINE PIPING CARRYING POTABLE WATER.

G. WARNING TAPE SHALL BE A MINIMUM OF 3 INCHES WIDE AND SHALL RUN CONTINUOUSLY FOR THE ENTIRE LENGTH OF ALL CONSTANT PRESSURE MAIN LINE PIPING. THE TAPE SHALL BE ATTACHED TO THE TOP OF THE PIPE WITH PLASTIC TAPE BANDED AROUND THE WARNING TAPE AND THE PIPE EVERY FIVE FEET ON CENTER.

H. WARNING TAPE FOR THE CONSTANT PRESSURE POTABLE WATER PIPING SHALL BE BLUE IN COLOR WITH THE WORDS "CAUTION: BURIED WATER LINE BELOW" IMPRINTED IN MINIMUM 1-INCH HIGH LETTERS, BLACK IN COLOR. IMPRINTING SHALL BE CONTINUOUS AND PERMANENT.

I. IRWD SHALL BE NOTIFIED TWO DAYS PRIOR TO THE START OF IRRIGATION CONSTRUCTION AT (949) 453-5300 AND EACH WORKDAY THEREAFTER UNTIL COMPLETION OF PROJECT.

J. ALL PRESSURE MAIN LINE PIPING FROM THE RECYCLED WATER SYSTEM SHALL BE INSTALLED TO MAINTAIN 10 FEET MINIMUM HORIZONTAL SEPARATION FROM ALL POTABLE WATER PIPING. WHERE RECYCLED AND POTABLE WATER PRESSURE MAIN LINE PIPING CROSS, THE RECYCLED WATER PIPING SHALL BE INSTALLED BELOW THE POTABLE WATER PIPING IN A CLASS 200 PURPLE-COLORED PVC SLEEVE WHICH EXTENDS A MINIMUM OF 5 FEET ON EITHER SIDE OF THE POTABLE WATER PIPING. PROVIDE A MINIMUM VERTICAL CLEARANCE OF 6 INCHES. CONVENTIONAL (WHITE) PVC PIPE MAY BE USED FOR SLEEVING MATERIAL IF IT IS TAPED WITH 3-INCH WIDE PURPLE WARNING TAPE WHICH READS "CAUTION: RECYCLED WATER - DO NOT DRINK."

K. THE IRRIGATION SYSTEM MUST BE DESIGNED TO OPERATE BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M. UNLESS OTHERWISE DIRECTED BY THE DISTRICT ENGINEER.

L. ALL NEW COMMON AREAS WHERE RECYCLED WATER IS USED AND THAT ARE ACCESSIBLE TO THE GENERAL PUBLIC SHALL BE POSTED WITH PERMANENT CONSPICUOUS SIGNS THAT INCLUDE THE FOLLOWING WORDING IN A SIGN NO LESS THAN 4 INCHES HIGH BY 8 INCHES WIDE: "RECYCLED WATER - DO NOT DRINK". EACH SIGN SHALL ALSO DISPLAY AN INTERNATIONAL SYMBOL CONVEYING THE SAME WARNING.

M. ADJUST SPRAY HEADS TO ELIMINATE OVERSPRAY ONTO AREAS NOT UNDER THE CONTROL OF THE CUSTOMER, FOR EXAMPLE, POOL DECKS, PRIVATE PATIOS, STREETS AND SIDEWALKS.

N. CONTACT THE IRWD ENGINEERING DEPARTMENT OFFICE TWO DAYS PRIOR TO THE IRRIGATION SYSTEM COVERAGE TEST AT (949) 453-5300 AND ARRANGE A WALK THROUGH OF THE SYSTEM.

O. FAILURE TO COMPLY WITH ANY OR ALL OF THE ABOVE GUIDELINES PUTS YOUR SYSTEM IN VIOLATION OF THE IRWD RULES AND REGULATIONS, AND WILL RESULT IN TERMINATION OF SERVICE UNTIL THE APPROPRIATE CORRECTIVE STEPS HAVE BEEN TAKEN.

P. WARNING TAPE ON RECYCLED WATER CONSTANT PRESSURE MAIN LINE PIPING IS ONLY ALLOWED ON PROJECT-BY-PROJECT APPROVAL FROM THE DISTRICT ENGINEER. IF APPROVED, IT MUST FOLLOW THESE INSTALLATION SPECIFICATIONS.

(1) WARNING TAPE SHALL BE USED ON ALL CONSTANT PRESSURE MAINS.

(2) WARNING TAPE SHALL BE A MINIMUM OF 3 INCHES WIDE AND SHALL RUN CONTINUOUSLY FOR THE ENTIRE LENGTH OF ALL CONSTANT PRESSURE MAIN LINE PIPING. THE TAPE SHALL BE ATTACHED TO THE TOP OF THE PIPE WITH PLASTIC TAPE BANDED AROUND THE WARNING TAPE AND THE PIPE EVERY 5 FEET ON CENTER.

(3) WARNING TAPE FOR THE CONSTANT PRESSURE RECYCLED WATER PIPING SHALL BE PURPLE IN COLOR WITH THE WORDS "RECYCLED WATER - DO NOT DRINK" IMPRINTED IN MINIMUM 1-INCH HIGH, BLACK LETTERS. IMPRINTING SHALL BE CONTINUOUS AND PERMANENT.

FOR BID PURPOSES ONLY

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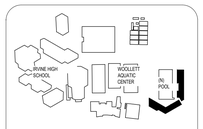
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

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DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN. 10/31/25
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 06/30/2025
PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

IRRIGATION LEGEND & NOTES

L3.00

0" 1"

TYPE III-A CONST.

UP

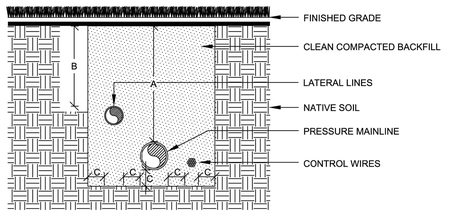
UP

MAIN POOL BUILDING

TYPE III-A CONST.

SPLASH PAD

3/4" 1" 3/4" 1" 3/4" 1" 11/4" 11/4" 11/2" 3/4" 3/4" 11/4" 1" 11/4" 11/2" 1" 11/4" 11/4" 3/4" 1" 1" 2" 11/2" 1" 3/4" 3/4" 3/4" 3/4" 1" 3/4" 1" 1" 1" 3/4" 3/4" 11/4" 21/2" 1" 3/4" 3/4" 2" 2" 2" 3/4" 1" 11/4" 11/4" 1" 3/4" 1" 3/4" 1" 3



DIMENSION	A	B	C
1/2" TO 2 1/2" IN SIZE	18"	12"	4"
3" TO 6" IN SIZE	24"		4"

SECTION VIEW - N.T.S.

NOTE:
ALL PLASTIC PIPING SHALL BE SNAKED WITHIN TRENCH.
BUNDLE WIRING AND WRAP WITH TAPE AT TEN FOOT INTERVALS.
ALL MAINLINE PIPING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION SPECIFICATIONS.

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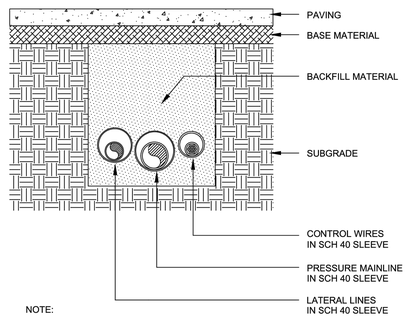
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	PIPE AND WIRE TRENCHING	500
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



NOTE:
ALL PIPING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION SPECIFICATIONS.
ALL MAINLINE, LATERAL LINES, AND CONTROL WIRES SHALL BE SLEEVED BELOW ALL HARDSCAPE ELEMENTS WITH SCH 40 PVC, 2 TIMES THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
DEPTH OF SLEEVES, BACKFILL, AND COMPACTION OF TRENCH SHALL BE IN ACCORDANCE WITH STANDARD PLAN NO. 223 FOR CROSSINGS OF STREETS AND SHALL BE IN ACCORDANCE WITH STANDARD PLAN NO. 500 FOR CROSSINGS OF PARKING LOTS, SIDEWALKS, OR OTHER HARDSCAPE ELEMENTS.
HORIZONTAL DIMENSION BETWEEN SLEEVES SHALL BE A MINIMUM OF 4 INCHES.

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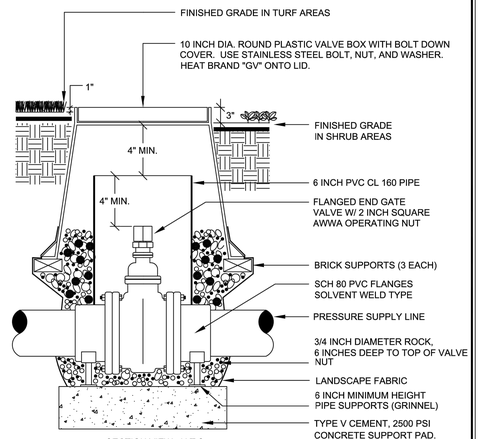
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	SLEEVE TRENCHING	501
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



SECTION VIEW - N.T.S.

NOTE:
CONTRACTOR TO PROVIDE ONE 5 FOOT LONG TEE WRENCH WITH SQUARE NUT ADAPTER FOR THE OPERATION OF GATE VALVES.
INSTALL VALVE BOX AND PIPE EXTENSION AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION AT MAIN LINE DEPTH.
WRAP LANDSCAPE FABRIC AROUND SIDES AND BOTTOM OF BOX TO COVER ALL OPENINGS.

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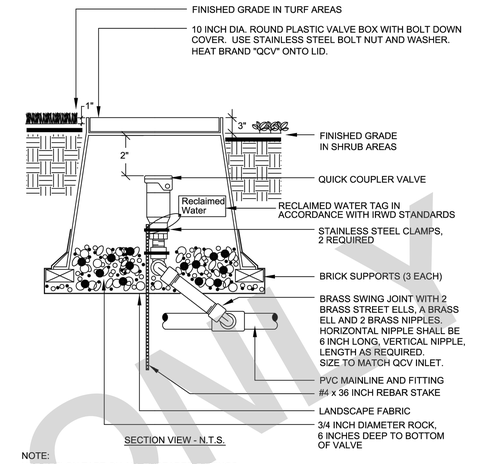
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	GATE VALVE 2 1/2 INCHES AND LARGER	507
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



SECTION VIEW - N.T.S.

NOTE:
USE TEFLON TAPE ON ALL THREADED FITTINGS.
QUICK COUPLER KEY MUST CLEAR VALVE BOX.
WRAP LANDSCAPE FABRIC AROUND SIDES AND BOTTOM OF BOX TO COVER ALL OPENINGS.

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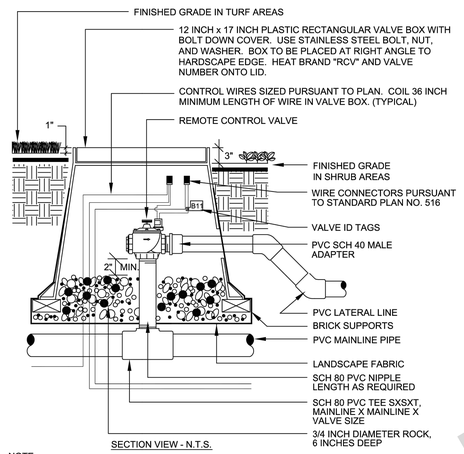
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	QUICK COUPLER VALVE IN BOX	508
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



SECTION VIEW - N.T.S.

NOTE:
INSTALL CONTROL VALVES A MINIMUM OF TWO FEET APART IN SHRUB AREAS UNLESS OTHERWISE NOTED.
INSTALL CHRISTY'S MODEL #3800 RECLAIMED WATER IDENTIFICATION NAME PLATES TO THE LID OF EACH RECLAIMED WATER VALVE BOX.
USE TEFLON TAPE ON THREADED FITTINGS.
WRAP LANDSCAPE FABRIC AROUND SIDES AND BOTTOM OF BOX TO COVER ALL OPENINGS.

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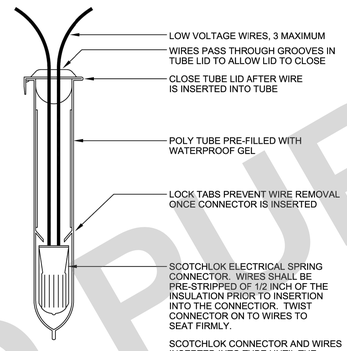
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	ANGLE REMOTE CONTROL VALVE	510
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



NOTE:
WIRE CONNECTOR SHALL BE A 3M DBY DIRECT BURY SPLICE KIT.
KIT SHALL INCLUDE A SCOTCHLOK Y SPRING CONNECTOR, A POLYPROPYLENE TUBE, AND A WATERPROOF SEALING GEL. TUBE SHALL BE SUPPLIED PREFILLED WITH GEL.
SPLICE KIT SHALL BE USED TO ELECTRICALLY CONNECT 2 - 3 #14 OR 2#12 PRE-STRIPPED COPPER WIRES. LARGER WIRES OR GREATER QUANTITIES OF WIRES SHALL REQUIRE A LARGER APPROVED WIRE CONNECTION.

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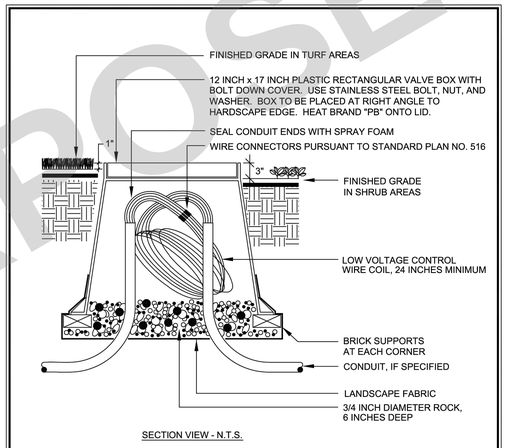
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	WIRE CONNECTOR	516
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



SECTION VIEW - N.T.S.

NOTE:
ALL CONTROL WIRE SPLICES SHALL BE INSTALLED INSIDE PULL BOXES.
ALL SPLICES SHALL BE MADE IN ACCORDANCE WITH STANDARD PLAN NO. 516.
WRAP LANDSCAPE FABRIC AROUND SIDES AND BOTTOM OF BOX TO COVER ALL OPENINGS.

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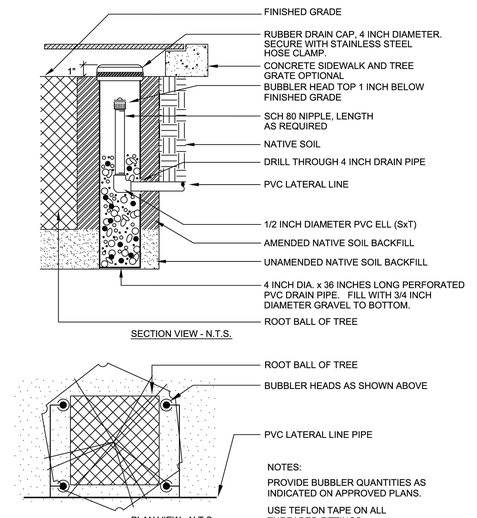
REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	CONTROL WIRE PULL BOX	517
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1



SECTION VIEW - N.T.S.

PLAN VIEW - N.T.S.

NOTES:
PROVIDE BUBBLER QUANTITIES AS INDICATED ON APPROVED PLANS.
USE TEFLON TAPE ON ALL THREADED FITTINGS.

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REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	TREE BUBBLER	519
	Approved by: Mark L. Carroll R.C.E. 31515, City Engineer — Date: 6-22-09	Sheet 1 of 1

FOR BID PURPOSES ONLY

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DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

KEY PLAN
NORTH: PLAN TRUE

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DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

IRRIGATION DETAILS

L3.02

WATER PRESSURE LOSS CALCULATIONS

POINT OF CONNECTION NUMBER	1	WATER METER SIZE (In.)	4.00
REMOTE CONTROL VALVE NUMBER	1	DYNAMIC PRESSURE (PSI)	62.0
R.C.V. DEMAND (GPM)	44.0	TOTAL DEMAND (GPM)	44.0

sweeney + associates — IRRIGATION DESIGN AND CONSULTING

PRESSURE LOSS CALCULATION IS PROVIDED FOR THIS PROJECT BY **SWEENEY & ASSOCIATES, INC.** UNAUTHORIZED USE BY ANY OTHER PERSON, COMPANY OR PROJECT IS FORBIDDEN WITHOUT WRITTEN PERMISSION.

SIZE (In.)	DESCRIPTION	FLOW	#	LOSS	UNITS
4.00	50 FEET SERVICE LINE (TYPE K COPPER)	44	1	0.10	PSI
4.00	WATER METER (DISC TYPE)	44	2	0.70	PSI
2.50	MAINLINE ISOLATION VALVES (GATE TYPE)	44	10	0.50	PSI
3.00	650 FEET OF MAINLINE: CL 315 PVC	44	11	1.63	PSI
2.50	115 FEET OF MAINLINE: CL 315 PVC	44	12	0.76	PSI
1.50	REMOTE CONTROL VALVE ASSEMBLY	44	15	2.40	PSI
10%	LATERAL LINE LOSSES	44	17	4.50	PSI
20%	ADDITIONAL FITTING LOSS IN MAINLINE	N/A	18	0.48	PSI
0.00	ELEVATION CHANGE (TO HIGHEST AREA)	N/A	19	0.00	PSI
TOTAL SYSTEM PRESSURE LOSS	***SUM OF 1 THRU 19***	20	11.1	PSI	
OPERATING PRESSURE REQUIRED	***INFORMATION FOR RCV***	21	45.0	PSI	
TOTAL DESIGN PRESSURE REQUIRED	***SUM OF 20 THRU 21***	22	56.1	PSI	
STATIC WATER PRESSURE	***FROM ABOVE***	23	62.0	PSI	
RESIDUAL WATER PRESSURE	***SUBTRACT 22 FROM 23***	24	5.9	PSI	

Controller: 1 — Valves Specified: 5

IRRIGATION RUN TIMES - YEAR-ROUND WATERING RULES

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total / Avg.
ETo / Month (Inches):	2.20	2.50	3.70	4.70	5.20	5.90	6.30	6.20	4.60	3.70	2.60	2.30	49.60
Plant Material, Irrigation Method	**Total Sequential Runtime in Hours per Operating Day**												
Shrub & Groundcover, Overhead Sprinkler:	0.4	0.5	0.7	0.9	0.9	1.1	1.1	1.1	0.9	0.7	0.5	0.4	
Trees, Bubblers:	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	
Drip / Low Volume Watering -	Worst Case Total Run Time:						1.4	<- Must be less than 9 hours.					
	Note:	Run times are calculated for SEQUENTIAL operation of control valves. Smart irrigation controllers may be programmed to maximize the number of valves to operate at one time.											

Shrub & Groundcover

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total / Avg.
Crop Coefficient Curve:	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
ETo x Material Kc:	0.66	0.75	1.11	1.41	1.56	1.77	1.89	1.86	1.38	1.11	0.78	0.69	14.97
Effective Precipitation (From Above):	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Supplemental Water Needed (in Inches):	0.66	0.75	1.11	1.41	1.56	1.77	1.89	1.86	1.38	1.11	0.78	0.69	14.97
Daily Supplemental Watering Needed (in Inches):	0.02	0.03	0.04	0.05	0.05	0.06	0.06	0.06	0.05	0.04	0.03	0.02	

Method	Precip. (In./Hr.)	Efficiency	Days per Week	Minutes per Day per Zone												Number of Zones
Spray Head	*1.75*	*0.75*	*2*	*3*	*4*	*6*	*8*	*8*	*9*	*10*	*10*	*7*	*6*	*4*	*4*	2
Rotor Head	*0.70*	*0.75*	*2*	*9*	*11*	*14*	*19*	*20*	*24*	*24*	*24*	*18*	*14*	*10*	*9*	2
															Total Number of Shrub & Groundcover Control Valves:	4

Trees

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total / Avg.
Crop Coefficient Curve:	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
ETo x Material Kc:	1.10	1.25	1.85	2.35	2.60	2.95	3.15	3.10	2.30	1.85	1.30	1.15	24.95
Effective Precipitation (From Above):	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Supplemental Water Needed (in Inches):	1.10	1.25	1.85	2.35	2.60	2.95	3.15	3.10	2.30	1.85	1.30	1.15	24.95
Daily Supplemental Watering Needed (in Inches):	0.04	0.04	0.06	0.08	0.08	0.10	0.10	0.10	0.08	0.06	0.04	0.04	

Method	Precip. (In./Hr.)	Efficiency	Days per Week	Minutes per Day per Zone												Number of Zones
Bubblers	*3.00*	*0.81*	*1*	*6*	*8*	*10*	*14*	*15*	*17*	*18*	*17*	*13*	*10*	*8*	*6*	1
															Total Number of Supplemental Tree Irrigation Control Valves:	1

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package

Project Name: William Woollett Jr. Aquatics Center

Project Address: 4601 Walnut Ave. Irvine, CA 92604

sweeney + associates — IRRIGATION DESIGN AND CONSULTING

Reference Evapotranspiration (ETo) 49.6 In./Yr. **Residential Project?** No

Hydrozone # / Planting Description[a]	Plant Factor	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF / IE)	Landscape Area (Sq. Ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
1. Very Low/Low Water Use Plantings	0.30	Spray	0.75	0.40	9,429	3,772	115,984
				Totals:	9,429	3,772	
Special Landscape Areas							
				1.00		0	0
				Totals:	0	0	
				Estimated Total Water Use (ETWU) Total:			115,984
				Maximum Applied Water Allowance (MAWA)[e]:			130,482

[a] Hydrozone # / Planting Description — E.g. 1.) Front Lawn; 2.) Low Water Use Plantings; 3.) Medium Water Use Plantings

[b] Irrigation Method — E.g. Overhead Spray or Drip

[c] Irrigation Efficiency — E.g. 0.75 for Spray, 0.81 for Drip

[d] ***ETWU (Annual Gallons Required)*** = *ETo x 0.62 x ETAF x Area*
Where 0.62 is a conversion factor that converts acre-inches/acre/year to gallons/square foot/year.

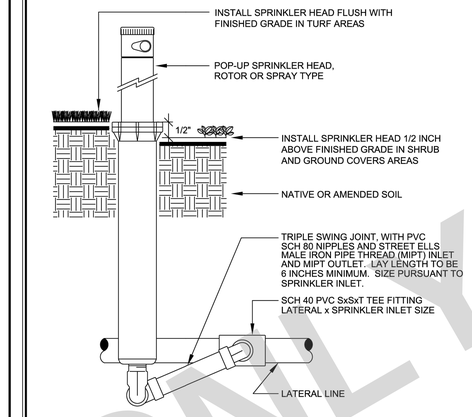
[e] ***MAWA (Annual Gallons Allowed)*** = *ETo x 0.62 x [(ETAF x LA) + ((1 - ETAF) x SLA)]*
Where 0.62 is a conversion factor that converts acre-inches/acre/year to gallons/square foot/year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is 0.55 for residential projects and 0.45 for non-residential projects.

Evapotranspiration Adjustment Factor (ETAF) Calculations

This non-residential project complies with the WELO and its average ETAF is less than 0.45

Regular Landscape Areas	
Total ETAF x Area	3,772
Total Area	9,429
Average ETAF	**0.4**

All Landscape Areas	
Total ETAF x Area	3,772
Total Area	9,429
Average ETAF	**0.4**



NOTE:
INSTALL SPRINKLER HEADS 6 INCHES FROM PAVING EDGE IN GROUND COVER AREAS.
INSTALL SPRINKLER HEADS 4 INCHES FROM PAVING EDGE IN TURF AREAS.

INSTALL SPRINKLER HEADS PLUMB. ADJUST NOZZLE STREAM TO COVER LANDSCAPE AREA WITHOUT OVERSPRAY ONTO PAVING, FENCES, WALLS, OR BUILDINGS.

USE TEFLON TAPE ON ALL THREADED FITTINGS.

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REVISIONS	CITY OF IRVINE	STANDARD PLAN NO.
	POP-UP SPRINKLER (12 INCH)	**521**
	Approved by: Mark L. Carroll R.C.E. 31915, City Engineer — Date: 6-22-09	Sheet 1 of 1

FOR BID PURPOSES ONLY

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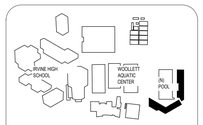
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



KEY PLAN — NORTH: PLAN TRUE

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DISCIPLINE

LICENSED ARCHITECT — BRUCE OU — C-34832 — REN. 10/31/25 — STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

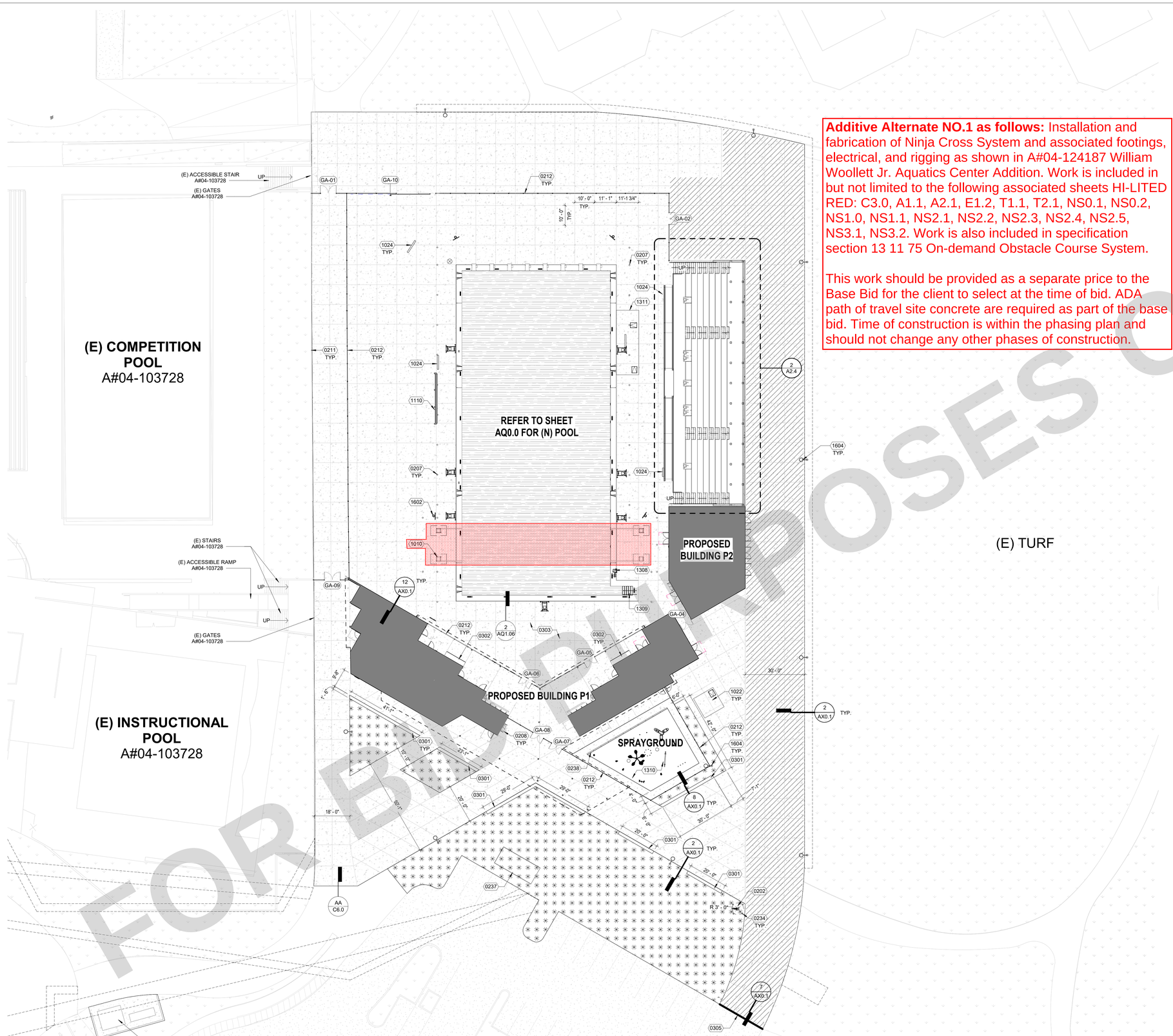
100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

IRRIGATION DETAILS

L3.03

0"
1"



Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.

FOR BIDDING PURPOSES ONLY
FOR BID PLAN

20' 10' 0' 20' 40'
SCALE : 1" = 20'-0"

GENERAL NOTES

1. SEE CIVIL FOR TOPOGRAPHIC DATA, GRADING, DRAINING AND UTILITY INFORMATION.
2. SEE CIVIL PLANS FOR DIMENSIONS, DETAILS AND INFORMATION OF ALL FLATWORK.
3. REFER TO CIVIL PLANS FOR ADDITIONAL SITE INFORMATION.
4. ALL NEW WALK SURFACES IN P.O.T. SHALL HAVE FLUSH TRANSITION TO ALL ADJACENT NEW OR EXISTING CONCRETE / AC PAVING, U.N.O.
5. FOR GRATING OR STRAINERS LOCATED IN THE SURFACE OF ANY PEDESTRIAN WAY INCLUDING P.O.T. GRATE OR STRAINER TO HAVE A MXIMUM OPENING NOT TO EXCEED 1/2" IN THE DOMINANT DIRECTION OF PEDESTRIAN TRAVEL. IF NO DOMINANT DIRECTION IS APPARENT, OPENINGS SHALL NOT EXCEED 1/2".

SITE PLAN LEGEND

- PROPERTY LINE
- CANOPY AND ROOF ABOVE
- (E) FENCE AND FENCE POST TO BE PROTECTED IN PLACE.
- (N) ORNAMENT FENCE AND FENCE POST
- (E) BUILDINGS NOT IN SCOPE
- (N) BUILDING IN SCOPE
- (E) CONCRETE PAVEMENT TO BE PROTECTED, REFER CIVIL DWG
- (N) CONCRETE PAVING AND POOL DECK, REFER CIVIL DWG
  - *CONTROL/EXPANSION JOINTS, REF CIVIL C6.0*
- (N) HEAVY DUTY CONCRETE PAVING, REFER CIVIL DWG
- (E) LANDSCAPE AREAS TO BE PROTECTED, REFER LANDSCAPE DWG
- (N) LANDSCAPE AREAS, REFER LANDSCAPE DWG
- (N) TRENCHING, DEMO (E) PAVEMENT AND LANDSCAPE AS NECESSARY PER CIVIL, ELECTRICAL, PLUMBING, TECHNOLOGY, AND LANDSCAPE DWG. PATCH TO MATCH (E) ADJACENT FINISH.
- (N) POOL, REFER AQUATICS DWG
- GA-01 — DOOR AND GATE, REF SHEET A8.1 FOR DOOR AND GATE SCHEDULE

KEYNOTES

KEYNOTE	DESCRIPTION
0202	(N) FIRE HYDRANT, REF CIVIL DWGS
0207	SPECTATOR STANCHION HOLES, REF 20/AX0.2
0208	(N) DRINKING FOUNTAIN, REF 14/AX0.2
0211	(E) FENCE AND FENCE POST FOOTINGS TO REMAIN. PROTECT IN PLACE.
0212	(N) 8' MAX ORNAMENT FENCE, REF DET 3/AX0.2
0234	(N) PIPE BOLLARDS, REF DET 3/AX0.1
0237	(N) WETLAND SYSTEM PER DET D7/6.3
0238	DRAINAGE FOR SPRAYGROUND, REFER TO CIVIL D7/C6.3, DEFERRED SUBMITTAL
0301	(N) CAST IN PLACE CONCRETE SEATWALL AT PLANTER, TYP, REF 8/AX.01
0302	(N) CAST IN PLACE CONCRETE SEATWALL AT BUILDING, TYP, REF 4/AX.01
0303	(N) POOL DECK, REF CIVIL DWGS
0305	(N) CONCRETE ROLLED CURB AND TRANSITION, REF CIVIL DWGS AND DET 2/A1.1 FOR FIRE LANE PAINTING
1010	NINJA CROSS SYSTEM OBSTABLE COURSE ABOVE, REF NINJA CROSS SYSTEM STRUCTURAL
1022	SPRAYGROUND BALANCE TANK, REF AQ6.4
1024	OUTDOOR TIMING SYSTEM, REF AQUATICS DWGS
1110	POST-MOUNTED SCORE BOARD, PAINT ALL STEELS, REF DET 5/S4.7 AND 6/S4.7
1308	ACCESSIBLE POOL LIFT & ANCHOR, REF DET 14/AQ2.7
1309	ACCESSIBLE POOL STAIR, REF DET 5/AQ2.7
1310	(N) SPRAYGROUND, REF AQUATICS DWGS
1311	COMPETITION POOL SURGE TANK, REF AQUATIC DWGS
1602	(N) MUSCO SPORTS LIGHTING, TYP OF 4., REF ELECTRICAL AND MUSCO LIGHTING PLAN
1604	POLE LIGHTS, REF ELECTRICAL

CALIFORNIA ENERGY CODE

THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS AND SUBMITTED ON OR AFTER OCTOBER 1, 2021.

ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.

A LISTING OF CERTIFIED ATT CAN BE FOUND AT: HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.

THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

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DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

ENLARGED SITE PLAN

A1.1

ENLARGED SITE PLAN | 1" = 20'-0" | 1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
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DRAWN BY: XX
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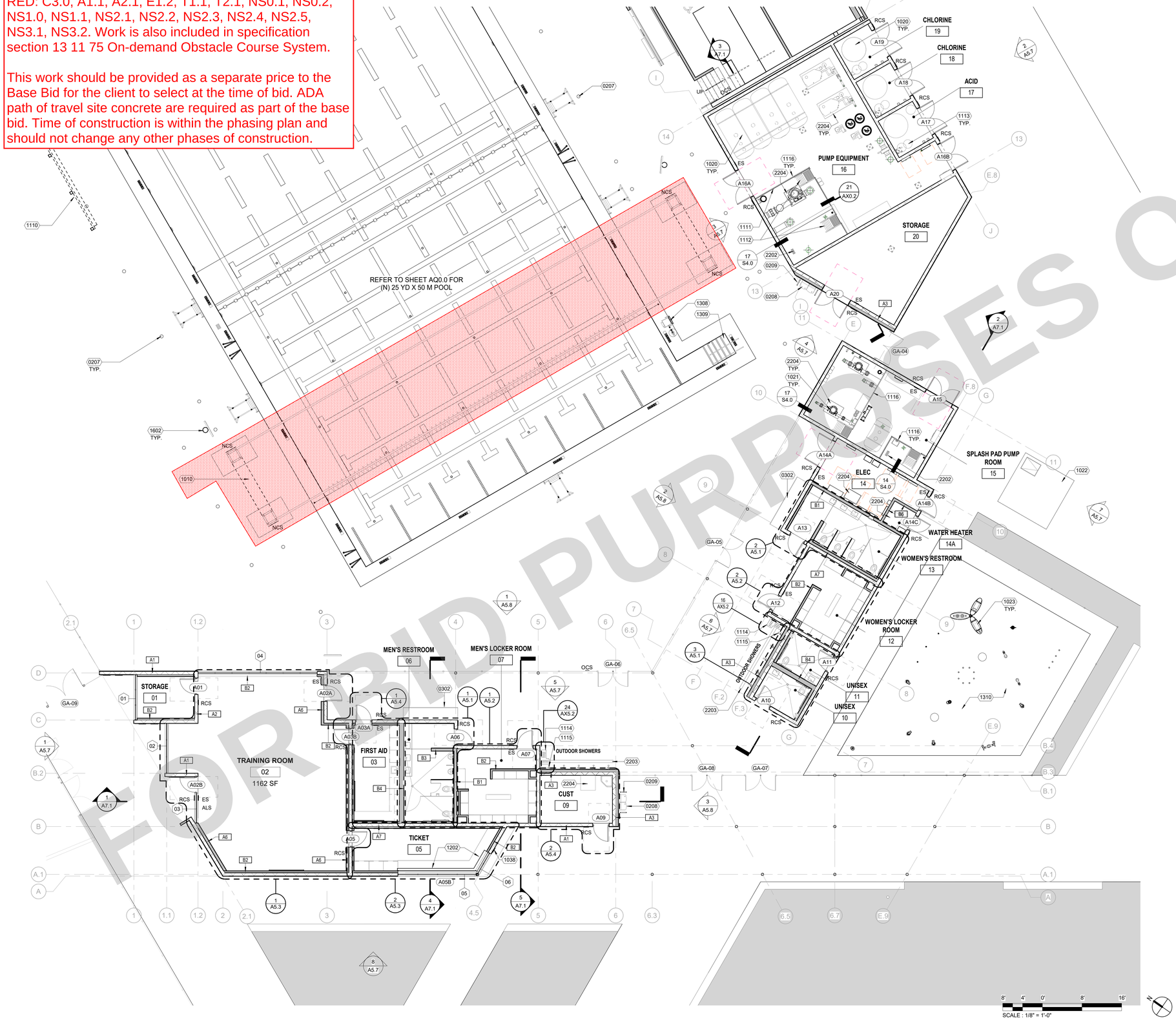
FLOOR PLAN
A2.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.



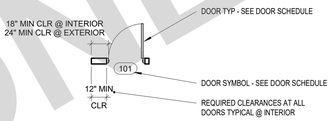
SCALE : 1/8" = 1'-0"

FLOOR PLAN | 1/8" = 1'-0" | 1

FLOOR PLAN NOTES

1. REFER TO SHEET AX5.1 FOR ROOM AND DOOR SIGNAGE SCHEDULES AND DETAILS.
2. REFER TO SHEET AX5.2 FOR RESTROOM FIXTURE AND ACCESSORIES MOUNTING HEIGHTS.
3. REFER TO DETAILS ON 1, 2, 4, 5, 6, 7, & 8 ON SHEET AX5.3 FOR CASEWORK ANCHORAGE.
4. REFER TO ROOM FINISH SCHEDULE FOR NEW FINISHES PER SHEET A9.1.
5. REFER TO DOOR SCHEDULE FOR NEW DOOR SIZES PER SHEET A8.1.
6. WALLS ARE FULL HEIGHT TO THE UNDERSIDE OF STRUCTURE UNO.
7. DIMENSIONS ARE TO FACE OF STUD AT EXTERIOR WALLS, INTERIOR WALLS, AND FACE OF FINISH AT METAL DECK SCREEN WALLS AND CURTAIN WALLS/STOREFRONT WALLS, UNO.
8. PAINT ALL WALLS AND CEILINGS PT-1 U.N.O.

FLOOR PLAN LEGEND



EXTERIOR WALL:
CONCRETE MASONRY UNIT WITH 2" RIGID INSULATION
REF 1 / AX7.1

INTERIOR PARTITION:
METAL STUD WALL (STUD SIZE VARIES) AT 16" O.C. W/ 5/8" GYP BD BOTH SIDES TO UNDERSIDE OF STRUCTURE ABOVE, W/ SOUND INSULATION.
U.N.O. SEE STRUCTURAL DRAWINGS FOR STUD

FE — SEMI- RECESSED FIRE EXTINGUISHER, REFER TO DETL

CEILING VENTS, REF MECHANICAL DWGS

30" X 48" MIN. ACCESSIBLE CLEARANCE SYMBOL

5'-0" DIAMETER MIN. ADA CLEARANCE SYMBOL

A1 — WALL TYPES, REF SHEET AX7.1 FOR WALL TYPES

01 — WINDOW, REF A8.2 FOR WINDOW SCHEDULE

GA-01 — DOOR AND GATE, REF SHEET A8.1 FOR DOOR AND GATE SCHEDULE

SIGNAGE LEGEND
(REFER TO SHEET AX5.1 FOR SCHEDULE SHEET AX5.1 & AX5.2)

AES	ACCESSIBLE ENTRY SIGN REF DETAIL
ALS	ASSISTED LISTENING SIGN PER DETAIL
OCS	ROOM OCCUPANT CAPACITY SIGN REF DETAIL
RCS	ROOM CONTROL SIGN PER DETAIL
ES	TACTILE EXIT SIGN PER DETAIL
NCS	NINJA CROSS RULES SIGN PER SHEET NS0.1

KEYNOTES

KEYNOTE	DESCRIPTION
0207	SPECTATOR STANCHION HOLES, REF 20/AX0.2
0208	(N) DRINKING FOUNTAIN, REF 14/AX0.2
0209	(N) DRINKING FOUNTAIN RAIL, REF 16/AX0.2
0302	(N) CAST IN PLACE CONCRETE SEATWALL AT BUILDING, TYP, REF 4/AX.01
1010	NINJA CROSS SYSTEM OBSTABLE COURSE ABOVE, REF NINJA CROSS SYSTEM STRUCTURAL
1020	POOL MECHANICAL EQUIPMENTS, REF AQUATICS DWGS
1021	SPRAYGROUND MECHANICAL EQUIPMENTS, REF AQUATICS DWGS
1022	SPRAYGROUND BALANCE TANK, REF AQ6.4
1023	SPRAYGROUND EQUIPMENTS, REF AQUATICS DWGS
1038	ASSISTIVE LISTENING SIGN, REF 19/AX5.2
1110	POST-MOUNTED SCORE BOARD, PAINT ALL STEELS, REF DET 5/S4.7 AND 6/S4.7
1111	GUARDRAILS, REF DET 21/AX0.2
1112	LADDER
1113	EYEWASH AND EMERGENCY SHOWER, REF DET 11/AX0.1 AND PLUMBING DWGS
1114	ADA SHOWER BENCH, REF DET 16/AX5.2
1115	ADA SHOWER, REF DET 24/AX5.2
1116	SAFETY RAILING, REF DET 21/AX0.2
1202	SECURITY ROLLING SHUTTERS
1308	ACCESSIBLE POOL LIFT & ANCHOR, REF DET 14/AQ2.7
1309	ACCESSIBLE POOL STAIR, REF DET 5/AQ2.7
1310	(N) SPRAYGROUND, REF AQUATICS DWGS
1602	(N) MUSCO SPORTS LIGHTING, TYP OF 4., REF ELECTRICAL AND MUSCO LIGHTING PLAN
2202	BACKWASH CATCH BASIN, REF PLUMBING DWGS
2203	TRENCH DRAIN, REF PLUMBING DWGS
2204	UTILITY CONCRETE PAD, REF 9/S4.0

FOR BID PURPOSES ONLY

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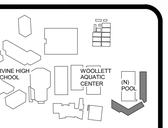
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE



DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

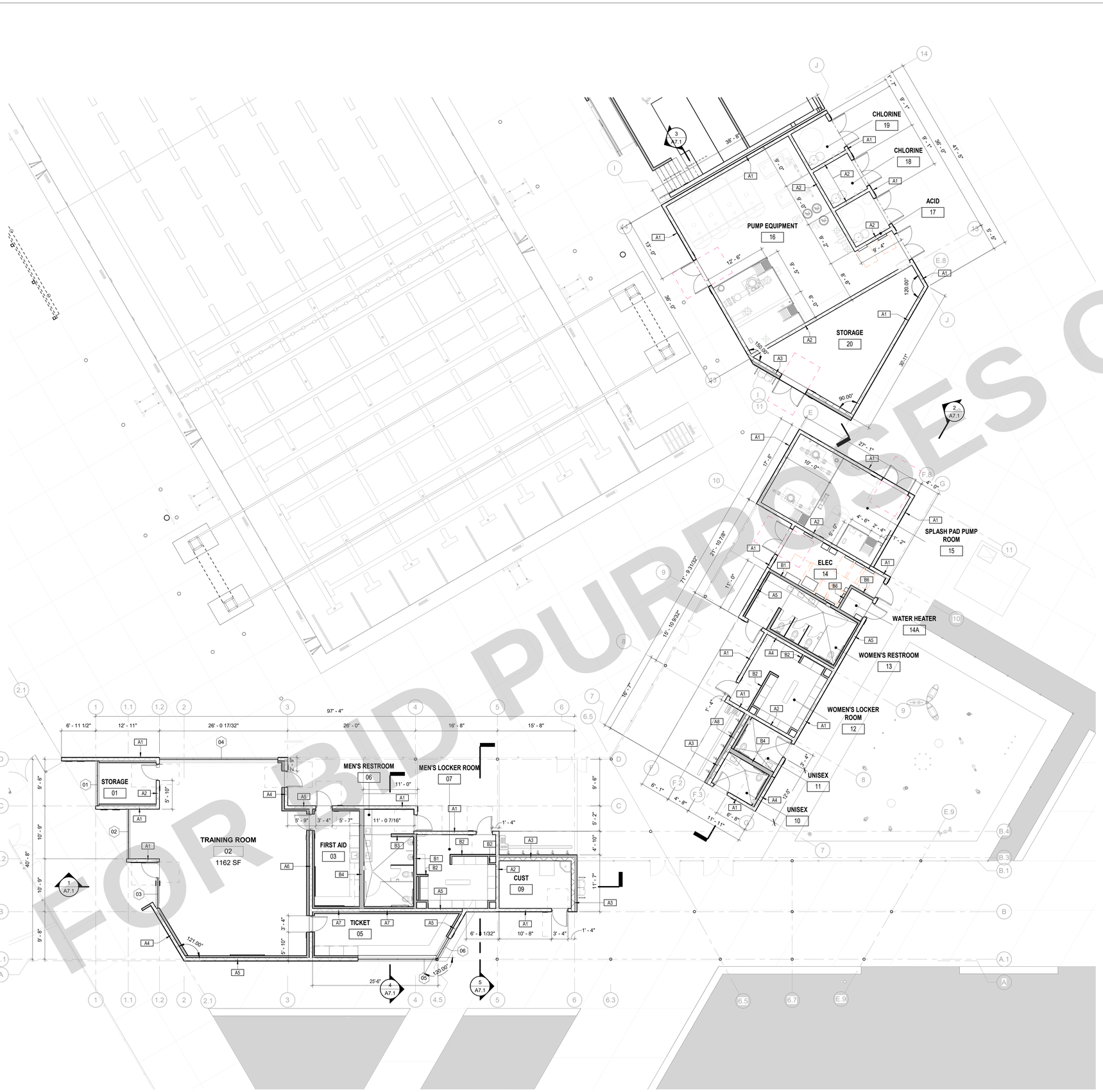
FLOOR PLAN

A2.1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
CHECKED BY:
XX
DRAWN BY:
XX
PLOT STAMP:
12/15/2025 4:45:53 PM

DIMENSIONS FLOOR PLAN
A2.2
FOR BLUEBEAM LABELING/OCR:

0"
1"

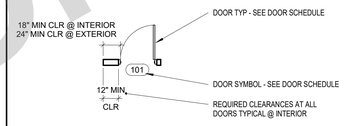


FOR BID PURPOSES ONLY

GENERAL NOTES

1. REF TO ROOM FINISH SCHEDULE FOR INTERIOR WALL FINISHES.
2. REF TO STRUCTURAL DWGS FOR METAL STUD SIZES.
3. ALL INTERIOR STUD WALLS SHALL HAVE BATT INSULATION FULL HEIGHT.
4. REF TO EXTERIOR ELEVATIONS FOR EXTERIOR WALL FINSHES.
5. REF TO 7 SERIES INT FLR PLAN FOR DESCRIPTION OF ROOM ACCESSORIES & SIGNAGE
6. REFER TO 8 SERIES FOR DOOR AND WINDOW DETAILS.
7. REFER TO A8.1 SERIES FOR DOOR SCHEDULE / DOORS WITH PANIC HARDWARE.
8. PROVIDE FIRE WALL SIGNAGE ABOVE CLG ON ALL RATED WALLS (FIRE WALL, FIRE BARRIER, FIRE PARTITION, SMOKE BARRIER, & SMOKE PARTITION) REF DET 18/10.2
9. ALL INT STUD WALLS SHALL HAVE GYP BD OR CEMENTIOUS BACKER BD FULL HEIGHT BOTH SIDES. FURRED WALLS SHALL HAVE GYP BD OR CEMENTIOUS BACKER BD FULL HEIGHT ONE SIDE. U.N.O.
10. THE EDGES OF LUGS, BRACKETS, RIVETS & BOLT HEADS ATTACHED TO STRUCT. MEMBERS SHALL BE PERMITTED TO EXTEND TO WITHIN 1 INCH OF THE SURFACE OF THE FIRE PROTECTION (CBC 704.6)
11. ALL MATERIALS AND METHODS OF CONSTRUCTION USED TO PROTECT THROUGH PENETRATIONS AND MEMBRANE PENETRATIONS OF HORIZONTAL ASSEMBLIES & FIRE-RESISTANCE-RATED WALL ASSMEBLIES SHALL BE PER 2021 CBC 714.
12. STORAGE G-09, G-12, G-30 WILL SERVCE AS A SPACE FOR DEPOSTING, STORAGE AND COLLECTION OF NON -HAZARDOUS MATERIALS FOR RECYCLING. THIS SPACE WILL SERVE BUILDING AREA - A.
13. DIMENSIONS ARE MEASURE FROM FACE OF STUD UNLESS NOTED OTHERWISE.

FLOOR PLAN LEGEND



EXTERIOR WALL:
CONCRETE MASONRY UNIT

INTERIOR PARTITION:
METAL STUD WALL (STUD SIZE VARIES) AT 16" O.C. W/ 5/8" GYP BD BOTH SIDES TO UNDERSIDE OF STRUCTURE ABOVE, W/ SOUND INSULATION.
U.N.O. SEE STRUCTURAL DRAWINGS FOR STUD

FE
SEMI- RECESSED FIRE EXTINGUISHER, REFER TO DETL

30" X 48" MIN. ACCESSIBLE CLEARANCE SYMBOL

5'-0" DIAMETER MIN. ADA CLEARANCE SYMBOL

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CLIENT LOGO
CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN:10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
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No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

DIMENSIONS FLOOR PLAN

A2.2

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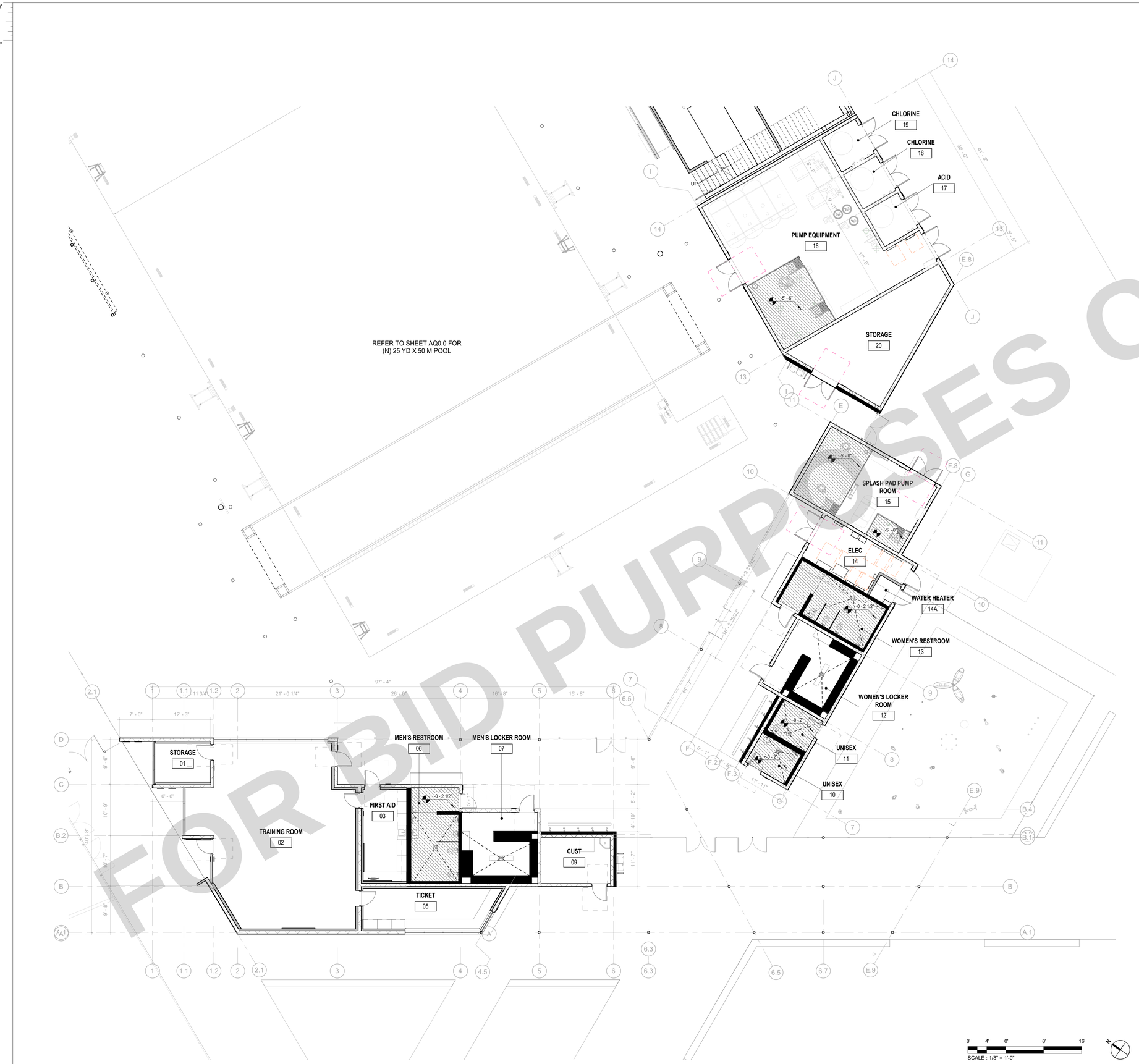
OVERALL CONCRETE CURB PLAN
A2.3
FOR BLUEBEAM LABELING/OCR:

0"
1"

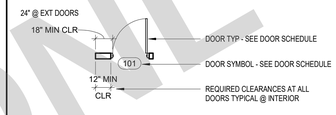


FOR BID PURPOSES ONLY

GENERAL NOTES

1. DEMO (E) BUILDING OR STRUCTURE INCLUDING, BUT NOT LIMITED TO, STELL STRUCTURE, SLAB ON GRADE, FOOTINGS, UNDERGROUND UTILITIES, ETC. REMOVE DEBRIS FROM SITE. SEE ALSO CIVIL DWGS AND LANDSCAPE DWGS.
2. CONTRACTOR TO REMOVE EXISTING SOILS, PLANT MATERIAL, ASPHALT CONC PAVING, CONC FLATWORK DEMOLITION DEBRIS, ETC. SHOWN TO BE REMOVED IN SCOPE OF WORK AS REQUIRED FOR NEW CONSTRUCTION ALL DEMO AND CONSTRUCTION SPOILS TO BE REMOVED OFF SITE AT CONTRACTORS EXPENSE.
3. CONTRACTOR TO REMOVE ALL EXISTING BALL COURT EQUIPMENT, POSTS AND CONC FOOTINGS AAS DEFINED IN SCOPE OF WORK. CONTRACTOR SHALL REMOVE CONC FROM POSTS AND TURN OVER ALL EQUIPMENT TO THE DISTRICT MAINTENANCE DEPT.
4. CONTRACTOR RESPONSIBLE TO PATCH OR REPAIR ANY EXISTING SURFACES DAMAGED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION.
5. CONTRACTOR RESPONSIBLE TO PROTECT EXISTING TREES, PLANTS AND GROUND COVER NOT SCHEDULED FOR REMOVAL DURING DEMOLITION AND CONSTRUCTION.
6. CONTRACTOR RESPONSIBLE TO PROTECT EXISTING UTILITY SERVICES TO SCHOOL SITE TO ENSURE NO DISRUPTION IN SERVICE IS INCOUNTERED DURING NORMAL SCHOOL HOURS.
7. CONTRACTOR RESPONSIBLE TO PROVIDE 8' HIGH C.L. FENCE BARRIER AROUND ENTIRE BOUNDARY OF DEMOLITION AND CONSTRUCTION OPERATIONS FOR THE DURATION OF THE PROJECT.

CURB PLAN LEGEND



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INTERIOR PARTITION:
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U.N.O. SEE STRUCTURAL DRAWINGS FOR STUD

6" CONCRETE CURB AT EXTERIOR AND INTERIOR WALLS

DEPRESSED SLAB, REFER TO STRUCTURAL

OVERALL CONCRETE CURB PLAN | 1/8" = 1'-0" | 1

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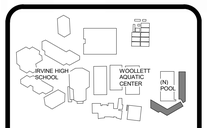

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DATE 12/15/2025
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OVERALL CONCRETE CURB PLAN

A2.3

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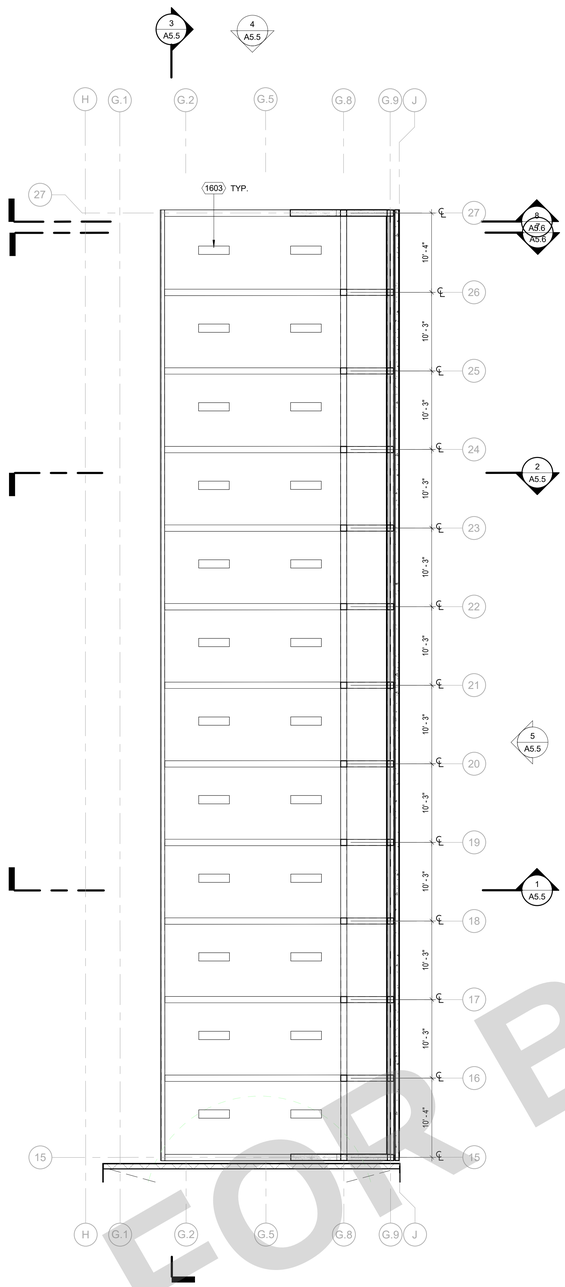
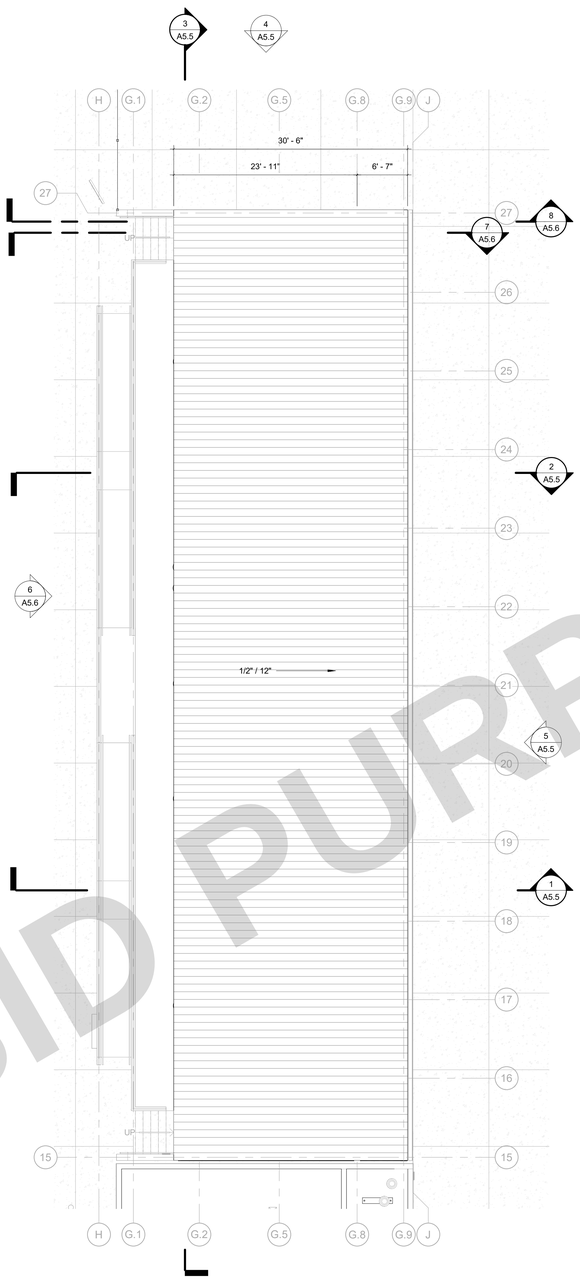
ENLARGED BLEACHER PLAN
A2.4
FOR BLUEBEAM LABELING/OCR:



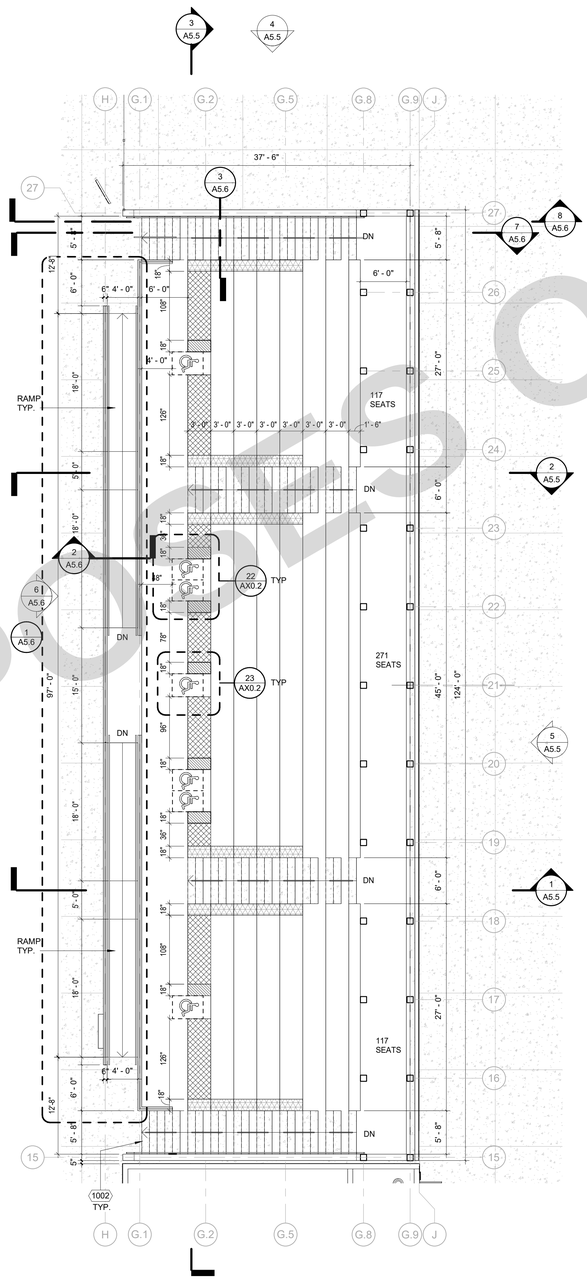
BLEACHER REFLECTED CEILING PLAN | 1/8" = 1'-0" | 1

SCALE : 1/8" = 1'-0"



BLEACHER ROOF PLAN | 1/8" = 1'-0" | 3

SCALE : 1/8" = 1'-0"

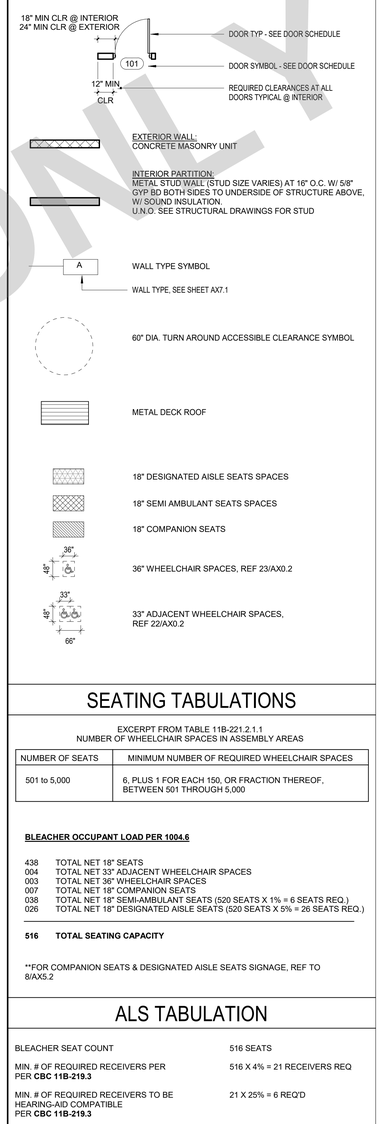


BLEACHER PLAN | 1/8" = 1'-0" | 2

SCALE : 1/8" = 1'-0"

GENERAL NOTES

CONSTRUCTION LEGEND



SEATING TABULATIONS

EXCERPT FROM TABLE 11B-221.2.1.1
NUMBER OF WHEELCHAIR SPACES IN ASSEMBLY AREAS

NUMBER OF SEATS	MINIMUM NUMBER OF REQUIRED WHEELCHAIR SPACES
501 to 5,000	6, PLUS 1 FOR EACH 150, OR FRACTION THEREOF, BETWEEN 501 THROUGH 5,000

BLEACHER OCCUPANT LOAD PER 1004.6

438 TOTAL NET 18" SEATS
004 TOTAL NET 33" ADJACENT WHEELCHAIR SPACES
003 TOTAL NET 36" WHEELCHAIR SPACES
007 TOTAL NET 18" COMPANION SEATS
038 TOTAL NET 18" SEMI-AMBULANT SEATS (520 SEATS X 1% = 6 SEATS REQ.)
026 TOTAL NET 18" DESIGNATED AISLE SEATS (520 SEATS X 5% = 26 SEATS REQ.)

516 TOTAL SEATING CAPACITY

**FOR COMPANION SEATS & DESIGNATED AISLE SEATS SIGNAGE, REF TO 8/AX5.2

ALS TABULATION

BLEACHER SEAT COUNT	516 SEATS
MIN. # OF REQUIRED RECEIVERS PER PER **CBC 11B-219.3**	516 X 4% = 21 RECEIVERS REQ
MIN. # OF REQUIRED RECEIVERS TO BE HEARING-AID COMPATIBLE PER **CBC 11B-219.3**	21 X 25% = 6 REQ'D

KEYNOTES

KEYNOTE	DESCRIPTION
1002	STRIPE AT BLEACHER STAIR, TYP. REF TO 2/AX5.2
1603	PANEL LIGHTS, REF ELECTRICAL

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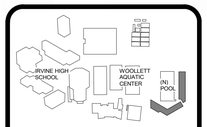

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CLIENT
CITY OF IRVINE

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BUILDING NUMBER

ENLARGED BLEACHER PLAN

A2.4

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REFLECTED CEILING PLAN
A3.1
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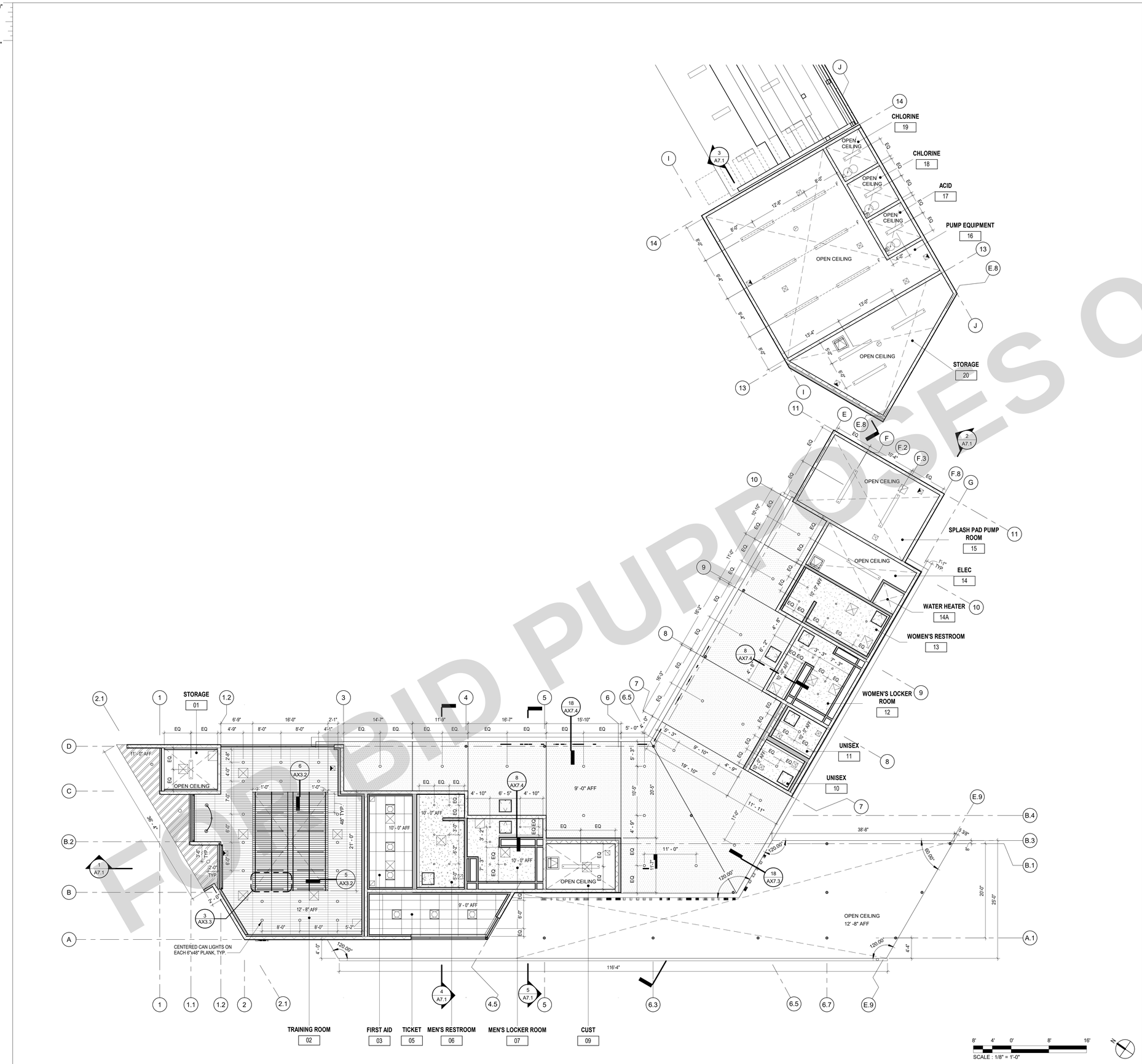

CEILING PLAN NOTES

1. ALL CEILING HEIGHTS ARE FROM FINISH FLOOR REFERENCE +0'-0"
2. REFER TO SHEETS AX3.1, AX3.2, & AX3.3 FOR SUSPENDED CEILING NOTES AND DETAILS.
3. PAINT ALL GYPBOARD AND EXTERIOR PLASTER CEILINGS
4. CONTRACTOR TO PROVIDE SHOP DRAWING FOR LIGHT FIXTURE LOCATIONS.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF TRAINING ROOM CEILING BAFFLE LAYOUT AND COLOR PATTERN

CEILING PLAN LEGEND

- (N) FRAMED GYP. BD CEILING, PAINTED, REF DET 3/AX3.1
- **ACT1** (N) 2 X 4 SUSPENDED ACOUSTICAL CEILING, REF AX3.1 CEILING DETAILS
- **ACT2** (N) 2 X 4 SUSPENDED ACOUSTICAL CEILING, REF AX3.1 CEILING DETAILS
- **CL1** (N) ACOUSTICAL BAFFLES, REF DET 4.36/AX3.2
- (N) PLASTER, REF DET 12/AX3.3
- (N) SHEET METAL, REF DET
- OPEN TO STRUCT ABOVE
  PAINT ALL EXPOSED ROOF FRAMING, ROOF DECK, MECHANICAL DUCTS AND UTILITES. PAINT COLOR TO BE SELECTED BY A.O.R.
- LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPE AND MOUNTING DETAILS
- PENDANT LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPE AND MOUNTING DETAILS
- CONTROL JOINTS
- EXTERIOR WALL:
  CONCRETE MASONRY UNIT
- INTERIOR PARTITION:
  METAL STUD WALL (STUD SIZE VARIES) AT 16" O.C. W/ 5/8" GYP BD BOTH SIDES TO UNDERSIDE OF STRUCTURE ABOVE, W/ SOUND INSULATION.
  U.N.O. SEE STRUCTURAL DRAWINGS FOR STUD
- MECHANICAL RETURN AIR GRILLS. REFER MECHANICAL DWGS
- MECHANICAL SUPPLY AIR GRILLS. REFER MECHANICAL DWGS
- MECHANICAL DUCTS. REFER MECHANICAL DWGS
- EXIT SIGNAGE, REFER ELECTRICAL DWGS
- 30" x 30" CLG ACCESS HATCH, REFER DET 1/AX3.3
- 24" x 24" ROOF ACCESS WITH LADDER, REFER DET 16/AX4.1 AND 17/AX4.1

KEYNOTES

KEYNOTE	DESCRIPTION

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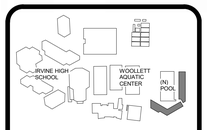

KEY PLAN
NORTH: PLAN TRUE

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DATE	PROJECT NUMBER
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DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

REFLECTED CEILING PLAN

A3.1

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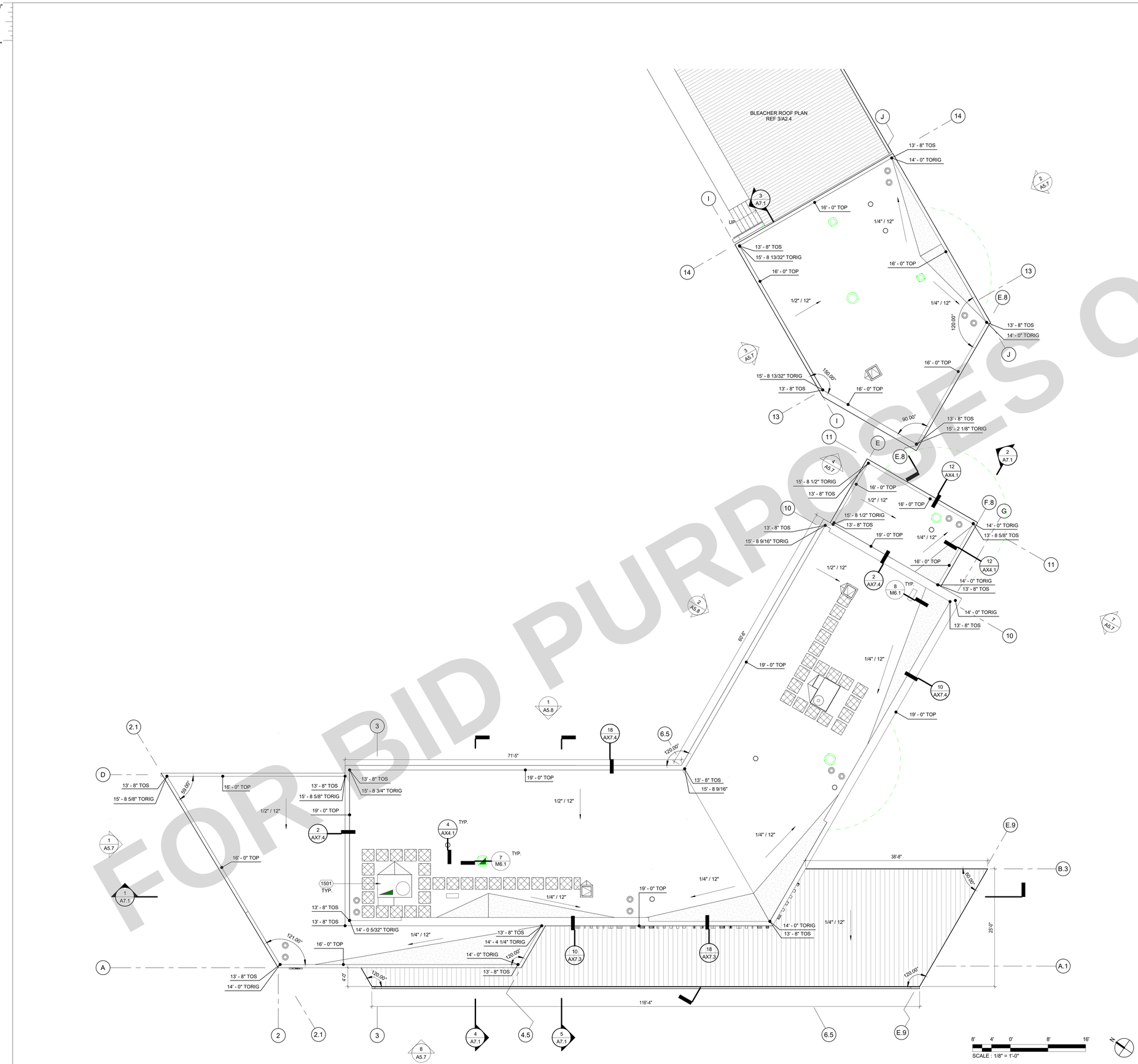
ROOF PLAN
A4.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



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ROOF PLAN NOTES

1. CONTRACTOR SHALL REVIEW AND COORDINATE WITH ARCHITECTURAL, MEP, AND STRUCTURAL DOCUMENTS TO ASCERTAIN EXACT CONDITIONS AND COMPONENTS RELATED TO THE WORK DESCRIBED BY THESE DOCUMENTS. ALL WORK SHALL BE IN ACCORDANCE WITH ACCEPTED MANUFACTURER'S PRINTED INSTRUCTIONS AND NRCA STANDARDS.
2. DIMENSIONS, DETAILS, EQUIPMENT SIZE AND LOCATION SHOWN IN THESE CONSTRUCTION DOCUMENTS ARE FOR CONVEYANCE OF DESIGN INTENT ONLY. EXACT SIZE, LOCATION, TYPE OF MATERIAL AND TYPE OF CONSTRUCTION OF EXISTING CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN AND CONFIRM.
3. INDICATED ROOF HEIGHTS ARE GENERAL IN NATURE. RE: STRUCTURAL FOR FRAMING HEIGHTS.
4. ALL NEW CRICKETS AND TAPERED INSULATION SHALL BE INSTALLED WITH A FINISHED 1/4" PER FOOT MIN. SLOPE. CRICKET THE UP SLOPE SIDE OF ALL SQUARE CURBS AND PROJECTIONS OVER 10" IN WIDTH.
5. ALL CURB MOUNTED HVAC UNITS, EQUIPMENT, ETC. SHALL HAVE A MINIMUM 10" CURB HEIGHT.
6. ALL SOIL STACK FLASHING SHALL BE A MIN. 10" ABOVE FINISHED ROOF SURFACE. PROPERLY SUPPORT PIPE BELOW ROOF DECK FROM LATERAL MOVEMENT.
7. ALL PIPING / CONDUITS / ETC. SHALL BE A MIN. 10" ABOVE ROOF SURFACE. PROVIDE PORTABLE PIPE HANGERS WITH PROTECTION PADS AS SPECIFIED.
8. PROVIDE SHEET METAL HOODED (WITH METAL FACE CLOSURE) CAPS, WOOD CURB, BOX COVER AT ALL GAS AND WATER PIPE ROOF PENETRATIONS AS DETAILED AND SPECIFIED. PROVIDE POSITIVE SLOPE AWAY FROM FACE COVER.
9. PROVIDE WALKWAY PROTECTION PADS AS SPECIFIED AROUND ALL ROOF HATCHES, HVAC ROOFTOP UNITS, DOORS THAT OPEN ONTO ROOF AND AT TOP AND BOTTOM OF ALL ROOF TOP ACCESS LOCATIONS.
10. PRIOR TO COMMENCEMENT OF WORK, COORDINATE WALK WITH ROOFING MANUFACTURER'S TECHNICAL REPRESENTATIVE TO IDENTIFY AND LOCATE ALL AREAS WHICH MIGHT REQUIRE SPECIAL PROCEDURES FOR SYSTEM ATTACHMENT.
11. REFER TO MEP DRAWINGS FOR SIZE AND LOCATION OF NEW ROOF DECK PENETRATIONS AND ROOF TOP EQUIPMENT.
12. INSTALL NEW SPLASH BLOCKS AT ALL LOCATIONS WHERE ROOF DRAINAGE DICHARGES ON GROUND.
13. REFER TO GENERAL DETAILS FOR TYPICAL SPLASH PAN, ROOF DRAIN AND OVERFLOW DRAIN DETAILS.
14. GENERAL CONTRACTOR TO ENSURE ALL ROOFTOP PENETRATIONS (SOIL STACKS, VENTS, ETC.) ARE INSTALLED MIN. 4'-0" FROM OTHER DECK PENETRATIONS, RISE WALLS, ROOF EDGE AND A MINIMUM OF 18" AWAY FROM DRAIN LINE. MECHANICAL EQUIPMENT TO BE LOCATED MIN. 10'-0" FROM PERIMETER EDGE AND NO CLOSER THAN 4'-0" FROM RISE WALLS, OR ANY OTHER ROOF PENETRATION.
15. GENERAL CONTRACTOR TO LOCATE PERIMETER DRAINS MAX. 6'-0" FROM EDGE TYPICAL UNLESS SHOWN OTHERWISE AND ENSURE ALL ROOFTOP PENETRATIONS ARE INSTALLED A MINIMUM OF 18" AWAY FROM DRAIN LINE (GENERAL CONTRACTOR TO COORDINATE WITH ROOFING AND PLUMBING CONTRACTOR.)
16. THROUGH WALL BASE FLASHING MIN. HEIGHT 10" AND MAX. HEIGHT 20" FROM FINISHED DECK. DO NOT STEP THROUGH WALL FLASHING CLOSER THAN 5'-0" FROM CORNERS.
17. GENERAL CONTRACTOR SHALL COORDINATE LOCATION AND ORIENTATION OF ROOF HATCH AND ACCESS LADDER.
18. GENERAL CONTRACTOR SHALL COORDINATE ALL TOP OF BEAM TO TOP OF FRAMING AND SUBSTRATE BOARD DIMENSIONS IN FIELD PRIOR TO ORDERING MATERIALS. NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR FAILURE TO COORDINATE THESE DIMENSIONS.
19. GENERAL CONTRACTOR SHALL VERIFY ROOF SLOPES WILL PROPERLY DRAIN AS SHOWN. PLYWOOD CRICKET HATCHING SHOWN IS NOT INTENDED TO ILLUSTRATE THE ENTIRE LIMITS OF PLYWOOD CRICKETING. ROOF AREAS NOT SLOPED BY STRUCTURE SHALL BE SLOPED WITH PLYWOOD CRICKETS TO ACHIEVE PROPER DRAINAGE.

ROOF LEGEND

- ROOF HATCH, SEE DETAIL 17/AX4.1.
- MECHANICAL EQUIPMENT, SEE MECHANICAL DWGS REFER TO DETAILS 5/AX4.1 FOR ROOFING AND CANT STRIP AT MECH. UNIT CURB.
- EXHAUST FAN, SEE MECHANICAL DWGS
- VENT, REF DETL 4/AX4.1 AND PLUMBING DWGS
- ROOF DRAINS / OVER FLOW DRAIN 24" MIN. AWAY FROM PARAPET WALL SEE DETAIL 10/AX4.1 & 11/AX4.1 AND PLUMBING DWGS
- CRICKET CLASS "B" OVER CLASS B MODIFIED BITUMINOUS MEMBRANE ROOFING ROOF SLOPE 1/4" PER 1'-0", MIN 1/2" THICK AT ROOF DRAINS
  SEE DETAIL 14/AX4.1 & SPECS
- SLOPE DIRECTION
- METAL ROOF
- WALK PADS, REF TO DETAIL 15/AX4.1

TOP - TOP OF PARAPET
TOS - TOP OF STEEL
TORIG - TOP OF RIGID INSULATION

KEYNOTES

KEYNOTE	DESCRIPTION
1501	ROOFTOP MECHANICAL UNIT AND CURB, REF TO MECHANICAL AND STRUCTURAL

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ROOF PLAN

A4.1

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INTERIOR ELEVS AND ENLARGED PLANS
A5.1
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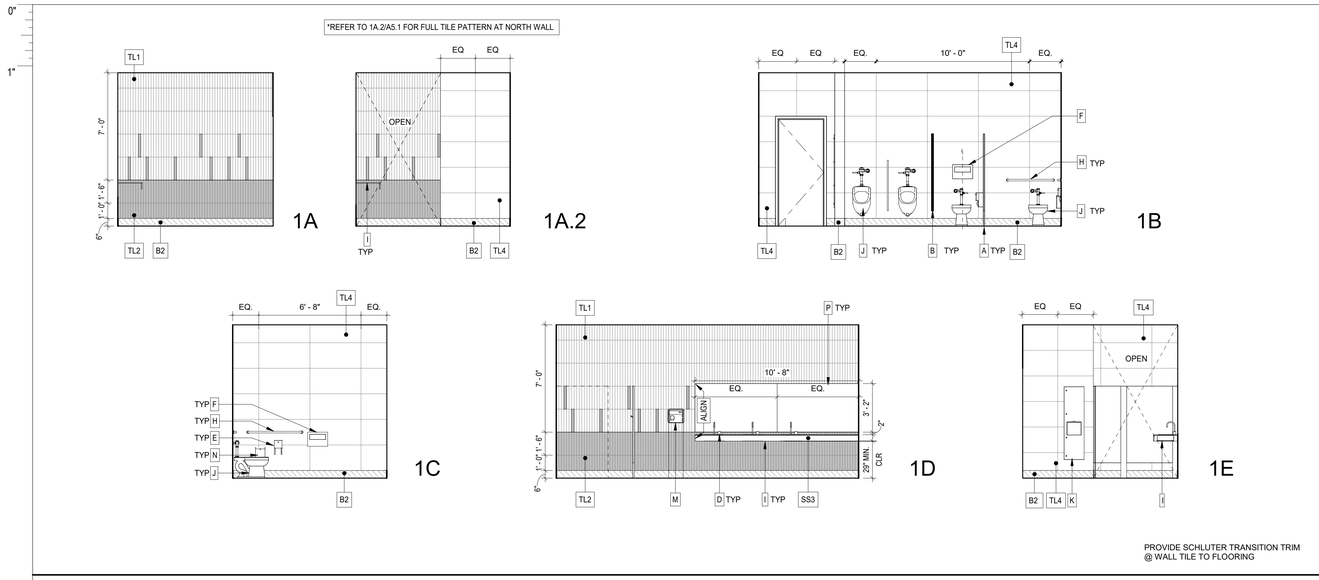
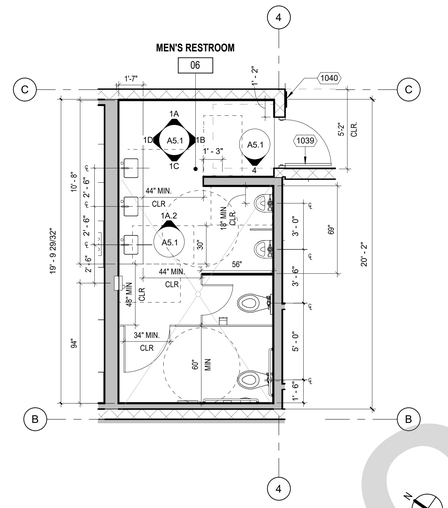


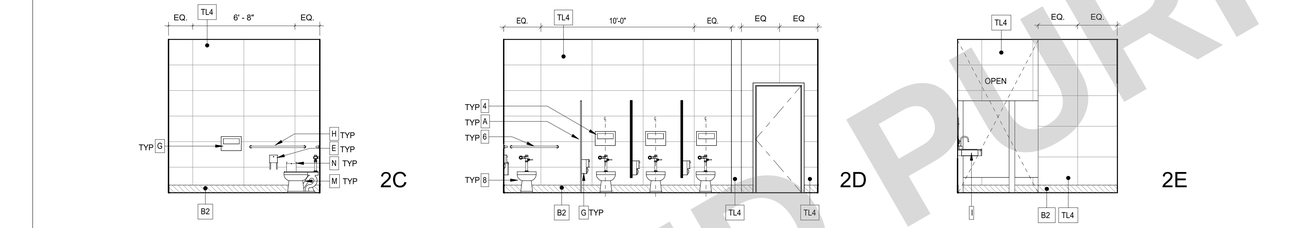
MEN'S RESTROOM - INTERIOR ELEVATIONS



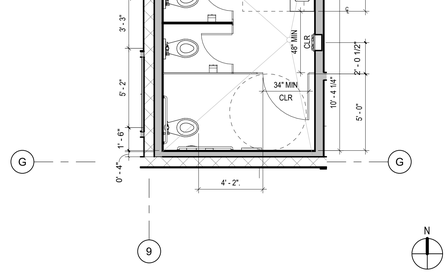
MEN'S RESTROOM - ENLARGED PLAN | 1/4" = 1'-0" | 1

REFERENCE NOTES

KEYNOTE	DESCRIPTION
1039	RESTROOM DOOR SIGN, REF DET 3,7 & 11/AX5.1
1040	RESTROOM WALL SIGN, REF DET 12/AX5.1



WOMEN'S RESTROOM - INTERIOR ELEVATIONS

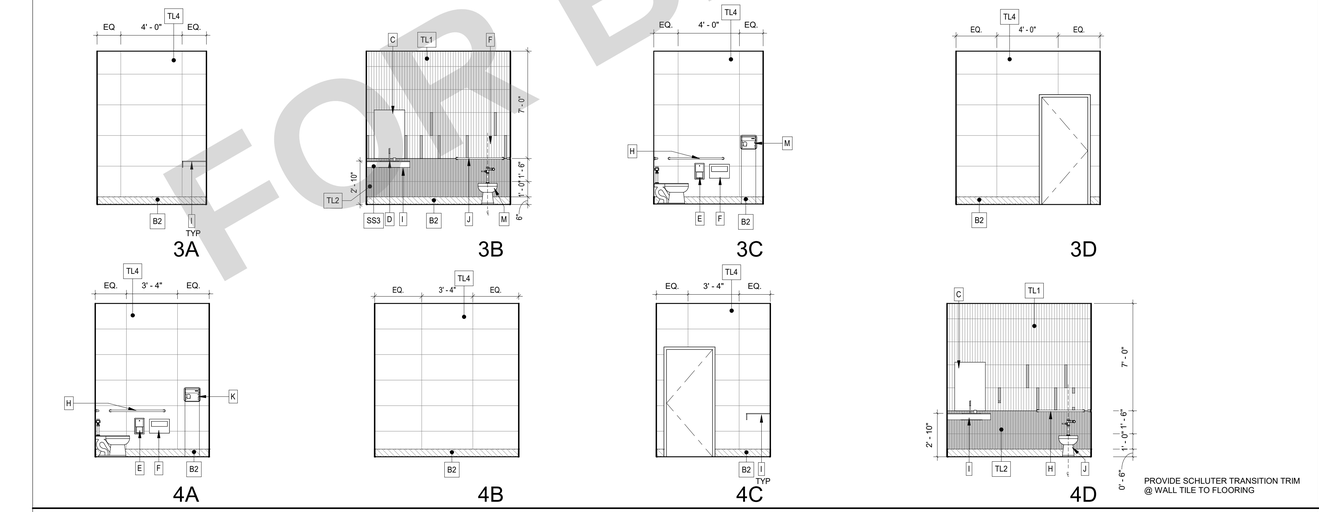


WOMEN'S RESTROOM - ENLARGED PLAN | 1/4" = 1'-0" | 2

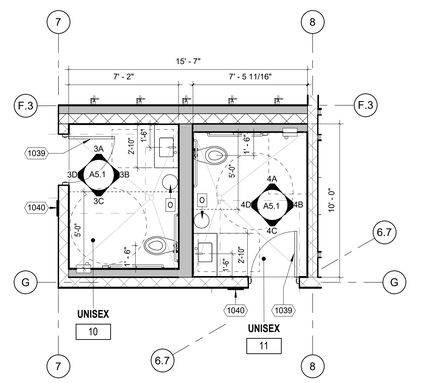
FLOOR PLAN LEGEND

- PLUMBING FIXTURES - WALL MOUNTED LAVATORY
- PLUMBING FIXTURES - FLOOR MOUNTED WATER CLOSET
- PLUMBING FIXTURES - WALL MOUNTED URINAL
- JANITOR SINK REF - REF PLUMB DWGS
- -1" BELOW FINISH FLOOR DRAIN, SLOPE TO DRAIN MAX 1:48 REF PLUMB DWGS
- WALL / RECESS MOUNTED FIRE EXTINGUISHER CABINET, SEE REF NOTES ON 7 SERIES SHEETS FOR LOCATIONS
- 30" x 48" ACCESSIBLE CLEAR SPACE
- 60" DIA. ACCESSIBLE CLEAR SPACE
- A101A — SCHEDULED DOOR, REFER TO SERIES 8 & A8.1 FOR DOOR DETAILS
- AA1** — WALL TYPES, REF SHEETS AX7.1 FOR WALL TYPES
- TL** — FINISH MATERIALS, REF TO FINISH SCHEDULE A9.1

NOTE:
1. PROVIDE ROOM IDENTIFICATION SIGN AT EVERY DOOR PER SIGNAGE SCHEDULE REF A2.1
   REF SIGN SCHEDULE ON 1/AX5.1
2. REF DOOR SCHEDULE TO A8.1
3. PROVIDE BACKING FOR ALL TOILET ROOM PLUMBING FIXTURES AND ACCESSORIES REF 2/AX7.5
4. PROVIDE COPPER FREE BACKING U.N.O.
5. REF FIXTURE MOUNTING SCHEDULE ON 4/AX5.2



UNISEX RESTROOM - INTERIOR ELEVATIONS



UNISEX RESTROOM - ENLARGED PLAN | 1/4" = 1'-0" | 3

FIXTURE ACCESSORY SCHEDULE

MARK	DESCRIPTION	EQUAL TO BOBRICK MODEL NO.	REMARKS
A	BOBRICK PRIVADA HPL TOILET PARTITION. REF SPECS FOR BACKING AT ALL PARTITION MOUNTS	REFER TO SPECS	-
B	30" HIGH WALL-HUNG PRIVACY SCREEN BOTT. AT 12" AFF. REF SPECS FOR BACKING @ ALL SCREEN MOUNTS	REFER TO SPECS	-
C	24" X 36" FRAMLESS MIRROR	-	-
D	SURFACE MOUNTED SOAP DISPENSER	B-2112	-
E	RECESSED TOILET TISSUE DISPENSER	B-4388	-
F	SURFACE MOUNTED TOILET-SEAT COVER DISPENSER	B-221	-
G	SURFACE MOUNTED TOILET TISSUE DISPENSER	B-2888	-
H	42" X 54" TWO-WALL GRAB BAR W/ ANCHOR PLATE	B-6897	-
I	SOLID SURFACE LAVATORY	REFER TO PLUMB DWGS	
J	WATER CLOSET	REFER TO PLUMB DWGS	
K	SEMI RECESSED COMBO TOWEL DISP/ WASTE RECEPT	B-38030	-
L	SEMI-RECESSED NAPKIN/TAMPON VENDOR	B-37063C	-
M	WALL MOUNTED AUTOMATIC WORLD DRYER	DXA5-974AU	-
N	SURFACE MOUNTED SANITARY DISPOSAL	B-270	-
O	12" DIA. TRASH DISPOSAL	-	-
P	FRAMLESS MIRROR, REFER TO ELEVATIONS FOR SIZE	-	-

NOTE:
- ALL DIMENSIONS ARE TO THE FACE OF JAMB. U.N.O.
- PROVIDE NEW ALL ITEMS SHOWN ON PLAN U.N.O.
- ALL TOILET PARTITIONS TO HAVE 12" TOE CLEARANCE A.F.F.
- FOR MOUNTING HEIGHTS REFER TO FIXTURE MOUNTING SCHEDULE

FIXTURE AND ACCESSORY MARK

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PBK
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949-548-5000 P

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4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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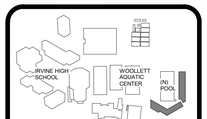
CITY OF IRVINE EST. 1971



DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 REN:10/31/27 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

INTERIOR ELEVS AND ENLARGED PLANS

A5.1

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INTERIOR ELEVS AND ENLARGED PLANS
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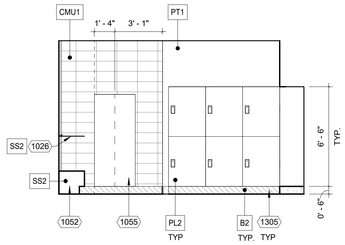

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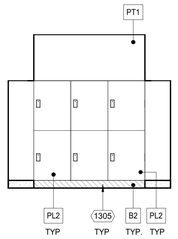

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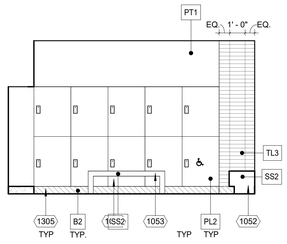

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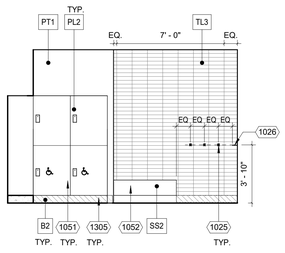

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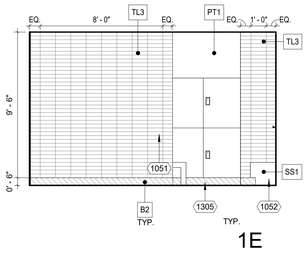

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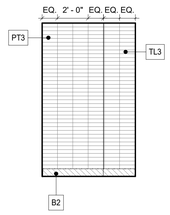

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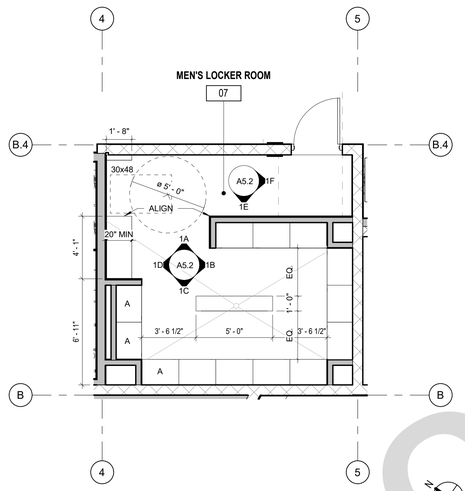
MEN'S LOCKER ROOM - INTERIOR ELEVATIONS



MEN'S LOCKER ROOM - ENLARGED PLAN | 1/4" = 1'-0" | 1

REFERENCE NOTES

KEYNOTE	DESCRIPTION
1025	STAINLESS STEEL COAT HOOKS
1026	SOLID SURFACE SHELF
1051	CUSTOM TRESPA 2-TIER LOCKER, 29x20x78
1052	ACCESSIBLE CUSTOM LOCKER BENCH
1053	CUSTOM LOCKER BENCH
1055	MIRROR, 32x72
1305	CONCRETE CURB

LOCKER COUNTS

MEN'S LOCKER ROOM 07

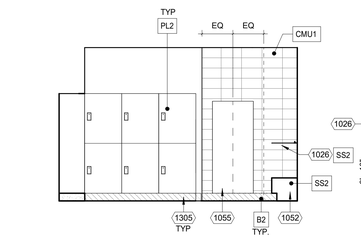
LOCKER TYPE	LOCKER TYPE	LOCKER TYPE
TYPE 1	17	34
TYPE 1A (ACCESSIBLE)	3	6
GRAND TOTAL	20	40

REQUIRED ACCESSIBLE LOCKERS: 40 X 0.05 = 2
ACCESSIBLE LOCKERS PROVIDED = 3

WOMEN'S LOCKER ROOM 12

LOCKER TYPE	LOCKER TYPE	LOCKER TYPE
TYPE 1	17	34
TYPE 1A (ACCESSIBLE)	3	6
GRAND TOTAL	20	40

REQUIRED ACCESSIBLE LOCKERS: 40 X 0.05 = 2
ACCESSIBLE LOCKERS PROVIDED = 3



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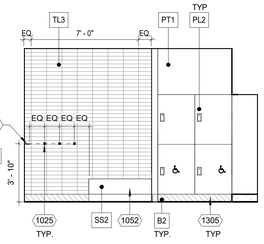

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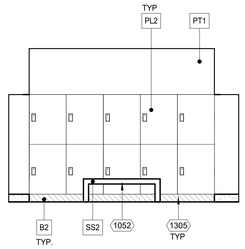

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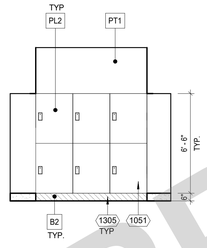

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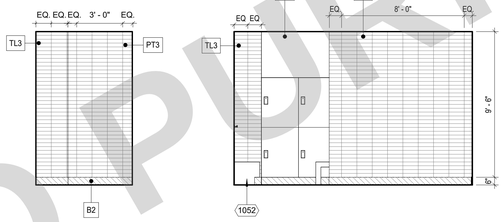
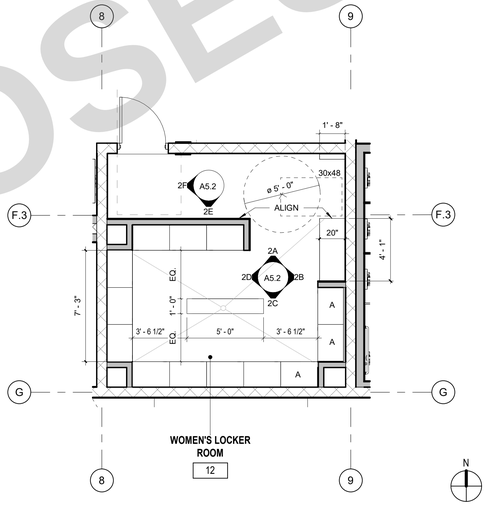


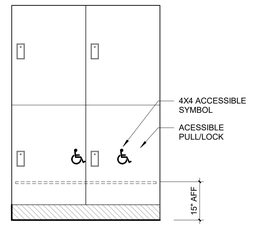
2F 2E

WOMEN'S LOCKER ROOM - INTERIOR ELEVATIONS



WOMEN'S LOCKER ROOM - ENLARGED PLAN | 1/4" = 1'-0" | 2

LOCKER COUNTS



FLOOR PLAN NOTES

1. REFER TO SHEET AX5.1 FOR ROOM AND DOOR SIGNAGE SCHEDULES AND DETAILS.
2. REFER TO SHEET AX5.2 FOR RESTROOM FIXTURE AND ACCESSORIES MOUNTING HEIGHTS.
3. REFER TO DETAILS ON 1, 2, 4, 5, 6, 7, & 8 ON SHEET AX5.3 FOR CASEWORK ANCHORAGE.
4. REFER TO ROOM FINISH SCHEDULE FOR NEW FINISHES PER SHEET A9.1.
5. REFER TO DOOR SCHEDULE FOR NEW DOOR SIZES PER SHEET A8.1.
6. WALLS ARE FULL HEIGHT TO THE UNDERSIDE OF STRUCTURE UNO.
7. DIMENSIONS ARE TO FACE OF STUD AT EXTERIOR WALLS, INTERIOR WALLS, AND FACE OF FINISH AT METAL DECK SCREEN WALLS AND CURTAIN WALLS/STOREFRONT WALLS, UNO.
8. PAINT ALL WALLS AND CEILINGS PT-1 U.N.O.

CONSTRUCTION LEGEND

- PLUMBING FIXTURES - WALL MOUNTED LAVATORY
- PLUMBING FIXTURES - FLOOR MOUNTED WATER CLOSET
- PLUMBING FIXTURES - WALL MOUNTED URINAL
- JANITOR SINK REF - REF PLUMB DWGS
- -1" BELOW FINISH FLOOR DRAIN, SLOPE TO DRAIN MAX 1:48 REF PLUMB DWGS
- WALL / RECESS MOUNTED FIRE EXTINGUISHER CABINET, SEE REF NOTES ON 7 SERIES SHEETS FOR LOCATIONS
- 30" x 48" ACCESSIBLE CLEAR SPACE
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- A101A — SCHEDULED DOOR, REFER TO SERIES 8 & A8.1 FOR DOOR DETAILS
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NOTE:
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4601 Walnut Ave, Irvine, CA 92604
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DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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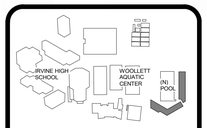
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

INTERIOR ELEVS AND ENLARGED PLANS

A5.2

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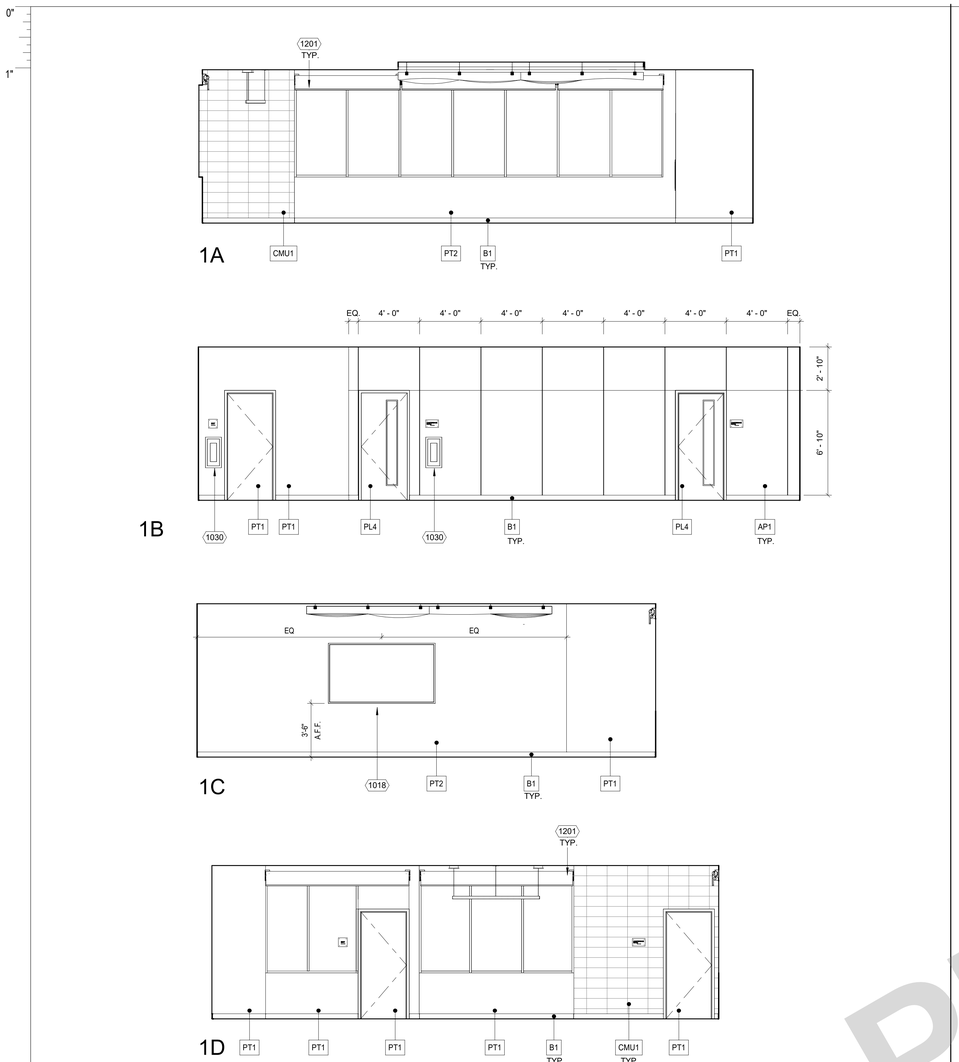
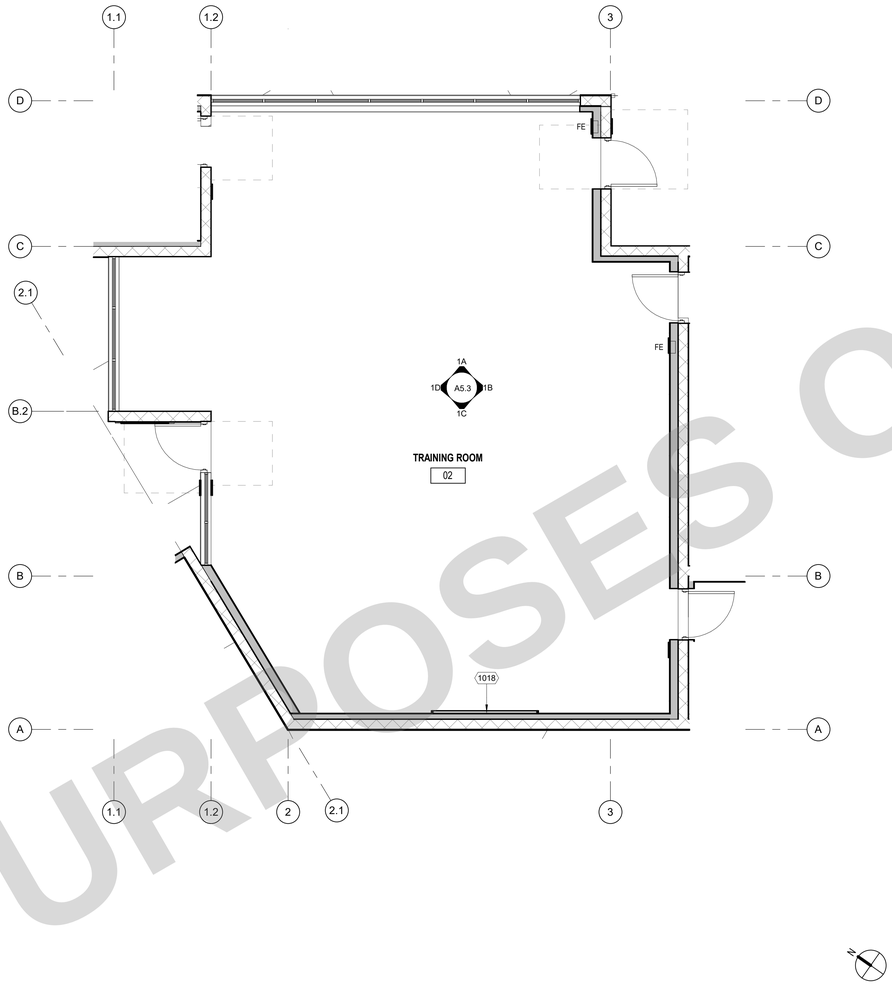
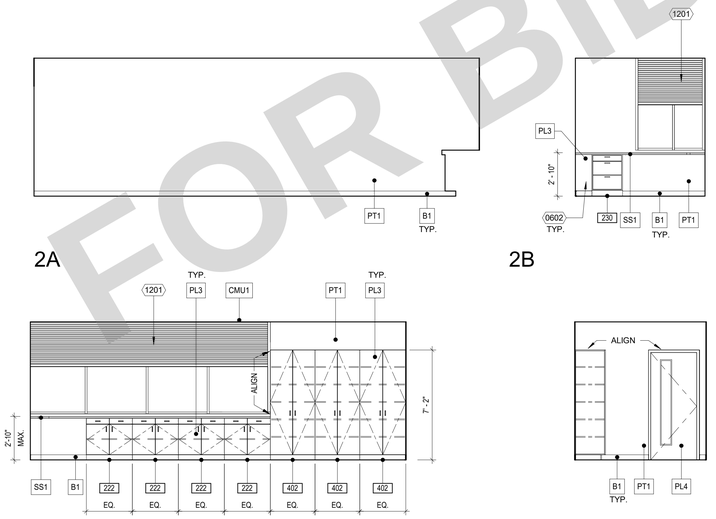


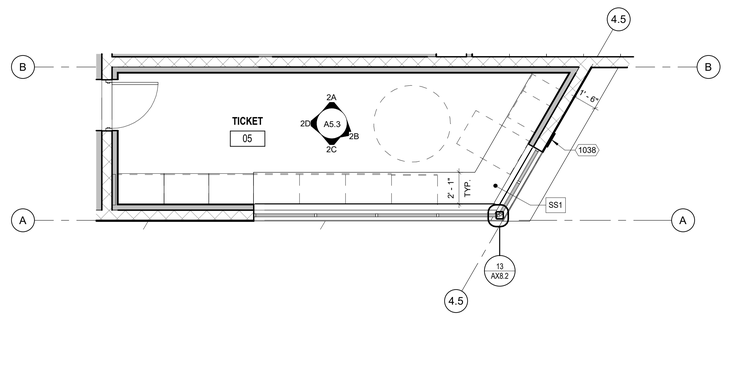
TRAINING ROOM - INTERIOR ELEVATIONS



TRAINING ROOM - ENLARGED PLAN | 1/4" = 1'-0" | 1



TICKET - INTERIOR ELEVATIONS



TICKET - ENLARGED PLAN | 1/4" = 1'-0" | 2

REFERENCE NOTES

KEYNOTE	DESCRIPTION
0602	BASE CABINET FILLER V.I.F.
1018	4'X8' MARKERBOARD, REF X/X.X
1030	FIRE EXTINGUISHER, REF 18/AX5.2
1038	ASSISTIVE LISTENING SIGN, REF 19/AX5.2
1201	INSTALL (N) WINDOW ROLLER SHADES

FLOOR PLAN NOTES

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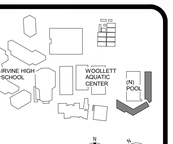

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
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CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

INTERIOR ELEVS AND ENLARGED PLANS

A5.3

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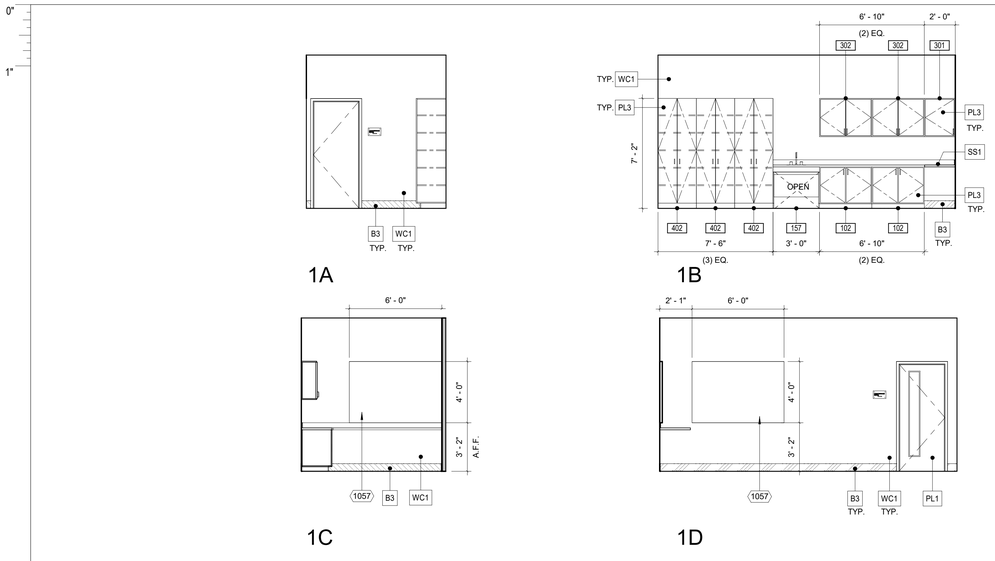
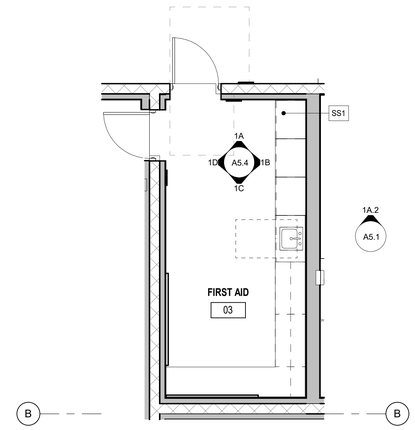


FIRST AID - INTERIOR ELEVATIONS



FIRST AID ENLARGED PLAN | 1/4" = 1'-0" | 1

CUST/RISER ROOM - INTERIOR ELEVATIONS

CUSTODIAN- ENLARGED PLAN | 1/4" = 1'-0" | 2

FOR BID PURPOSES ONLY

REFERENCE NOTES

KEYNOTE	DESCRIPTION
1057	WHITEBOARD
2201	MOP SINK

FLOOR PLAN NOTES

1. REFER TO SHEET AX5.1 FOR ROOM AND DOOR SIGNAGE SCHEDULES AND DETAILS.
2. REFER TO SHEET AX5.2 FOR RESTROOM FIXTURE AND ACCESSORIES MOUNTING HEIGHTS.
3. REFER TO DETAILS ON 1, 2, 4, 5, 6, 7, & 8 ON SHEET AX5.3 FOR CASEWORK ANCHORAGE.
4. REFER TO ROOM FINISH SCHEDULE FOR NEW FINISHES PER SHEET A9.1.
5. REFER TO DOOR SCHEDULE FOR NEW DOOR SIZES PER SHEET A8.1.
6. WALLS ARE FULL HEIGHT TO THE UNDERSIDE OF STRUCTURE UNO.
7. DIMENSIONS ARE TO FACE OF STUD AT EXTERIOR WALLS, INTERIOR WALLS, AND FACE OF FINISH AT METAL DECK SCREEN WALLS AND CURTAIN WALLS/STOREFRONT WALLS, UNO.
8. PAINT ALL WALLS AND CEILINGS PT-1 U.N.O.

CONSTRUCTION LEGEND

- PLUMBING FIXTURES - WALL MOUNTED LAVATORY
- PLUMBING FIXTURES - FLOOR MOUNTED WATER CLOSET
- PLUMBING FIXTURES - WALL MOUNTED URINAL
- JANITOR SINK REF - REF PLUMB DWGS
- -1" BELOW FINISH FLOOR DRAIN, SLOPE TO DRAIN MAX 1:48 REF PLUMB DWGS
- WALL / RECESS MOUNTED FIRE EXTINGUISHER CABINET, SEE REF NOTES ON 7 SERIES SHEETS FOR LOCATIONS
- 30" x 48" ACCESSIBLE CLEAR SPACE
- 60" DIA. ACCESSIBLE CLEAR SPACE
- A101A — SCHEDULED DOOR, REFER TO SERIES 8 & A8.1 FOR DOOR DETAILS
- AA1** — WALL TYPES, REF SHEETS AX7.1 FOR WALL TYPES
- TL** — FINISH MATERIALS, REF TO FINISH SCHEDULE A9.1

NOTE:
1. PROVIDE ROOM IDENTIFICATION SIGN AT EVERY DOOR PER SIGNAGE SCHEDULE REF A2.1
   REF SIGN SCHEDULE ON 1/AX5.1
2. REF DOOR SCHEDULE TO A8.1
3. PROVIDE BACKING FOR ALL TOILET ROOM PLUMBING FIXTURES AND ACCESSORIES REF 2/AX7.5
4. PROVIDE COPPER FREE BACKING U.N.O.
5. REF FIXTURE MOUNTING SCHEDULE ON 4/AX5.2

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CLIENT LOGO

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

INTERIOR ELEVS AND ENLARGED PLANS

A5.4

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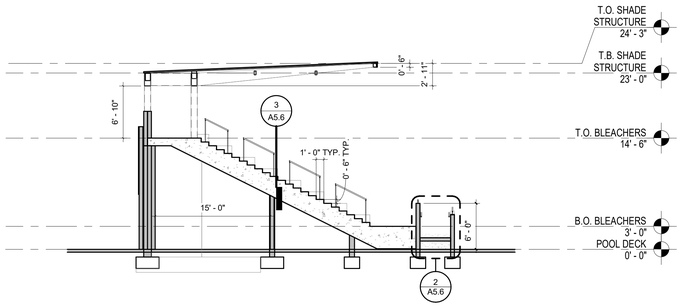
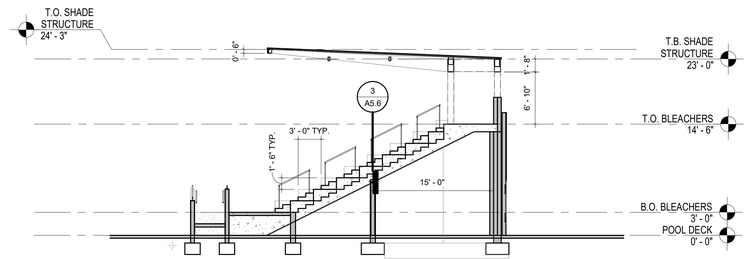
BLEACHER SECTIONS AND ELEVATIONS
A5.5
FOR BLUEBEAM LABELING/OCR:

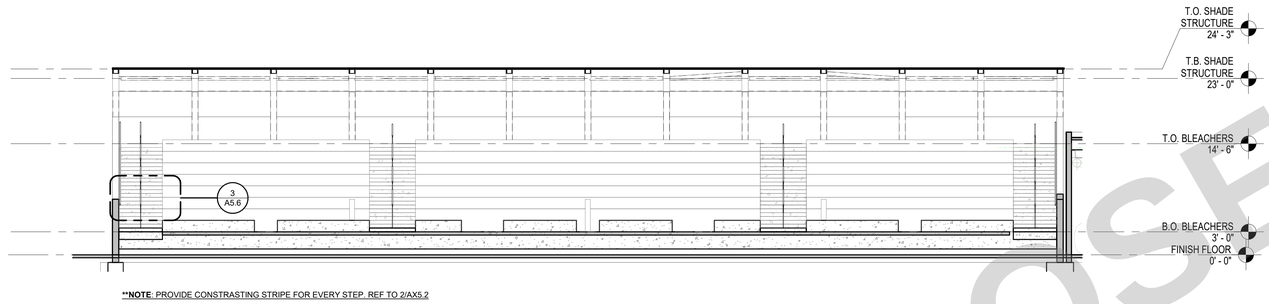
0"
1"



BLEACHER CROSS SECTION 2 | 1/8" = 1'-0" | 2

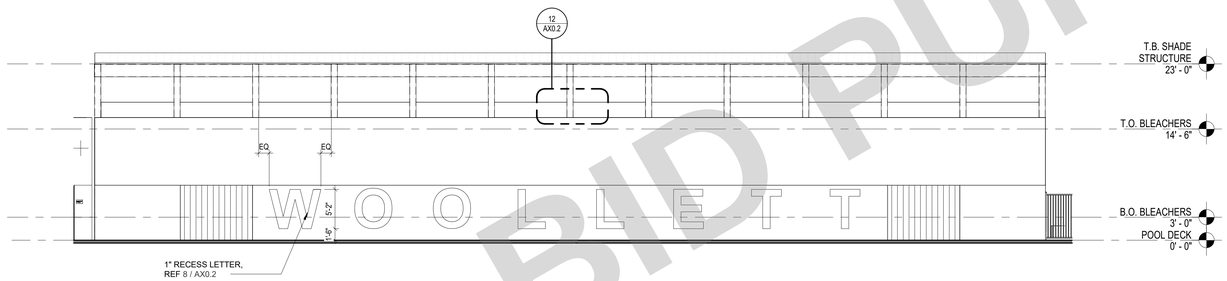


BLEACHER CROSS SECTION 1 | 1/8" = 1'-0" | 1

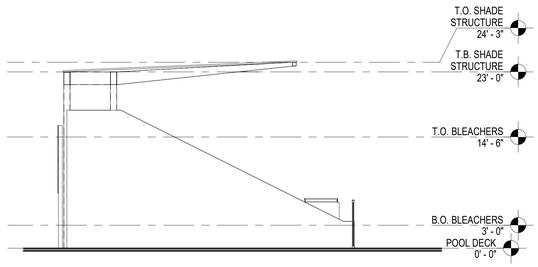


**NOTE: PROVIDE CONSTRASTING STRIPE FOR EVERY STEP. REF TO 2/AX5.2

BLEACHER LONGITUDINAL SECTION | 1/8" = 1'-0" | 3



EAST ELEVATION | 1/8" = 1'-0" | 5



NORTH ELEVATION | 1/8" = 1'-0" | 4

REFERENCE NOTES

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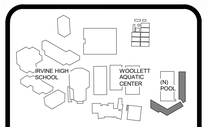

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
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STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

BLEACHER SECTIONS AND ELEVATIONS

A5.5

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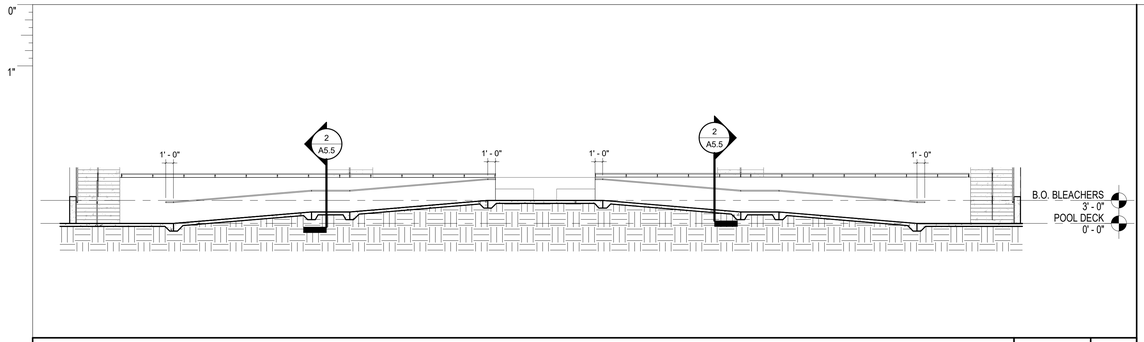
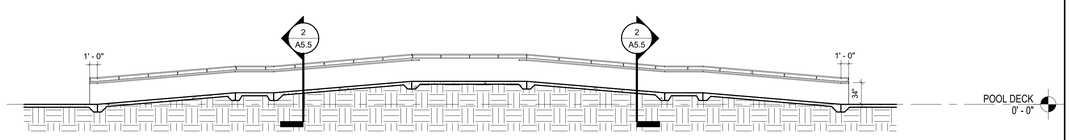
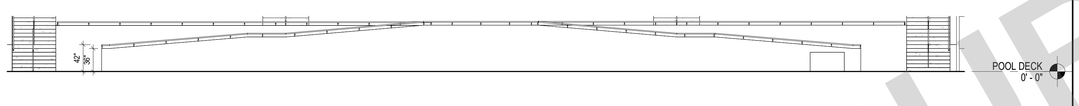
ENLARGED STAIR AND RAMP PLAN AND SECTIONS
A5.6
FOR BLUEBEAM LABELING/OCR:



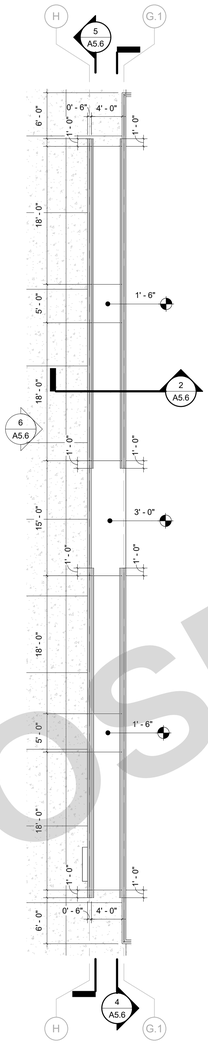
BLEACHER RAMP LONGITUDINAL SECTION 1 | 1/8" = 1'-0" | 4



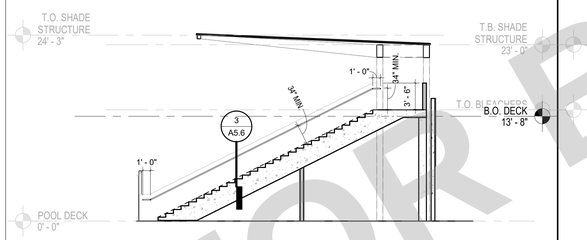
BLEACHER RAMP LONGITUDINAL SECTION 2 | 1/8" = 1'-0" | 5



BLEACHER RAMP ELEVATION | 1/8" = 1'-0" | 6

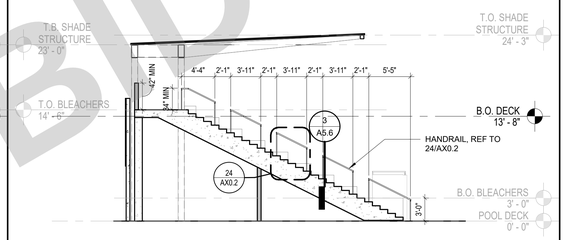


BLEACHER RAMP PLAN | 1/8" = 1'-0" | 1



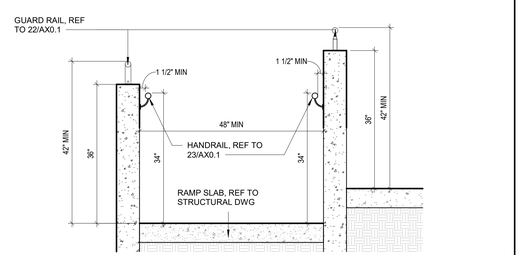
NOTE: PROVIDE STRIPE AT EVERY TREAD PER CBC 11B-504.4.1. REF 2/AX5.2

BLEACHER STAIR @ WALL MOUNTED | 1/8" = 1'-0" | 8

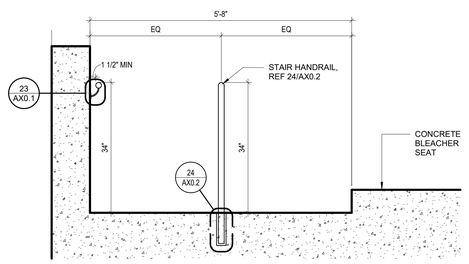


NOTE: PROVIDE STRIPE AT EVERY TREAD PER CBC 11B-504.4.1. REF 2/AX5.2

BLEACHER STAIR @ FLOOR MOUNTED | 1/8" = 1'-0" | 7



BLEACHER RAMP CROSS SECTION | 3/4" = 1'-0" | 2



STAIR SECTION @ BLEACHER | 3/4" = 1'-0" | 3

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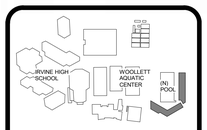
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
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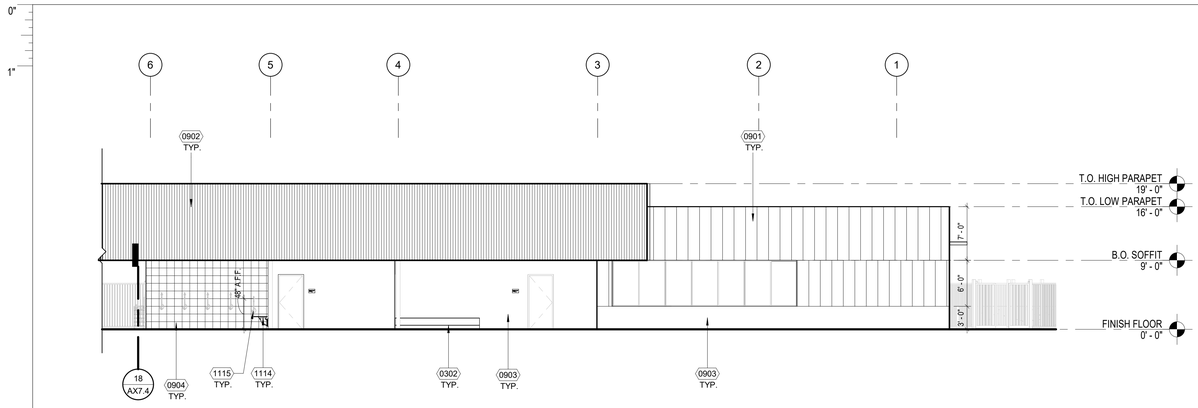
BID DOCUMENTS
BUILDING NUMBER

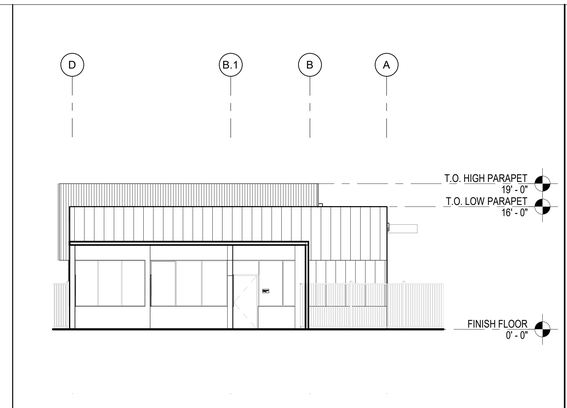
ENLARGED STAIR AND RAMP PLAN AND SECTIONS

A5.6

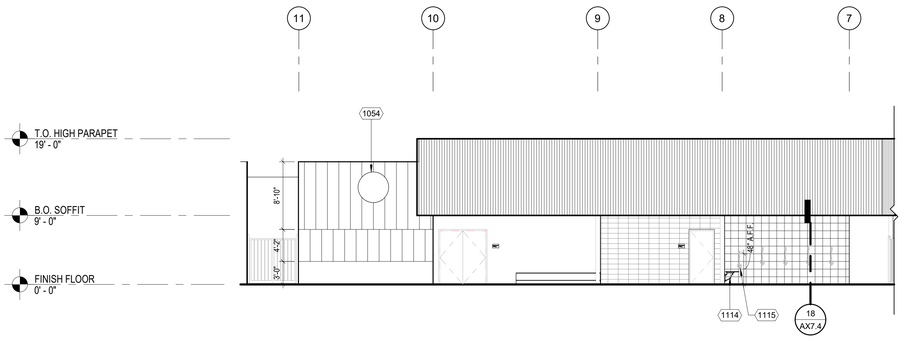
EXTERIOR ELEVATIONS
A5.7
FOR BLUEBEAM LABELING/OCR:



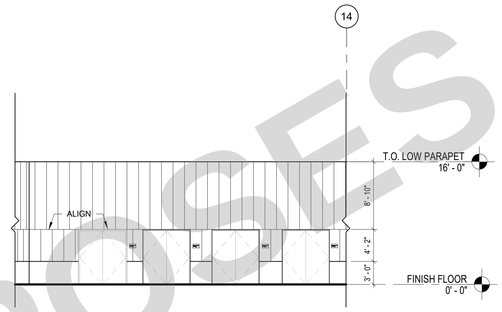
ELEVATION - ENTRY (LEFT) | 1/8" = 1'-0" | 5



ELEVATION - TRAINING ROOM | 1/8" = 1'-0" | 1

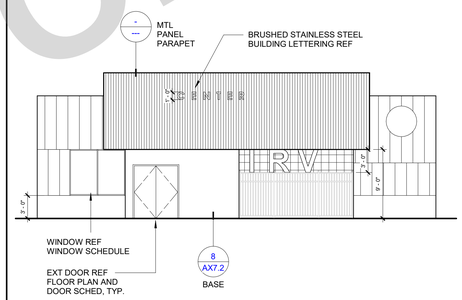


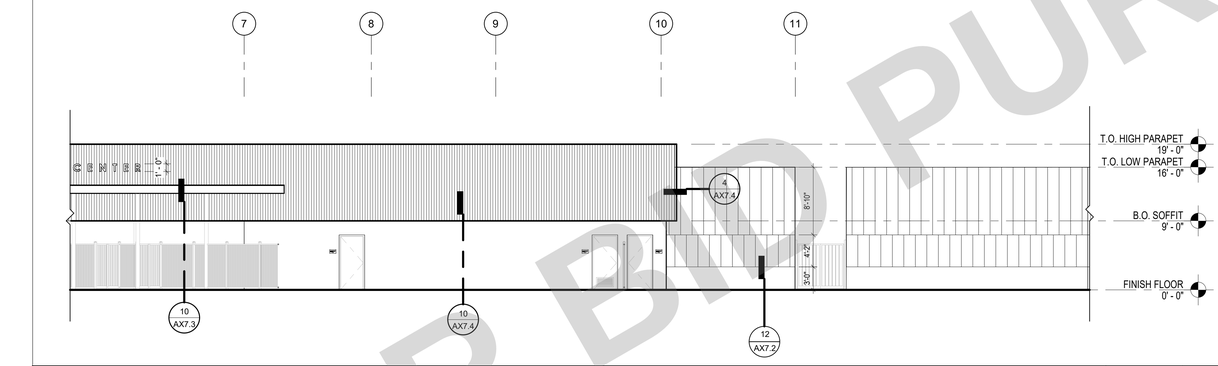
ELEVATION - ENTRY (RIGHT) | 1/8" = 1'-0" | 6



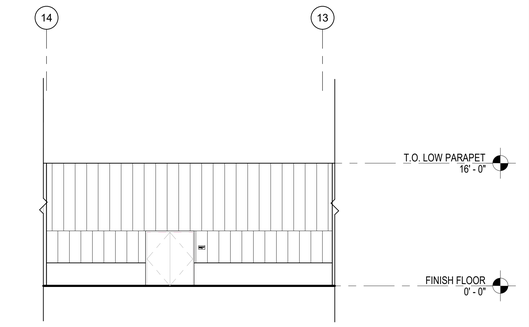
ELEVATION - PUMP EQUIPMENT (EAST) | 1/8" = 1'-0" | 2

ALL MATERIALS, COLORS AND CONTROL JOINTS SHALL BE ASSUMED TO WRAP TO A POINT OF COMPLETION AROUND ANY PORTION OF THE ELEVATIONS NOT SHOWN IN THE FRONTAL VIEW

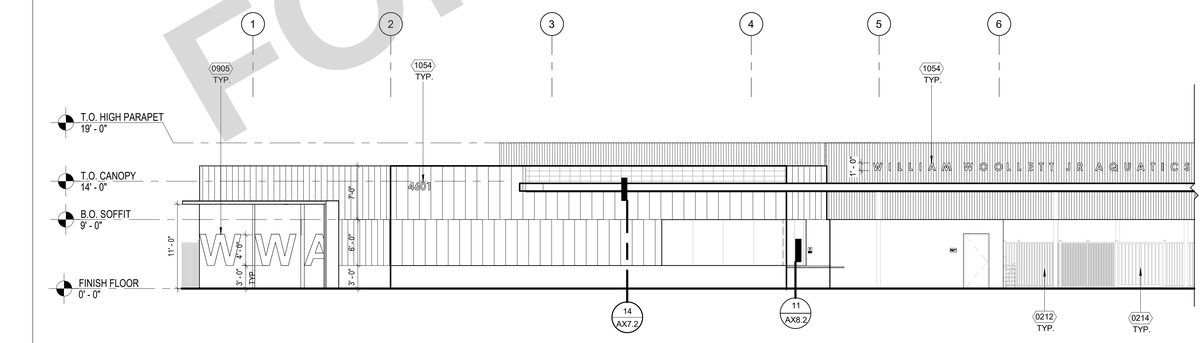




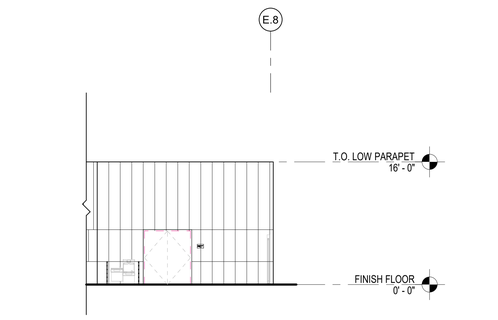
ELEVATION - SPLASH PAD | 1/8" = 1'-0" | 7



ELEVATION - PUMP EQUIPMENT (WEST) | 1/8" = 1'-0" | 3



ELEVATION - ENTRY | 1/8" = 1'-0" | 8



ELEVATION - PUMP EQUIPMENT (NORTH EAST) | 1/8" = 1'-0" | 4

REFERENCE NOTES

KEYNOTE	DESCRIPTION
0212	(N) 8' MAX ORNAMENT FENCE. REF DET 3/AX0.2
0214	(N) 8' TS GATE REF SITE PLAN AND GATE SCHEDULE
0302	(N) CAST IN PLACE CONCRETE SEATWALL AT BUILDING, TYP. REF 4/AX.01
0901	CERACLAD FIBER CEMENT CLADDING WALL FINISH REF
0902	METAL WALL PANEL TYPE 1 REF AX7.1
0903	PAINTED FIBER CEMENT WALL REF 2/AX7.2
0904	CERAMIC TILE WALL REF
0905	PAINTED WALL LETTERING IN ARIAL FONT
1054	STAINLESS STEEL BUILDING LETTERING REF 20/AX4.1
1114	ADA SHOWER BENCH, REF DET 16/AX5.2
1115	ADA SHOWER, REF DET 24/AX5.2

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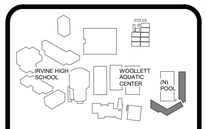

DISCIPLINE
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CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

EXTERIOR ELEVATIONS

A5.7

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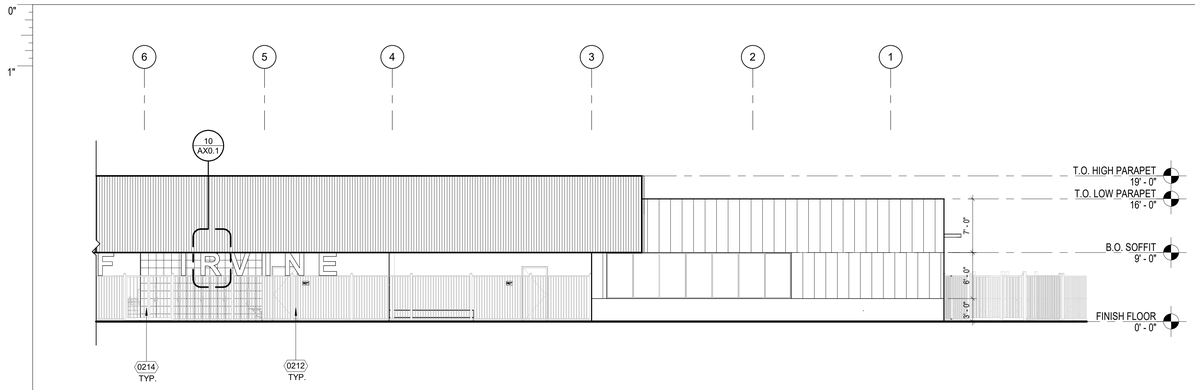
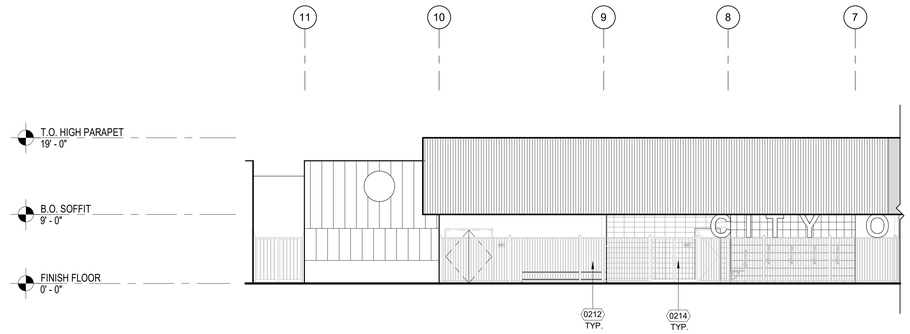
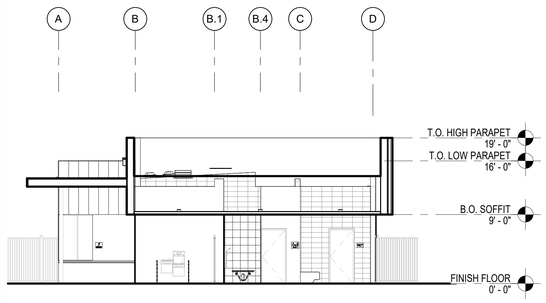
EXTERIOR ELEVATIONS
A5.8
FOR BLUEBEAM LABELING/OCR:



ELEVATION - ENTRY FENCE (LEFT) | 1/8" = 1'-0" | 1

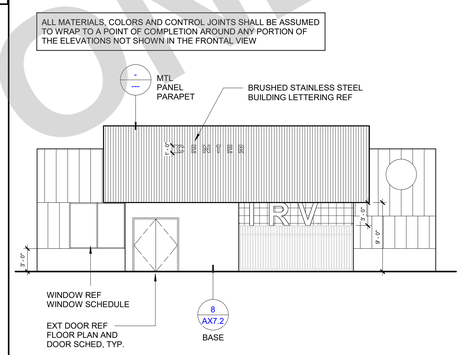


ELEVATION - ENTRY FENCE (RIGHT) | 1/8" = 1'-0" | 2



ELEVATION - CUSTODIAN (SOUTHWEST) | 1/8" = 1'-0" | 3

ALL MATERIALS, COLORS AND CONTROL JOINTS SHALL BE ASSUMED TO WRAP TO A POINT OF COMPLETION AROUND ANY PORTION OF THE ELEVATIONS NOT SHOWN IN THE FRONTAL VIEW



REFERENCE NOTES

KEYNOTE	DESCRIPTION
0212	(N) 8' MAX ORNAMENT FENCE. REF DET 3/AX0.2
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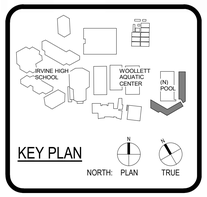

DISCIPLINE

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CITY OF IRVINE

DATE	PROJECT NUMBER
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EXTERIOR ELEVATIONS

A5.8

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BUILDING SECTIONS
A7.1
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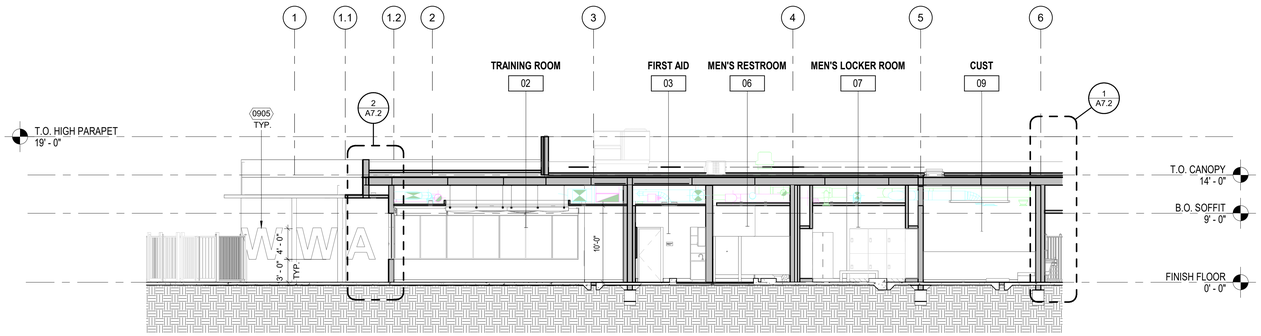
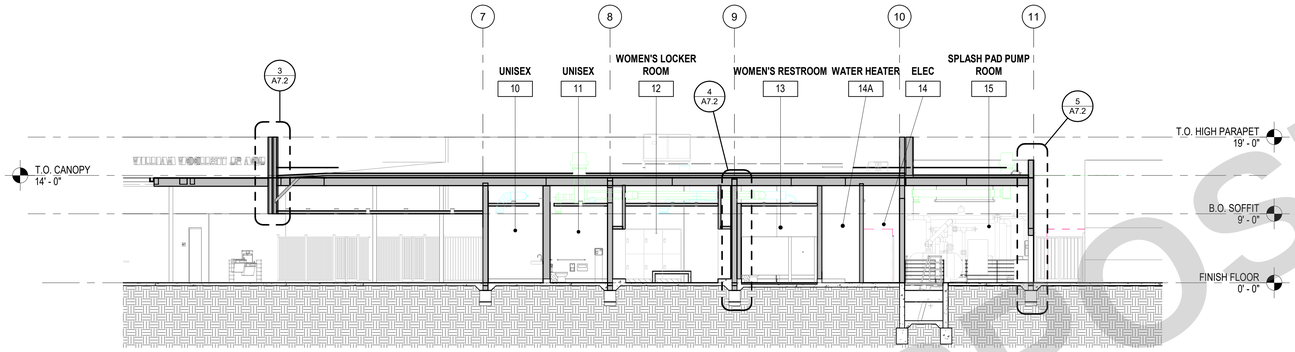


SECTION 1 | 1/8" = 1'-0" | 1



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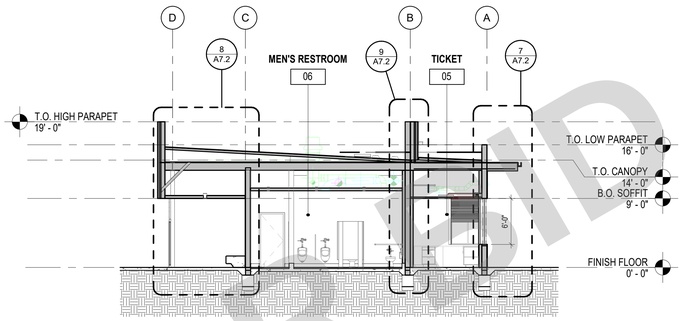

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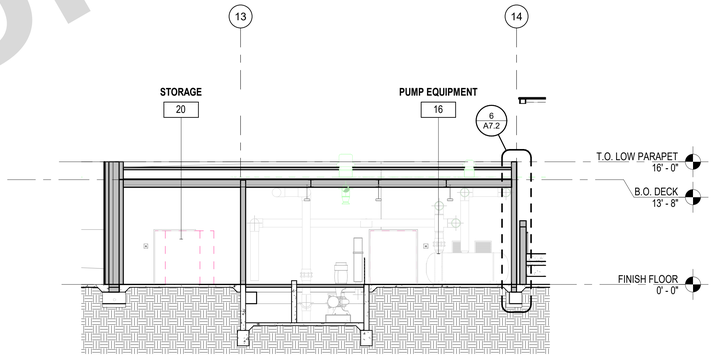
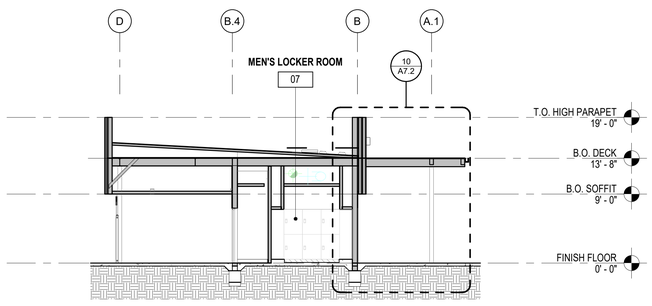


SECTION 3 | 1/8" = 1'-0" | 3



SECTION 5 | 1/8" = 1'-0" | 5

REFERENCE NOTES

KEYNOTE	DESCRIPTION
0905	PAINTED WALL LETTERING IN ARIAL FONT

FOR BID PURPOSES ONLY

PBK

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PBK, Inc.
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Anaheim
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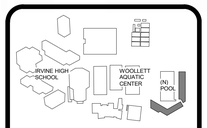
4601 Walnut Ave, Irvine, CA 92604

DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE 1971



DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

BUILDING SECTIONS

A7.1

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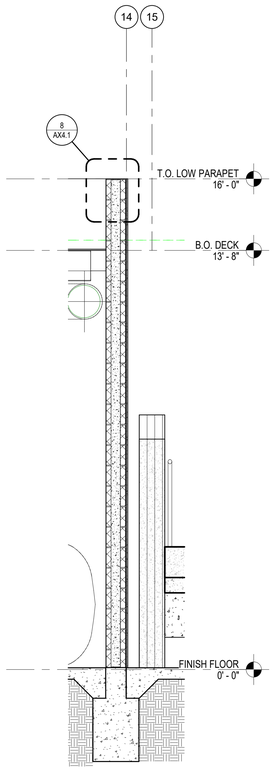
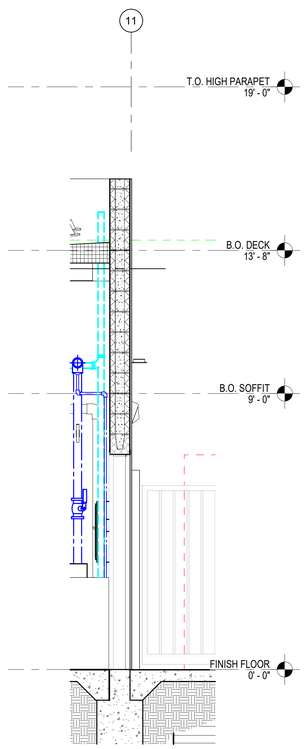
WALL SECTIONS
A7.2
FOR BLUEBEAM LABELING/OCR:



SECTION 3 - WALL SECTION 1 | 1/2" = 1'-0" | 6



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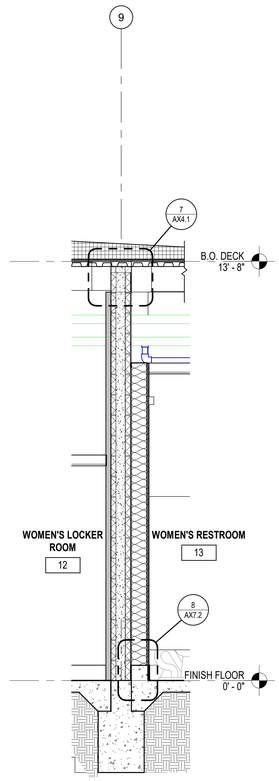

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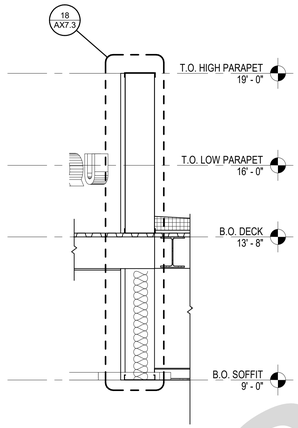

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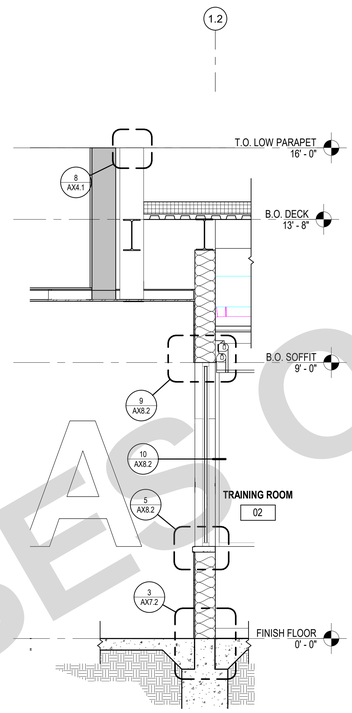

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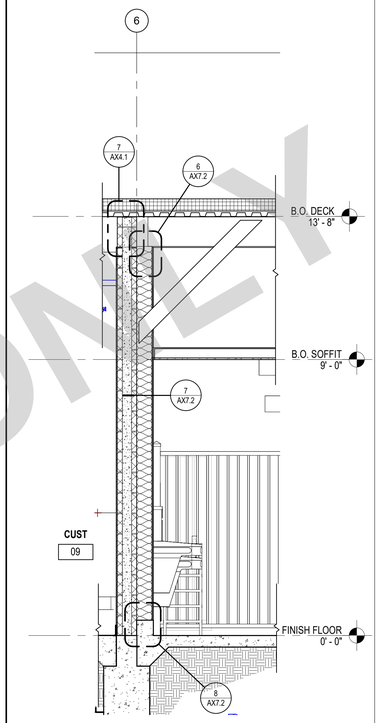
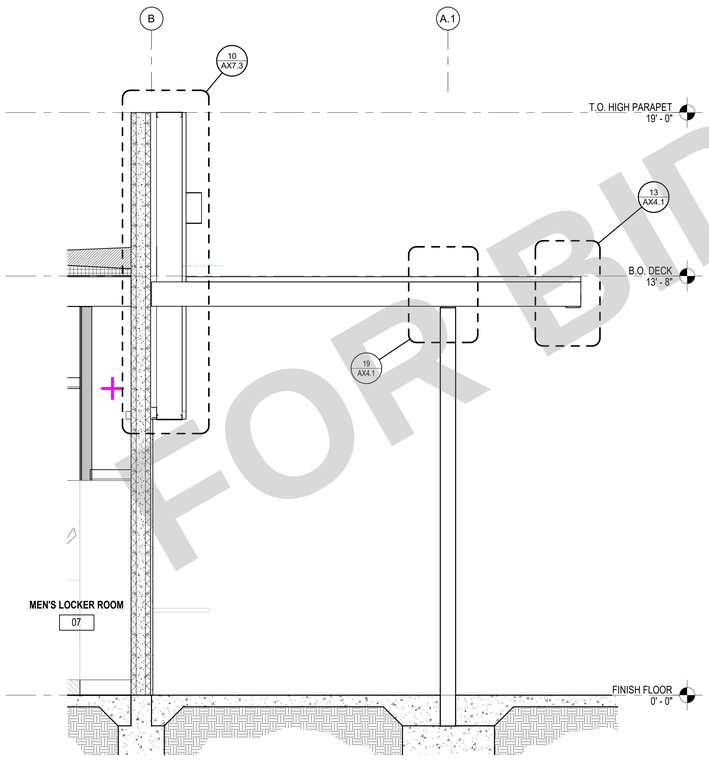
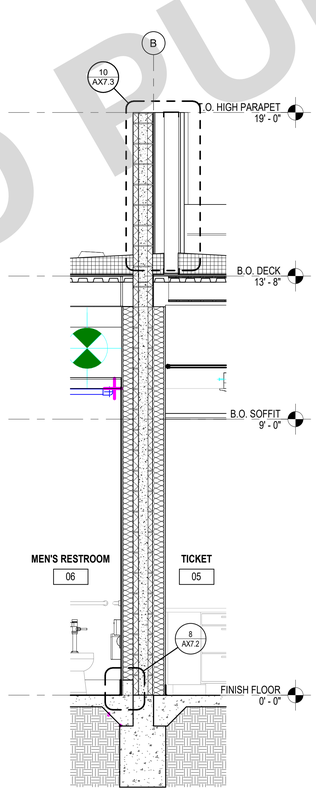


SECTION 1 - WALL SECTION 1 | 1/2" = 1'-0" | 1



CANOPY DETAIL | 1/2" = 1'-0" | 10



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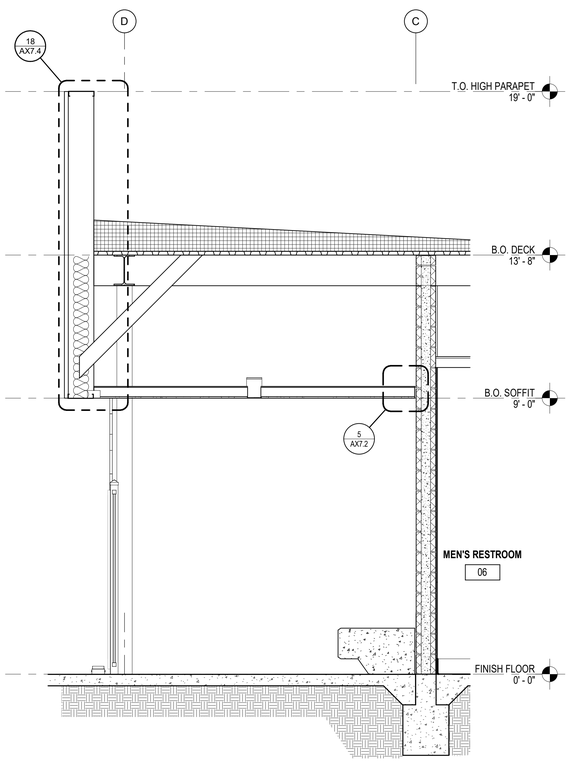

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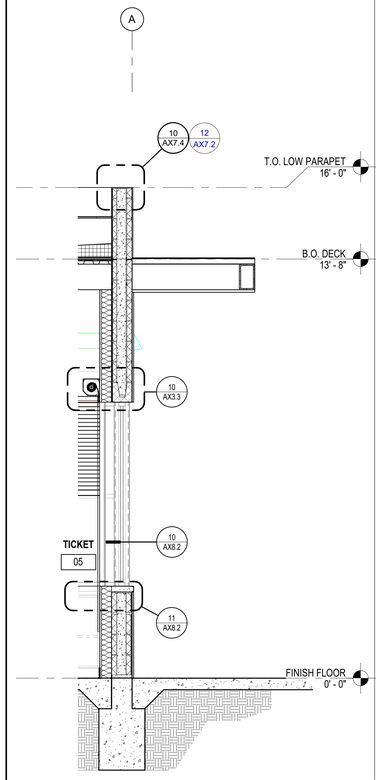

WALL SECTION | 1/2" = 1'-0" | 7

FOR BID PURPOSES ONLY

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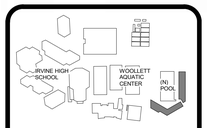
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

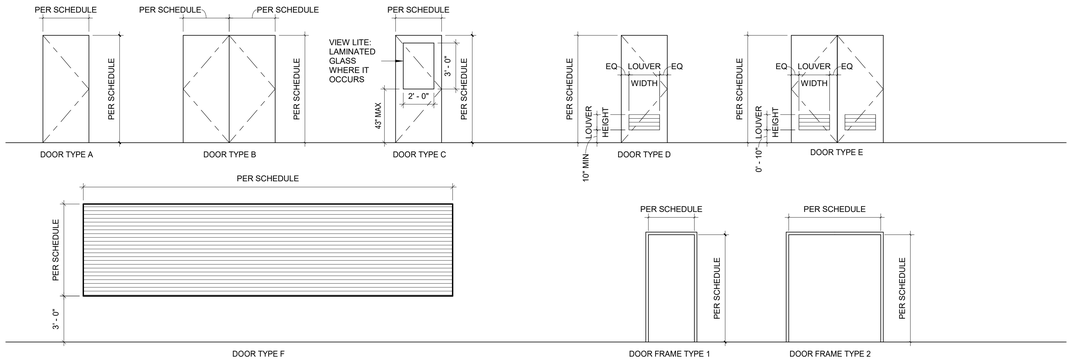
BUILDING NUMBER

WALL SECTIONS

A7.2

DOOR AND FRAME SCHEDULE
A8.1
FOR BLUEBEAM LABELING/OCR:

DOOR & FRAME TYPES



NOTE: ALL GLAZING TO BE (N) TEMPERED GLASS WITH 1" INSULATED GLASS.

SCHEDULE DOOR

DOOR MARK	DOOR									FRAME			DETAILS			HDWR GROUP	PANIC HARDWARE	SEC HARDWARE	REMARKS
	NOMINAL SIZE			MATERIAL	TYPE	GLASS	FINISH	LOUVER		MATERIAL	TYPE	FINISH	HEAD	JAMB	SILL				
	W	HT	THK					W	HT										
A01	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1		01			
A02A	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8C/AX8.1	02	Y	Y	
A02B	3' - 0"	7' - 0"	1 3/4"	HM	A		ANC			ALUM	1	ANC	14/AX8.1	9 & 13/AX8.1	8F/AX8.1	02	Y	Y	
A03A	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8C/AX8.1	03		Y	
A03B	3' - 0"	7' - 0"	1 3/4"	HM	C	T	PNT			HM	1	PNT	5/AX8.1	5/AX8.1		01			
A05	3' - 0"	7' - 0"	1 3/4"	HM	C	T	PNT			HM	1	PNT	5/AX8.1	5/AX8.1		05			
A05B	15' - 10"	6' - 7 11/16"		STL	F					STL			10/AX3.3						ROLLER SHUTTER
A06	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8D/AX8.1	06		Y	
A07	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8D/AX8.1	07	Y	Y	
A09	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	08		Y	
A10	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8D/AX8.1	09		Y	
A11	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8D/AX8.1	09		Y	
A12	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8D/AX8.1	07	Y	Y	
A13	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8D/AX8.1	06		Y	
A14A	6' - 0"	7' - 0"	1 3/4"	HM	B		PNT			HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	10	Y	Y	
A14B	3' - 0"	7' - 0"	1 3/4"	HM	A		PNT			HM	1	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	11	Y	Y	
A14C	3' - 0"	7' - 0"	1 3/4"	HM	D		PNT	2'-0"	1'-0"	HM	1	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	13		Y	
A15	6' - 0"	7' - 0"	1 3/4"	HM	E		PNT	2'-0"	1'-0"	HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	12		Y	
A16A	6' - 0"	7' - 0"	1 3/4"	HM	E		PNT	2'-0"	5'-0"	HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	12		Y	
A17	6' - 0"	7' - 0"	1 3/4"	HM	E		PNT	2'-0"	5'-0"	HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	12		Y	
A18	6' - 0"	7' - 0"	1 3/4"	HM	E		PNT	2'-0"	5'-0"	HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	12		Y	
A19	6' - 0"	7' - 0"	1 3/4"	HM	E		PNT	2'-0"	5'-0"	HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	12		Y	
A20	6' - 0"	7' - 0"	1 3/4"	HM	E		PNT	2'-0"	5'-0"	HM	2	PNT	5/AX8.1	5/AX8.1	8F/AX8.1	12		Y	

GATE SCHEDULE

GATE MARK	GATE					FRAME		HDWE GROUP	PANIC	REMARKS
	NOMINAL SIZE			MATERIAL	TYPE	MATERIAL	DETAILS			
	WIDTH PER LEAF	HT	THK				OTHER			
GA-01	8' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	7/AX0.2	14		
GA-02	6' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	1/AX0.2	15	Y	
GA-04	6' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	1/AX0.2	15	Y	
GA-05	6' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	1/AX0.2	15	Y	
GA-06	6' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	1/AX0.2	15	Y	
GA-07	6' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	1/AX0.2	15	Y	
GA-08	6' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	1/AX0.2	15	Y	
GA-09	8' - 0"	7' - 0"	1 1/2"	STL	DOUBLE	STL	7/AX0.2	14		
GA-10	20' - 0"	7' - 0"	1 1/2"	STL	SLIDING	STL	20/AX0.1			

DOOR AND FRAME COLUMN REFERENCE GUIDE

1. LOCATION: LOCATION OF DOOR AND FRAME IN BUILDING COMPLEX, I.E., FIRST FLOOR, THIRD FLOOR, AREA NO.2, BUILDING G, ETC.
2. DOOR MARK: SPECIFIC NUMBER ASSIGNED TO INDIVIDUAL DOOR.
3. NOMINAL DOOR SIZE: DESIGNATES NOMINAL WIDTH AND HEIGHT OF DOOR IN FEET AND INCHES. DOOR WIDTH IS GIVEN PER LEAF. REFER TO FLOOR PLAN FOR PAIRS OF DOORS. THICKNESS OF DOOR IS GIVEN IN INCHES.
4. DOOR MATERIAL: INDICATES MATERIAL FROM WHICH DOOR IS CONSTRUCTED I.E., HM-HOLLOW METAL, WD-WOOD, AL-ALUMINUM, TG - TEMPERED GLASS, LAM - LAMINATED GLASS, ETC.
5. DOOR TYPE: ALPHANUMERICAL DESIGNATION OF DOOR TYPE AS SHOWN IN ELEVATION. DESIGNATIONS ARE DERIVED FROM THOSE IDENTIFIED BY THE STEEL DOOR INSTITUTE PUBLICATION SDI-106 I.E., F-FLUSH DOOR, HG-HALF GLASS DOOR, FG-FULL GLASS DOOR, NV- NARROW VISION LITE DOOR, ETC.
6. GLASS: DESIGNATES TYPE OF GLASS TO BE USED IN DOOR, I.E. TGC- TEMPERED GLASS CLEAR, TGT-TEMPERED GLASS TINTED, WG-WIRE GLASS, LAM - LAMINATED GLASS, INSUL- INSULATED GLASS, ETC.
7. DOOR DETAIL: REFERENCE NUMBER FOR DOOR CONSTRUCTION DETAIL SUCH AS DUTCH DOOR, SHELF, TRANSOM PANEL, ETC.
8. DOOR LOUVER: INDICATES WIDTH AND HEIGHT OF LOUVER REQUIRED IN DOOR. LOUVER SIZE IS GIVEN IN FEET AND INCHES.
9. FRAME MATERIAL: INDICATES MATERIAL FROM WHICH FRAME IS CONSTRUCTED, I.E., MET-METAL, WD-WOOD, AL-ALUMINUM, SST - STAINLESS STEEL, ETC.
10. FRAME TYPE: NUMERICAL DESIGNATION OF FRAME TYPE AS SHOWN IN FRAME TYPE ELEVATION.
11. GLASS: DESIGNATES TYPE OF GLASS TO BE USED IN FRAME, I.E., TGC-TEMPERED GLASS CLEAR, TGT-TEMPERED GLASS TINTED, WG-WIRE GLASS, LAM-LAMINATED GLASS, INSUL-INSULATED GLASS, ETC.
12. FRAME DETAILS: REFERENCE NUMBERS FOR FRAME SECTIONS AS CONDITIONS EXIST AT THE WALLS OR JAMBS OF DOORS WITH ANY UNUSUAL DETAILS REFERENCED UNDER SEPARATE HEADING 12d.
13. HARDWARE GROUP: NUMERICAL DESIGNATION OF HARDWARE GROUPING TO BE APPLIED TO DOOR. REFER TO SPECIFICATIONS FOR DESCRIPTION OF HARDWARE CONTAINED WITHIN GROUPING.
14. DOOR AND FRAME FIRE RATING: DESIGNATES ALPHABETICAL FIRE RESISTANCE RATING CLASSIFICATION LABEL REQUIRED FOR DOOR AND FRAME WITH TIME PERIOD REQUIRED IN HOURS.
15. REMARKS: DESIGNATES OR REFERENCES SPECIAL, UNUSUAL OR ABSTRACT CONDITIONS WHICH EXIST AND ARE NOT COVERED IN SCHEDULE ITEMS 1 THRU 15. REFER TO REMARKS REFERENCE SCHEDULE FOR NUMERICAL DESIGNATION.
16. FINISH ABBREVIATION: PNT - PAINT, ANC - ANODIZED CLEAR

REMARKS REFERENCE SCHEDULE

1. INSERT REMARKS HERE

FOR BID PURPOSES ONLY

PBK
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949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604

DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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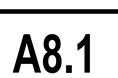

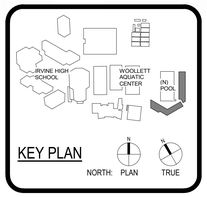

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

DOOR AND FRAME SCHEDULE

A8.1

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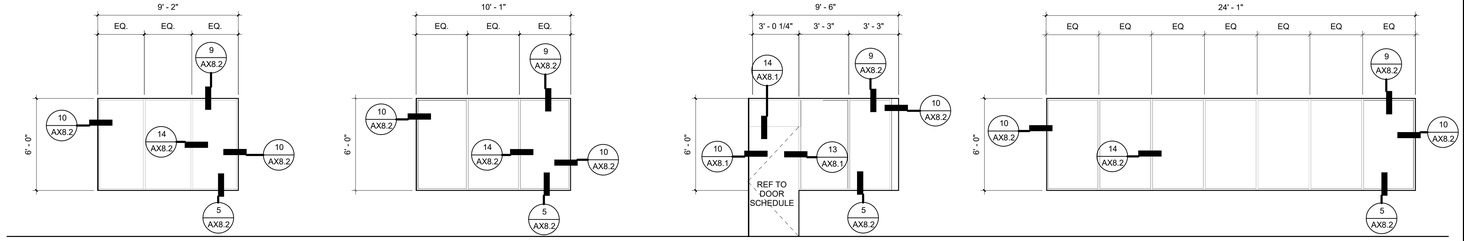
WINDOW SCHEDULE
A8.2
FOR BLUEBEAM LABELING/OCR:

0"
1"



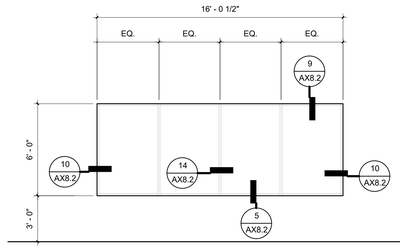
W-S-1

W-S-2

W-S-3

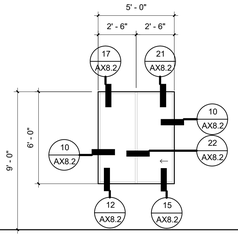
W-S-4

NOTE: ALL GLAZING TO BE (N) TEMPERED GLASS WITH 1" INSULATED GLASS.



W-S-5

NOTE: ALL GLAZING TO BE (N) TEMPERED GLASS WITH 1" INSULATED GLASS.



W-S-6

NOTE: OPERABLE WINDOW PUSH FORCE CAN'T EXCEED 5 LBS.

WINDOW SCHEDULE COLUMN REFERENCE GUIDE

1. SYMBOL MARK: ALPHABETICAL DESIGNATION ASSIGNED TO SPECIFIC WINDOW AS SHOWN IN ELEVATION.
2. SIZE: OVERALL WIDTH AND HEIGHT OF WINDOW IN FEET AND INCHES.
3. MATERIAL: INDICATES MATERIAL FROM WHICH FRAME IS CONSTRUCTED, I.E., HM - HOLLOW METAL, WD - WOOD, AL - ALUMINUM, ETC.
4. GLASS: DESIGNATES TYPE OF GLASS TO BE INSTALLED IN WINDOW, I.E., TG - TEMPERED GLASS, LAM - LAMINATED GLASS, WGL - WIRE GLASS, INSUL - INSULATING GLASS, ETC.
5. DETAILS: REFERENCE NUMBERS FOR SECTIONS AS CONDITIONS EXIST AT THE WALL, SILL, OR HEAD OF FRAMES WITH ANY UNUSUAL DETAIL REFERENCED UNDER SEPARATE HEADING 5d.
6. WINDOW FRAME FIRE RATING: DESIGNATES ALPHABETICAL FIRE RESISTANCE RATING CLASSIFICATION LABEL REQUIRED FOR WINDOW FRAME WITH TIME PERIOD REQUIRED IN HOURS.
7. REMARKS: REFERENCES SPECIAL, UNUSUAL OR ABSTRACT CONDITIONS WHICH EXIST AND ARE NOT COVERED IN SCHEDULE ITEMS 1 THRU 6 REFER TO REMARKS REFERENCE SCHEDULE FOR NUMERICAL DESIGNATIONS.

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DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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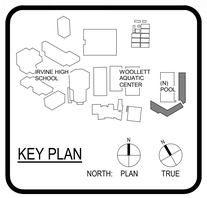

DISCIPLINE

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CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

WINDOW SCHEDULE

A8.2

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FINISH SCHEDULE
A9.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

INTERIOR FINISH SCHEDULE - BASIS OF DESIGN

KEY NAME	DESCRIPTION	LOCATION	MANUFACTURER	STYLE	COLOR	FINISH TYPE	SIZE	COMMENTS
CEILING								
ACT1	ACOUSTIC CEILING	OFFICE, TICKET ROOM	ARMSTRONG	ULTIMA TEGULAR	WHITE		24 x 48	EDGE: BEVELED TEGULAR 15/16
ACT2	ACOUSTIC CEILING	TRAINING ROOM	ARMSTRONG	CIRRUS SECOND LOOK	WHITE		24 x 48	PATTERN III, EDGE: BEVELED TEGULAR 15/16
CL1	CEILING BAFFLE	TRAINING ROOM	3FORM	EDGE MODULAR CEILING FEATURE CONTOUR	VARIA: GRADIENT OF LAGO B47, SKY, AND VAPOR W05	SANDSTONE F01		
FLOOR								
B1	4" RUBBER BASE	OFFICE, TICKET ROOM, TRAINING ROOM, AND B.O.H. SPACES U.N.O.	TARKETT	TRADITIONAL WALL BASE	80 FAWN		4"	SEE A9.2 FOR LOCATIONS
B2	6" EPOXY BASE	LOCKER ROOMS, CHLORINE, CO2, AND ACID ROOMS.	DEX-O-TEX	TEK-CRETE SLCQ, DECOR FLOR BROADCAST	DFS-B-05		6"	SEE A9.2 FOR LOCATIONS. NO EPOXY BASE AT RESTROOMS
B3	6" EPOXY BASE	FIRST AID	DEX-O-TEX	TEK-CRETE SLCQ, DECOR FLOR BROADCAST	DFS-B-04			SEE A9.2 FOR LOCATIONS
EP1	EPOXY	LOCKER ROOMS, RESTROOMS, CHLORINE, CO2, AND ACID ROOMS.	DEX-O-TEX	TEK-CRETE SLCQ, DECOR FLOR BROADCAST	DFS-B-05			SEE A9.2 FOR LOCATIONS
EP2	EPOXY	FIRST AID	DEX-O-TEX	TEK-CRETE SLCQ, DECOR FLOR BROADCAST	DFS-B-04			SEE A9.2 FOR LOCATIONS
LVT1	LUXURY VINYL TILE	OFFICE, TICKET ROOM, TRAINING ROOM	SHAW CONTRACT	BRANCHING OUT 5mm ACOUSTIC	PINECONE OAK 56720		6"x48"	PATTERN: STAGGER
LAMINATE								
PL1	PARTITION	RESTROOMS	BOBRICK/WILSON ART		BEIGEWOOD 7850-60	MATTE		SEE ACCESSORY SCHEDULE ON A5.1
PL2	CUSTOM LOCKERS	LOCKER ROOMS	TRESPA	TOPLAB	WINTER GREY VV158	TS - SATIN		
PL3	CASEWORK	TICKET ROOM, FIRST AID	TRESPA	TOPLAB	POWDER BLUE VV105	TS - SATIN		
PL4	TRAINING ROOM DOORS	TRAINING ROOM	WILSONART		BEIGEWOOD 7850-60	MATTE		REFER TO A8.1 FOR LOCATIONS
SOLID SURFACE								
SS1	SOLID SURFACE COUNTER	TICKET ROOM, FIRST AID, TRAINING ROOM	FORMICA		758 BIANCO MINERAL			
SS2	SOLID SURFACE BENCHES	LOCKER ROOMS	DURAT		230 - MINT GREEN W/CLEAR			
SS3	SOLID SURFACE COUNTER	BATHROOMS	KRION		BIANCO CLOUD L109			INTEGRATED KRION BASIC B823 SINK, SAME COLOR AS COUNTER
WALL								
AP1	ACOUSTIC WALL PANEL, FABRIC WRAPPED	TRAINING ROOM	CARNEGIE	XOREL SEASPRAY	6315W: 3			SEE A5.3 FOR SIZES
CMU1	CONCRETE MASONRY UNIT	FIELD						REFER TO SPECS
FRP1	STANDARD FRP	CUST/RISER ROOM	MARLITE		S490N LIGHT GREY	SMOOTH		4' HIGH
MTL2	WALL TILE TRIM	EXPOSED WALL TILE EDGES	SCHULTER SYSTEMS	JOLLY	STAINLESS STEEL VA2	BRUSHED STAINLESS STEEL		
PT1	BASE PAINT	FIELD	DUNN EDWARDS		SWISS COFFEE DEW341			
PT2	ACCENT PAINT	TRAINING ROOM	DUNN EDWARDS		JANUARY FROST			
TL1	PORCELAIN TILE	RESTROOM ACCENT WALLS	BEDROSIANS	CHROMA	SKY	GLOSSY	2"x18"	SEE A5.1 FOR LOCATIONS AND PATTERN
TL2	PORCELAIN TILE	RESTROOM ACCENT WALLS	BEDROSIANS	CHROMA	BLUE	GLOSSY	2"x18"	SEE A5.1 FOR LOCATIONS AND PATTERN
TL3	CERAMIC WALL TILE	LOCKER ROOMS	CROSSVILLE	CURSIVE	SOFT TEAL	GLOSS	3"x12"	SEE A9.2 FOR LOCATIONS
TL4	PORCELAIN TILE	RESTROOM WALL TILE	MLW SURFACES	ALLOY	PLATINUM		20"x40"	SEE A5.1 FOR LOCATIONS
WC1	WALLCOVERING	FIRST AID	KOROSEAL	LINO	BLEACHED LN21-93			SEE A9.2 FOR LOCATIONS
WP1	CORNER GUARDS	FIRST AID			BRUSHED STAINLESS STEEL			OWNER FURNISHED, CONTRACTOR INSTALLED
WSF1	WINDOW SHADE FABRIC	TRAINING ROOM	TBD		TBD			

EXTERIOR FINISH SCHEDULE - BASIS OF DESIGN

KEY NAME	DESCRIPTION	LOCATION	MANUFACTURER	STYLE	COLOR	FINISH TYPE	SIZE	COMMENTS
EXTERIOR FINISH								
CP1	CEMETITIOUS PANEL	REFER TO EXTERIOR ELEVATIONS	CERACLAD	WOOD GRAIN, VERTICAL STAGGERED BOND	BROWN HFH7522A			HPL PANEL: ALTERNATE
CT1	CERAMIC WALL TILE	NORTH FACADE, REFER TO EXTERIOR ELEVATIONS	KERADOM	SELF STYLE, HOME	NAVY		2.5"x10"	
EIFS-1	CEMENT PLASTER PAINT	SOUTH FACADE, REFER TO EXTERIOR ELEVATIONS			ALABASTER WHITE (SW 7008)			
EIFS-2	CEMENT PLASTER PAINT	NORTH FACADE, REFER TO EXTERIOR ELEVATIONS			MAJOR BLUE (SW 6795)			
EPT-1	EXTERIOR PAINT	SOUTH FACADE, REFER TO EXTERIOR ELEVATIONS			CHARCOAL GRAY (SW 7069)			
MTL-1	PERFORATED CORRUGATED PANEL W/ EMBEDDED LED	REFER TO EXTERIOR ELEVATIONS	HENDRICK ARCHITECTURAL	BWS240	BONE WHITE (26)			
GLAZING								
GL-1	INSULATED GLASS, GREEN TINTED							
GL-2	TEXTURED GLASS							
MISC.								
SIGN	CHANNEL SIGN W/EMBEDDED LED	REFER TO EXTERIOR ELEVATIONS						

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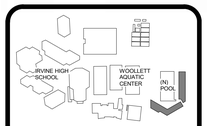

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

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FINISH SCHEDULE

A9.1

FINISH FLOOR PLAN
A9.2
FOR BLUEBEAM LABELING/OCR:

0"
1"

REFER TO SHEET AQ0.0 FOR
(N) 25 YD X 50 M POOL

UP

CHLORINE
19

EP1	N	S	E	W
B2	CMU1	CMU1	CMU1	CMU1

CHLORINE
18

EP1	N	S	E	W
B2	CMU1	CMU1	CMU1	CMU1

ACID
17

EP1	N	S	E	W
B2	CMU1	CMU1	CMU1	CMU1

PUMP EQUIPMENT
16

SC	N	S	E	W
B1	CMU1	CMU1	CMU1	CMU1

STORAGE
20

SC	N	S	E	W
B1	CMU1	CMU1	CMU1	CMU1

ELEC
14

SC	N	S	E	W
B1	CMU1	PT1	PT1	PT1
		CMU1		

WOMEN'S RESTROOM
13

EP1	N	S	E	W
B2	TL1/TL2	TL4	TL1/TL2	TL4

SPLASH PAD PUMP ROOM
15

SC	N	S	E	W
B1	CMU1	CMU1	CMU1	CMU1

WATER HEATER
14A

SC	N	S	E	W
B1	PT1	CMU1	PT1	PT1

STORAGE
01

LVT1	N	S	E	W
B1	PT1	PT1	PT1	PT1

FIRST AID
03

EP2	N	S	E	W
B3	WC1	WC1	WC1	WC1

MEN'S RESTROOM
06

EP1	N	S	E	W
B2	TL1/TL2	TL4	TL4	TL1/TL2

WOMEN'S LOCKER ROOM
12

EP1	N	S	E	W
B2	CMU1	PT1	TL3	TL3
			PT1	PT1

UNISEX
11

EP1	N	S	E	W
B2	TL4	TL4	TL4	TL1/TL2

UNISEX
10

EP1	N	S	E	W
B2	TL4	TL4	TL1/TL2	TL4

MEN'S LOCKER ROOM
07

EP1	N	S	E	W
B2	CMU1	PT1	TL3	TL3
			PT1	PT1

CUST
09

SC	N	S	E	W
B1	FRP1	CMU1	FRP1	CMU1
	CMU1		CMU1	

TRAINING ROOM
02

LVT1	N	S	E	W
B1	PT2	PT2	PT1	PT1
			AP1	

TICKET
05

LVT1	N	S	E	W
B1	PT1	PT1	PT1	PT1

PT2
AP1
TL1/TL2
TL3
FRP1

8' 4' 0' 8' 16'
SCALE : 1/8" = 1'-0"

FINISH FLOOR PLAN | 1/8" = 1'-0" | 1

FLOOR PLAN NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.
2. ALL FINISH MATERIALS SHALL MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE.
3. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.
4. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR FLOORING MATERIAL TRANSITIONS.
5. ALL FLOORING TRANSITIONS AT DOORS SHALL BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION, U.N.O.
6. FLOOR FINISH CHANGES SHALL HAVE THRESHOLD OR REDUCER STRIPS.
7. PAINT ALL HOLLOW METAL DOOR FRAMES TO MATCH ADJACENT WALL COLOR, U.N.O.
8. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS
9. PAINT ALL EXPOSED STRUCTURAL MEMBERS, STRUCTURAL DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS, ETC. TO MATCH ADJACENT SURFACES.
10. PAINT ALL NON-FACTORY FINISH EXPOSED METAL.
11. GYP-1 IS TYPICAL FOR ALL WALLS U.N.O.
12. PAINT ALL INTERIOR WALLS AND CEILINGS PT1 U.N.O.
13. PAINT ALL ELECTRICAL DEVICE COVERS PT1 U.N.O.
14. REFER TO FINISH SCHEDULE ON SHEET A9.1 FOR NEW FINISHES.

FLOOR PLAN LEGEND

- **SC** SEALED CONCRETE
- **LVT1** LUXURY VINYL TILE
- **EP1** EPOXY
- **EP2** EPOXY
- FINISH NAME — EXTENT OF ACCENT WALL FINISH

ROOM NAME
02 — ROOM NUMBER

FLOOR FINISH	LVT1	N	S	E	W	WALL LOCATION
WALL BASE	B1	PT2	PT2	PT1	PT1	WALL FINISH
				AP1		SECOND WALL FINISH

FOR THE PURPOSE OF CLARITY, "NORTH" WALL FINISHES ARE NOTED AS INDICATED BELOW.

N
W E
S

N E
W S

REFER TO INTERIOR ELEVATIONS & FINISH SCHEDULE FOR MORE INFORMATION ON EXACT MATERIAL LOCATIONS.

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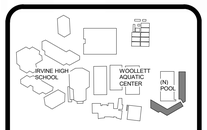

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
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FINISH FLOOR PLAN

A9.2

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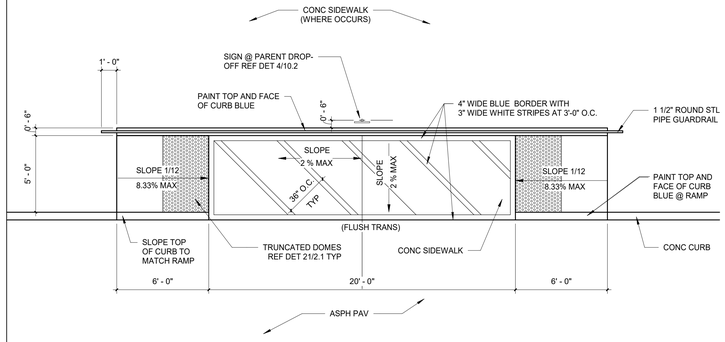
SITE DETAILS
AX0.1
FOR BLUEBEAM LABELING/OCR:

FIRE LANE SIGN:
BORDER 1/2"
MARGIN 1/4"
GAUGE .063

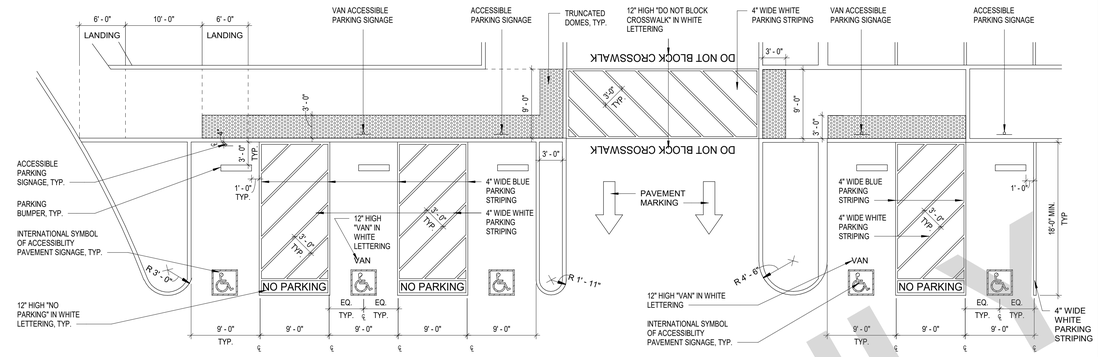
COLOR:
WHITE - BACKGROUND AND "FIRE LANE"
RED - BORDER AND LETTERS
NOT REFLECTORIZED

FOR SIGN POST FOOTING, REF 4/AX0.3

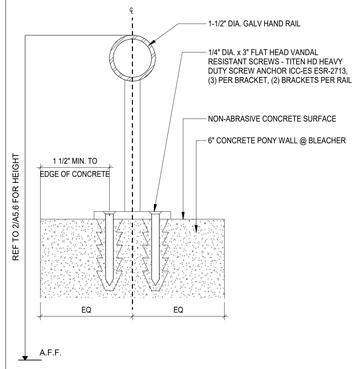
FIRE LANE SIGN	3" = 1'-0"	21



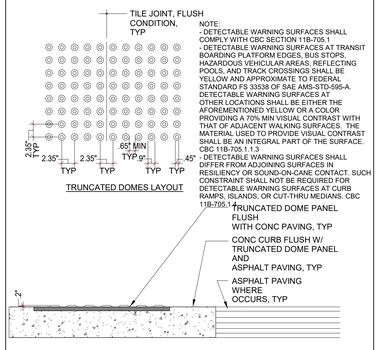
EXISTING DROP-OFF CURB A#04-120504	1/4" = 1'-0"	13



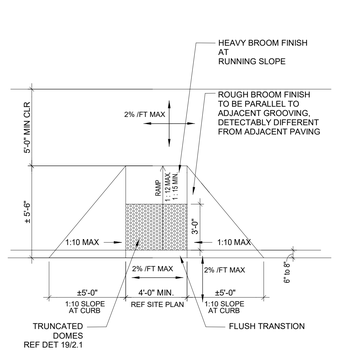
EXISTING ACCESSIBLE PARKING PER A#04-120504	1/8" = 1'-0"	1



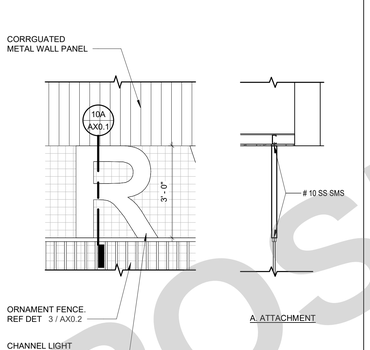
GUARD RAIL @ CONCRETE	6" = 1'-0"	22



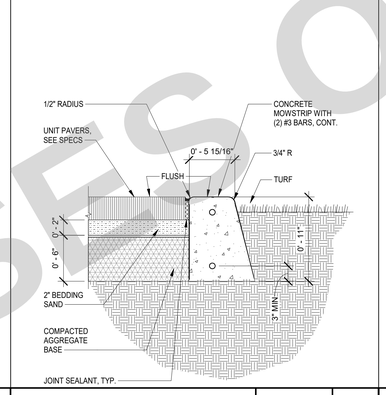
DETECTABLE WARNINGS	1 1/2" = 1'-0"	18



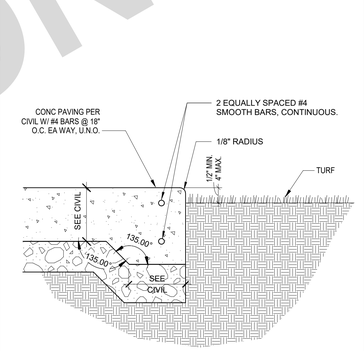
CURB CUT	1/4" = 1'-0"	14



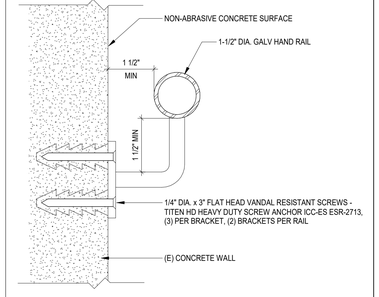
CHANNEL LIGHT LETTER	1/2" = 1'-0"	10



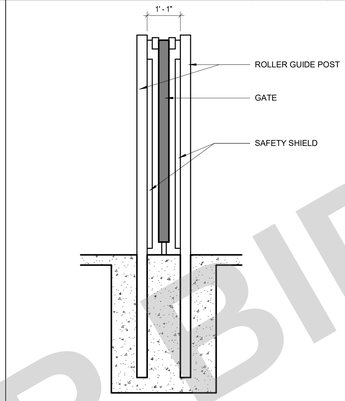
PAVERS AT LANDSCAPE	1 1/2" = 1'-0"	6



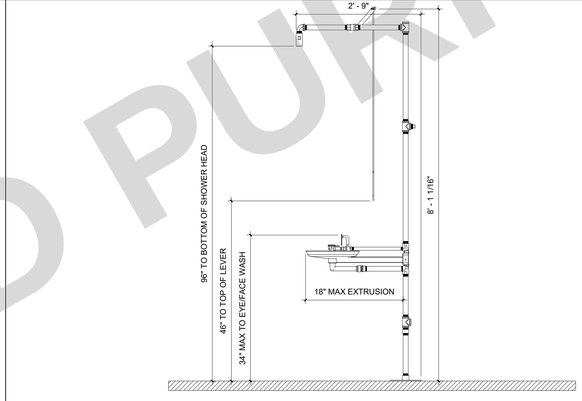
CONCRETE EDGE TO TURF	1 1/2" = 1'-0"	2



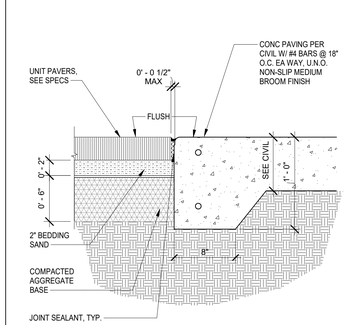
HANDRAIL @ CONCRETE	6" = 1'-0"	23



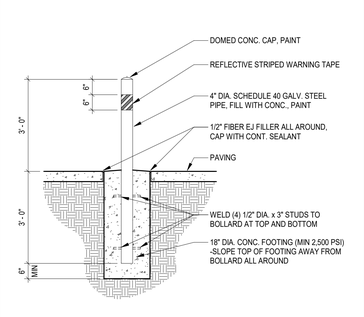
ROLLER GUIDE POST	1/2" = 1'-0"	19



PULLDOWN SHOWER/EYE WASH	3/4" = 1'-0"	11

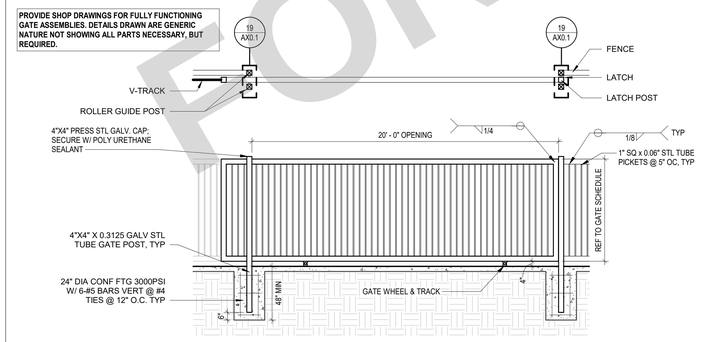


PAVERS AT CONCRETE	1 1/2" = 1'-0"	7



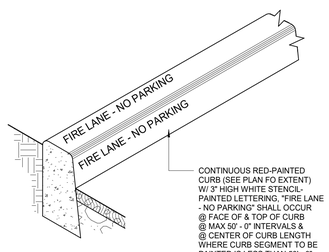
BOLLARD	1/2" = 1'-0"	3

PROVIDE SHOP DRAWINGS FOR FULLY FUNCTIONING GATE ASSEMBLIES. DETAILS DRAWN ARE GENERIC NATURE NOT SHOWING ALL PARTS NECESSARY, BUT REQUIRED.

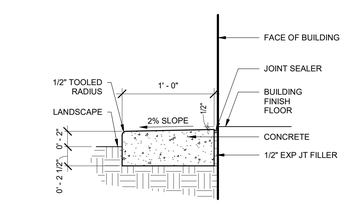


NOTE: - PROVIDE VERTICAL RESTRAINT TO KEEP THE GATE FROM DISLODGING.
- PROVIDE STOPPER THAT DOESN'T CONTACT THE TRACK WHEELS.
- ALL PANEL ASSEMBLIES & POSTS TO BE SHOP "HOT DIPPED" G-90 GALV FINISH AND PAINTED

SLIDING GATE DETAIL	1/4" = 1'-0"	20

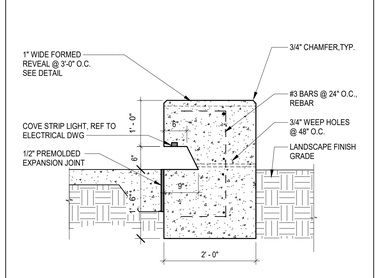


FIRE LANE CURB	1 1/2" = 1'-0"	16



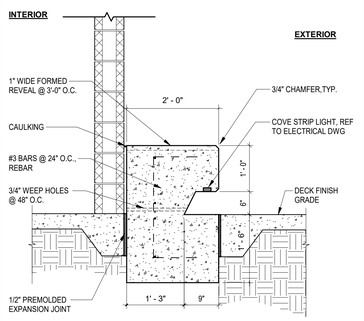
NOTE:
1. MINIMUM COMPRESSIVE STRENGTH 2,500 PSI
2. PROVIDE EXPANSION JOINT @ 20'-0" OC MAX
3. PROVIDE CONTROL JOINT @ 10'-0" OC MAX

CONCRETE MOW STRIP AT BUILDING	1 1/2" = 1'-0"	12



NOTE: SMOOTH SACK ALL EXPOSED CONC. SURFACES

CONCRETE SEATWALL AT PLANTER	3/4" = 1'-0"	8



NOTE: SMOOTH SACK ALL EXPOSED CONC. SURFACES

CONCRETE SEATWALL AT BUILDING	3/4" = 1'-0"	4

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DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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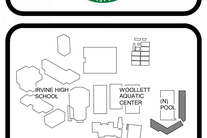


DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

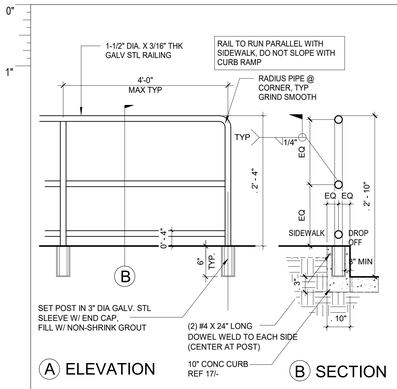
BID DOCUMENTS

BUILDING NUMBER

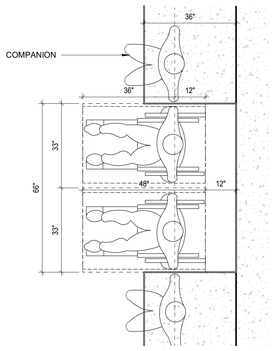
SITE DETAILS

AX0.1

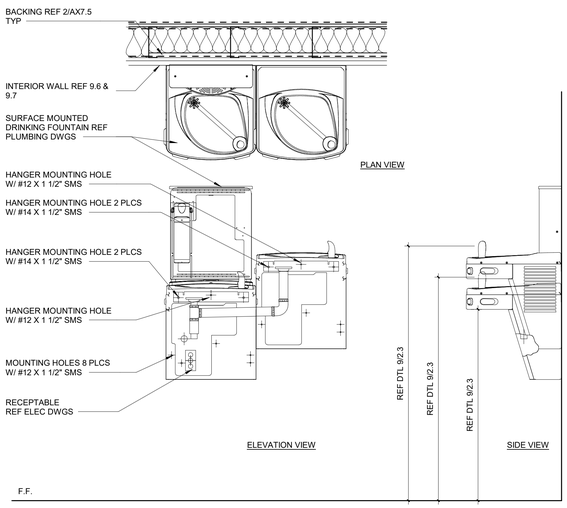
SITE DETAILS
AX0.2
FOR BLUEBEAM LABELING/OCR:



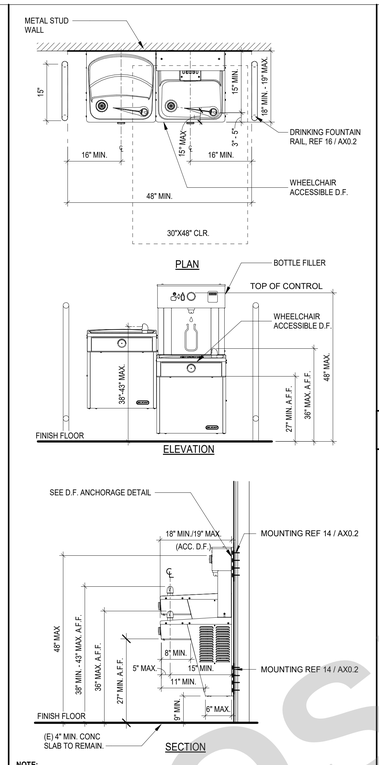
HANDRAIL	3/4" = 1'-0"	21



DOUBLE WHEELCHAIR @ BLEACHER	1/2" = 1'-0"	22



HI-LOW DRINKING FOUNTAIN	1" = 1'-0"	14



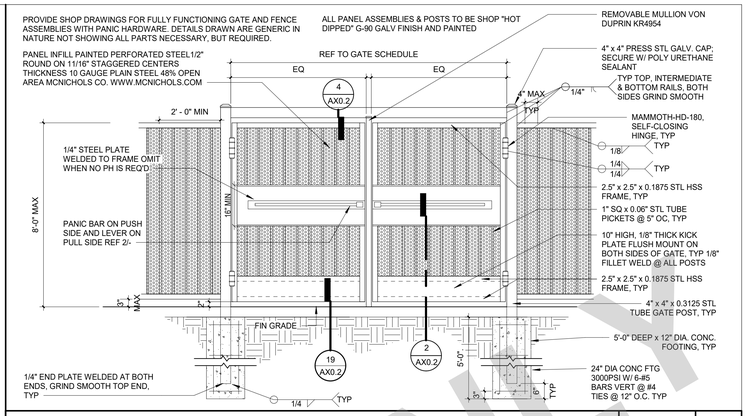
NOTE:
1. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MINIMUM AND SHALL BE LOCATED 5" MAXIMUM FROM THE FRONT OF THE UNIT.
2. IF THE SPOUT IS LOCATED LESS THAN 3" FROM THE FRONT OF THE UNIT, THE ANGLE OF THE STREAM SHALL BE 30 DEGREES MAXIMUM.
3. WHERE LOCATED BETWEEN 3" AND 5" FROM THE FRONT OF THE UNIT, THE ANGLE OF THE STREAM SHALL BE 15 DEGREES MAXIMUM RELATIVE TO THE FRONT FACE (ORIENTATION OF WALL SURFACE.)
4. UNDERSIDE OF D.F. SHALL BE FREE OF SHARP OR ABRASIVE EDGES OR SURFACES GRIND SMOOTH ALL WELDS.

ACCESSIBLE DRINKING FOUNTAIN	3/4" = 1'-0"	10

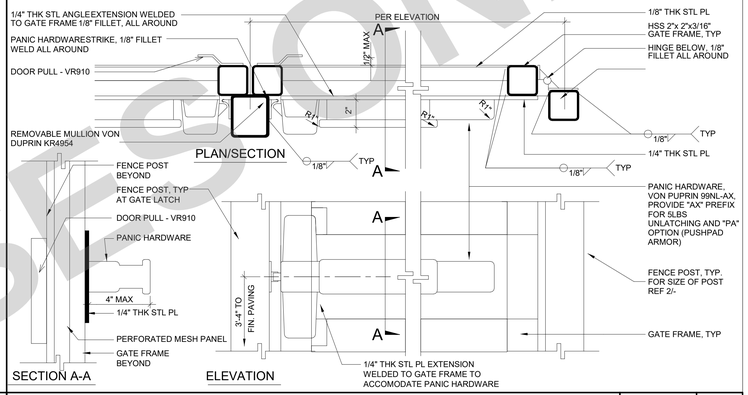
PROVIDE SHOP DRAWINGS FOR FULLY FUNCTIONING GATE AND FENCE ASSEMBLIES WITH PANIC HARDWARE. DETAILS DRAWN ARE GENERIC IN NATURE NOT SHOWING ALL PARTS NECESSARY, BUT REQUIRED.

ALL PANEL ASSEMBLIES & POSTS TO BE SHOP "HOT DIPPED" G-90 GALV FINISH AND PAINTED

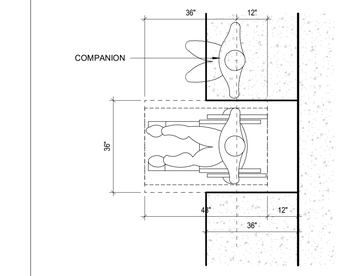
PANEL INFILL PAINTED PERFORATED STEEL1/2" ROUND ON 11/16" STAGGERED CENTERS THICKNESS 10 GAUGE PLAIN STEEL 48% OPEN AREA MCNICHOLS CO. WWW.MCNICHOLS.COM



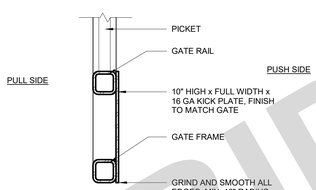
TS GATE	1/2" = 1'-0"	1



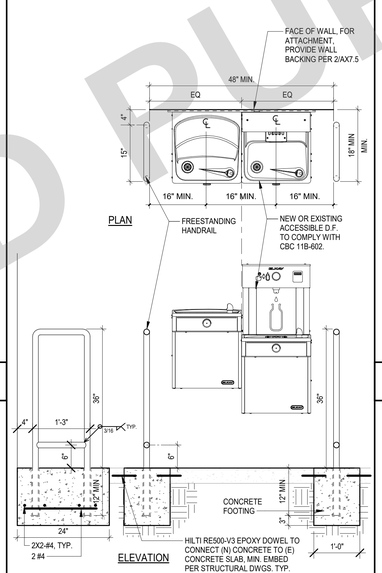
2.2D02 - TS GATE PANIC HARDWARE1	3" = 1'-0"	2



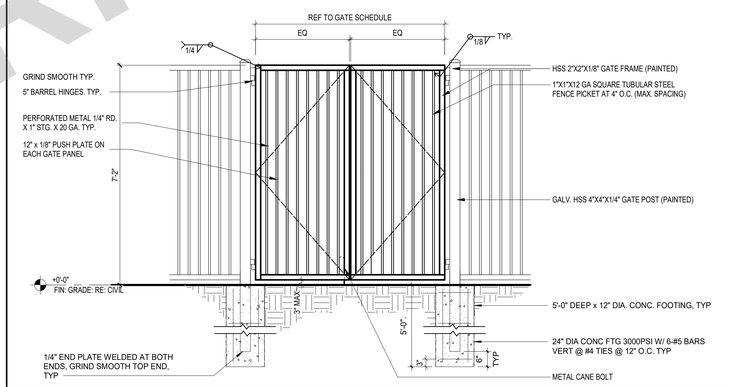
WHEELCHAIR @ BLEACHER	1/2" = 1'-0"	23



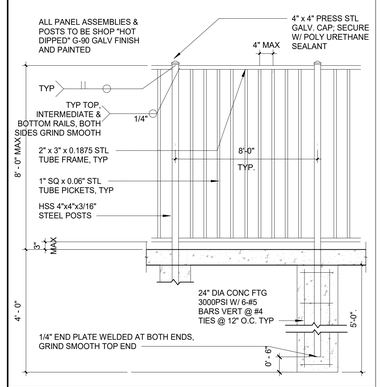
TS GATE - KICK PLATE	3" = 1'-0"	19



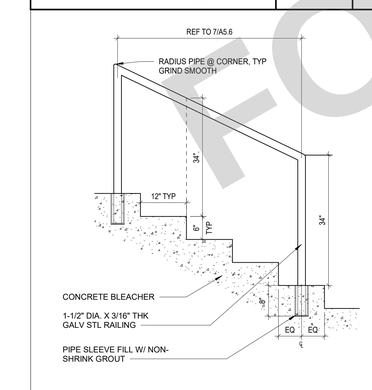
ACCESSIBLE DRINKING FOUNTAIN RAILS	3/4" = 1'-0"	16



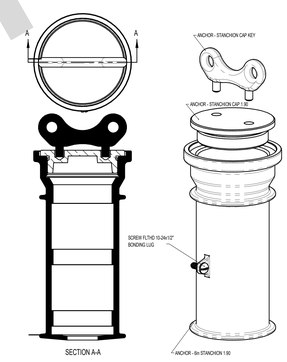
ORNAMENTAL FENCE - DOUBLE GATE - SERVICE ONLY	1/2" = 1'-0"	7



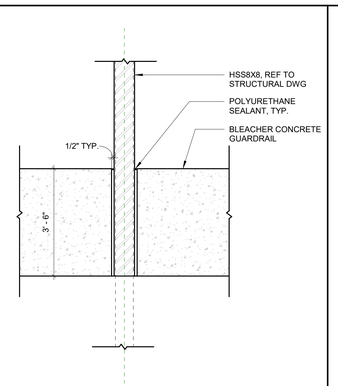
TS FENCE	1/2" = 1'-0"	3



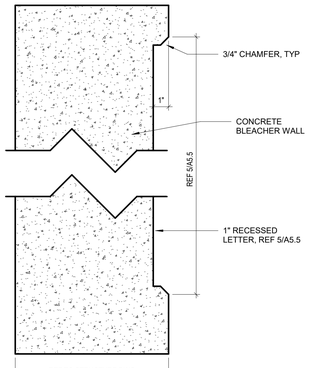
HANDRAIL @ MID. STAIR	3/4" = 1'-0"	24



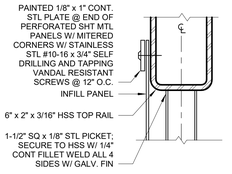
SPEC STANCHION ANCHOR	6" = 1'-0"	20



BLEACHER CONC. GUARD RAIL	1/2" = 1'-0"	12



RECESSED CONCRETE LETTER	3" = 1'-0"	8



TS FENCE INFILL PANEL	6" = 1'-0"	4

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4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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LICENSED ARCHITECT
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C-34832
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STATE OF CALIFORNIA

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CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

SITE DETAILS

AX0.2

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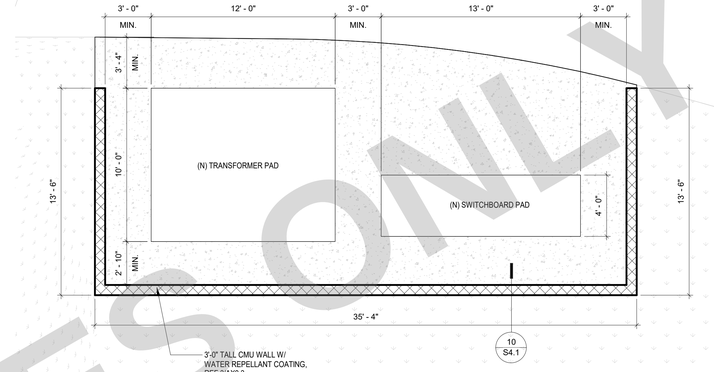
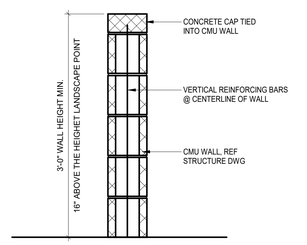
SITE DETAILS
AX0.3
FOR BLUEBEAM LABELING/OCR:

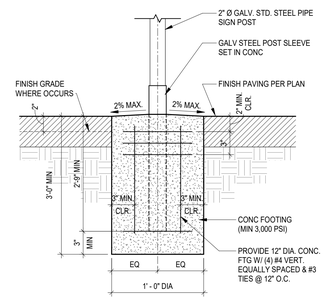
0"
1"



ENLARGED TRANSFORMER AND SWITCHBOARD PLAN | 1/4" = 1'-0" | 2



ENCLOSURE WALL | 1" = 1'-0" | 3



SIGN POST FOOTING | 1 1/2" = 1'-0" | 4

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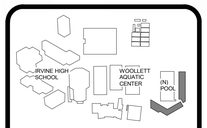

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C-34832
REN.10/31/27
STATE OF CALIFORNIA

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CITY OF IRVINE

DATE	PROJECT NUMBER
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DRAWING HISTORY

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BUILDING NUMBER

SITE DETAILS

AX0.3

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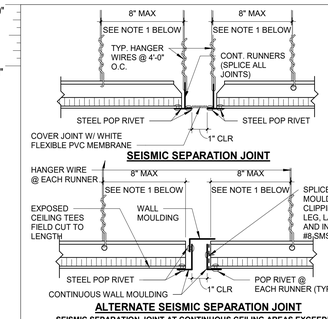


SEISMIC SEPARATION JOINT

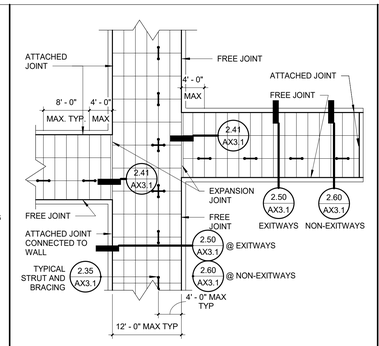
ALTERNATE SEISMIC SEPARATION JOINT

SEISMIC SEPARATION JOINT AT CONTINUOUS CEILING AREAS EXCEEDING 2,000 SQ. FT. SEE CEILING PLANS FOR LOCATIONS

NOTE:

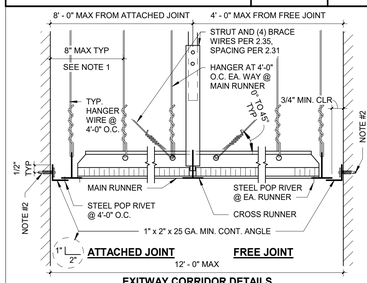
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

SEISMIC SEPARATION JOINT	3" = 1'-0"	2.45



LOCATION OF EXPANSION/SLIP JOINTS IN CORRIDORS

CORRIDOR CEILING PLAN	3/32" = 1'-0"	2.31

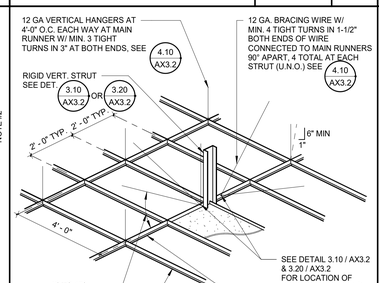


EXITWAY CORRIDOR DETAILS

NOTE:

1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMERTER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.
2. REFER TO GENERAL NOTE 4.08 FOR WALL ANGLE ATTACHMENT

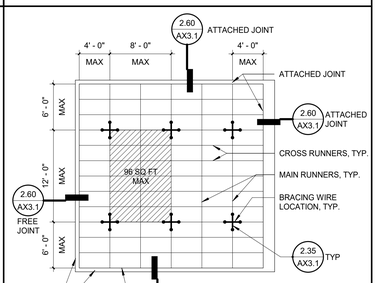
CEILING SECTION @ EXITWAYS	3" = 1'-0"	2.50



NOTE:

1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.

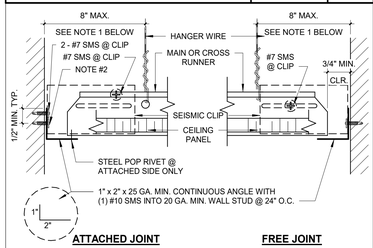
SUSPENSION AND BRACING	3/8" = 1'-0"	2.35



NOTE:

1. BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 96 SQ. FT. MAX. IN ROOMS OVER 144 SQ. FT.

8'-0"x12'-0" BRACE ASSEMBLY	1/8" = 1'-0"	2.11

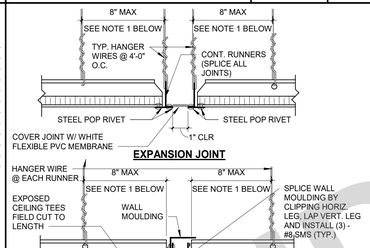


ATTACHED JOINT **FREE JOINT**

NOTE:

1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.
2. REFER TO GENERAL NOTE 4.08 FOR WALL ANGLE ATTACHMENT
3. REFER TO GENERAL NOTE 1.04 FOR SEISMIC CLIP

CEILING PERIMETER	6" = 1'-0"	2.60



EXPANSION JOINT

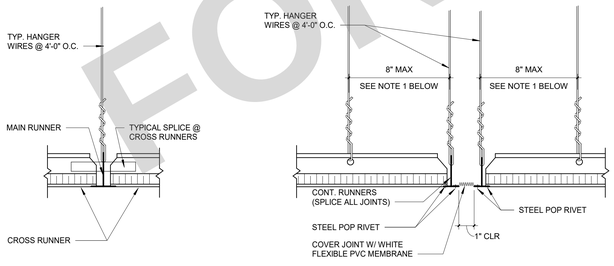
EXPANSION JOINT ALTERNATE

EXPANSION JOINTS AT THE INTERSECTIONS OF CORRIDORS AND AT JUNCTIONS OF OF CORRIDORS AND LOBBIES OR OTHER SIMILAR AREAS

NOTE:

1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

EXP. JOINT @ INTERSECTIONS	3" = 1'-0"	2.40



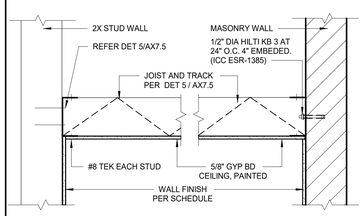
RUNNER SPLICE **EXPANSION JOINT**

EXPANSION JOINTS AT THE INTERSECTIONS OF CORRIDORS AND AT JUNCTIONS OF OF CORRIDORS AND LOBBIES OR OTHER SIMILAR AREAS

NOTE:

1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.

EXPANSION JOINT AT INTERSECTIONS	3" = 1'-0"	2.41



HARD LID CEILING	1" = 1'-0"	3

METAL SUSPENSION SYSTEMS FOR LAY IN PANEL CEILINGS NOTES

1. CEILING SYSTEM GENERAL NOTES:

1.01 CEILING SYSTEM COMPONENTS SHALL COMPLY WITH ASTM C635-07 AND SECTION 5.1 OF ASTM E580-10A.

1.02 THE CEILING GRID SYSTEM MUST BE RATED HEAVY DUTY AS DEFINED BY ASTM C635-08.

1.03 CEILING SYSTEMS. THE FOLLOWING CEILING SYSTEM(S) IS/ARE PART OF THE SCOPE OF THIS PROJECT:

MANUFACTURER	ICC/ES REPORT	MAIN RUNNER	CROSS RUNNER
ARMSTRONG	ESR-1308	7301	XL7341 (1)
CHICAGO METALLIC	ESR-2631	200	1274 (2)
USG INTERIORS (DONN)	ESR-1222	DX26	DX424 (3)
CERTAINTEED	ESR-3336	CS12-12-20	CS4-12-12 (4)

FOOTNOTES:
(1) FOR 2X2 GRID USE XL8320
(2) FOR 2X2 GRID USE 1202
(3) FOR 2X2 GRID USE DX216
(4) FOR 2X2 GRID USE CS2-12-12

1.04 SEISMIC WALL CLIP:

MANUFACTURER	SEISMIC WALL CLIP MODEL NO.
ARMSTONG	BERC 2 / ESR-1308
CHICAGO METALLIC	1496 / ESR-2631
USG INTERIORS (DONN)	ACM7 / ESR-1222
CERTAINTEED	SEISMIC PERIM CLIP / ESR-3336

1.05 CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR DEVICES.

1.06 FOR CEILING INSTALLATIONS UTILIZING ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBER, IT IS NOT MANDATORY TO PROVIDE 3/4 INCH CLEARANCE BETWEEN THE ACOUSTICAL TILE PANELS AND THE WALL ON THE SIDES OF THE CEILING WHICH ARE FREE TO SLIP. FOR ALL OTHER CEILING PANEL TYPES, PROVIDE 3/4" CLEARANCE BETWEEN THE CEILING PANEL AND THE WALL ON THE SIDES OF THE CEILING FREE TO SLIP.

1.07 SUSPENDED ACOUSTICAL CEILING SYSTEMS WITH A CEILING AREA OF 144 SQUARE FEET OR LESS, SURROUNDED BY WALLS WHICH CONNECT DIRECTLY TO THE STRUCTURE ABOVE, DO NOT REQUIRE BRACING ASSEMBLIES WHEN ATTACHED TO TWO ADJACENT WALLS.

1.08 EXPANSION JOINTS SHALL BE PROVIDED IN THE CEILING AT INTERSECTIONS OF CORRIDORS AND AT JUNCTIONS OF CORRIDORS AND LOBBIES OR OTHER SIMILAR AREAS.

1.09 FOR CEILING AREAS EXCEEDING 2,500 SQUARE FEET, A SEISMIC SEPERATION JOINT SHALL BE PROVIDED TO DIVIDE THE CEILING INTO SYMETRICAL AREAS NOT EXCEEDING 2,500 SQUARE FEET.

1.10 FOR ACOUSTICAL TILE PANELS OF MINERAL OR GLASS FIBER, IT IS NOT MANDATORY TO PROVIDE A 3/4 INCH CLEARANCE BETWEEN THE TILE PANEL AND THE WALL ON THE FREE ENDS OF THE CEILING WHERE IT IS ALLOWED TO SLIP.

1.11 PANELS WEIGHING MORE THAN ONE-HALF (1/2) PSF, OTHER THAN MINERAL AND GLASS FIBER ACOUSTICAL TILE, AND ALL METAL AND WOOD PANELS SHALL BE POSITIVLEY ATTACHED TO THE CEILING SUSPENSION RUNNERS BY MECHANICAL MEANS, SUCH AS BOLTS, SCREWS, OR RIVETS, AND EACH ATTACHMENT SHALL HAVE THE ALLOWABLE DESIGN STRENGTH TO SUPPORT 100 PERCENT OF THE WEIGHT OF THE PANEL ACTING IN ANY DIRECTION. A MINIMUM OF TWO (2) ATTACHMENTS ARE REQUIRED FOR EACH PANEL. IT IS ALSO PERMITTED TO PROVIDE A SECONDARY MEANS OF CONNECTING THE PANEL TO THE STRUCTURE ABOVE TO RETAIN THE PANEL FROM DROPPING OUT, CEILING GRID DISTORTION AND THE CEILING GRID BECOMING OUT-OF-LEVEL.

1.12 FREE FLOATING CEILING SHALL BE SUPPORTED BY WIRES AS DETAILED AND SHALL ALSO BE BRACED WITH WIRES AS DETAILED. THE PERIMETER EDGE SHALL BE SUPPORTED BY A CONTINOUS RUNNER AT THE PERIMETER EDGE AND SHALL BE SPLICED IN COMPLIANCE WITH ASTM E580.

1.13 COMPRESSION STRUTS SHALL HAVE A MAXIMUM KL/R NOT TO EXCEED 300. STRUTS SHALL NOT BE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB.

1.14 DETAILS FOR CEILING SYSTEM INSTALLATION ARE TAKEN FROM DSA IR 25.2.13 AND ARE SUBJECT TO THE CONDITIONS OF USE OF THE CEILING NOTES AND DETAILS AS INDICATED IN ARTICLE 6.2.1 OF SAID IR 25.2.13. DETAIL NUMBERS HAVE NOT BEEN REVISED FROM THOSE IDENTIFIED IN IR 25.2.13 FOR EASE OF THE PLAN REVIEW PROCESS BY DSA. THEREFORE THE DETAIL NUMBERS MAY NOT BE CONSECUTIVE AS ONLY THOSE DETAILS THAT INTEGRATED WITH THE SPECIFIC SCOPE AND REQUIREMENTS OF THIS PROJECT HAVE BEEN SELECTED FOR USE.

2. MATERIALS:

2.01 CEILING WIRE SHALL BE CLASS 1 ZINC COATED (GALVANIZED) CARBON STEEL CONFORMING TO ASTM A641-09A. WIRE SHALL BE #12 GAGE (0.106" DIAMETER) WITH SOFT TEMPER AND MINIMUM TENSILE STRENGTH = 70 KSI.

2.02 GALVANIZED SHEET STEEL (INCLUDING THAT USED FOR METAL STUD AND TRACK COMPRESSION STRUTS/POST) SHALL CONFORM TO ASTM A653-11, OR OTHER EQUIVALENT SHEET STEEL LISTED IN SECTION A2.1 OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007, INCLUDING SUPPLEMENT 2 DATED 2010 (AISI S100-07/S2-10). MATERIAL 43 MIL (18 GAGE) AND LIGHTER SHALL HAVE MINIMUM YIELD STRENGTH OF 33 KSI. MATERIAL 54 MIL (16 GAGE) AND HEAVIER SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.

2.03 ELECTRICAL METALLIC TUBE (EMT) SHALL BE ANSI C80.3/UL 797 CARBON STEEL WITH G90 GALVANIZING. EMT SHALL MINIMUM YIELD STRENGTH (FY) OF 30 KSI AND MINIMUM ULTIMATE STRENGTH (FU) OF 48 KSI.

3. ATTACHMENT OF HANGER AND BRACING WIRES:

3.01 SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST SIX (6) INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC.

3.02 HANGER AND BRACING WIRES SHALL NOT ATTACH TO OR BEND AROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO: PIPING, DUCTWORK, CONDUIT AND EQUIPMENT.

3.03 HANGER WIRES THAT ARE MORE THAN ONE (HORIZONTAL) IN SIX (VERTICAL) OUT OF PLUMB SHALL HAVE COUNTER-SLOPING WIRES.

3.04 SLACK SAFETY WIRES SHALL BE CONSIDERED HANGER WIRES FOR INSTALLATION AND TESTING REQUIREMENTS.

3.05 HANGER AND BRACING WIRE ANCHORAGE TO THE STRUCTURE SHALL BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHORAGE ALIGNS CLOSELY WITH THE DIRECTION OF THE WIRE. (E.G. BRACING WIRE CEILING CLIPS MUST BE BENT AS SHOWN IN THE DETAILS AND ROTATED AS REQUIRED TO ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, SCREW EYES IN WOOD MUST BE INSTALLED SO THEY ALIGN CLOSELY WITH THE DIRECTION OF THE WIRE, ETC.)

3.06 FASTEN HANGER WIRES WITH NOT LESS THAN THREE (3) TIGHT TURNS IN THREE (3) INCHES. HANGER WIRE LOOPS SHALL BE TIGHTLY WRAPPED AND SHARPLY BENT TO PREVENT VERTICAL MOVEMENT OR ROTATION WITH IN LOOPS PER ASTM E580.

3.07 FASTEN BRACING WIRES WITH NOT LESS THAN FOUR (4) TIGHT TURNS IN ONE AND ONE-HALF (1-1/2) INCHES.

3.08 WIRE TURNS MADE BY MACHINE WHERE BOTH STRANDS HAVE BEEN DEFORMED OR BENT IN WRAPPING CAN HAVE THE ONE AND ONE-HALF (1-1/2) INCH REQUIREMENT WAIVED, BUT THE NUMBER OF TURNS SHOULD BE MAINTAINED, AND BE AS TIGHT AS POSSIBLE.

3.09 PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO ALLOW TYPICAL HANGER SPACING.

3.10 PROVIDE ADDITIONAL HANGERS, STRUCTS, AND BRACE ASSEMBLIES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS, OR DISCONTINUOUS AREAS.

3.11 SPLICES WILL NOT BE PERMITTED IN ANY HANGER WIRES UNLESS THE SPLICE IS CONSTURCTED ACCORDING TO THE SPECIFIC DETAILS PROVIDED IN THESE DOCUMENTS.

3.12 THE GAGE AND SPACING OF ANY EXISTING WIRE TO BE SPLICED MUST COMPLY WITH CURRENT CODE REQUIREMENTS.

3.12 THE SLOPE OF BRACING WIRES SHALL NOT EXCEED 45 DEGREES FROM THE HORIZONTAL PLANE AND WIRES SHALL BE TAUT.

4. FASTENERS AND WELDING:

4.01 SHEET METAL SCREWS SHALL COMPLY WITH ASTM C1513-10, ASME B18.6.4-89 (R2005). PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHALL NOT BE LESS THAN THREE EXPOSED THREADS.

4.02 EXPANSION ANCHORS SHALL BE: AS LISTED IN THE GENERAL NOTES ON DRAWING A0.1. DIAMETER, EMBEDMENTAND ICC/ES REPORT SHALL BE AS SHOWN ON DRAWING A0.1 AND AS INDICATED ON THE DETAILS.

4.03 POWER-ACTUATED FASTENERS SHALL BE: AS LISTED IN THE GENERAL NOTES ON DRAWING A0.1. DIAMETER, EMBEDMENTAND ICC/ES REPORT SHALL BE AS SHOWN ON DRAWING A0.1 AND AS INDICATED ON THE DETAILS.

4.04 IF NOT OTHERWISE SPECIFIED IN THE EVALUATION REPORT, POWER-ACTUATED FASTENERS INSTALLED IN STEEL SHALL BE INSTALLED SO THE ENTIRE POINTED END OF THE FASTENER IS DRIVEN THROUGH THE STEEL MEMBER.

4.05 POWER-ACTUATED FASTENERS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES.

4.06 CONCRETE REINFORCEMENT AND PRESTRESSING TENDONS SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING POST-INSTALLED ANCHOR.

4.07 WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 USING E60XX SERIES ELECTRODES.

4.08 ANCHORS FOR WALL ANGLES:

A. AT WOOD STUD WALL: 8D COMMON NAIL AT 16" O.C. INTO SOLID BLOCKING.
B. AT METAL STUD WALL: NO. 10 SMS INTO MIN. 33 MIL THK METAL STUD AT 24" O.C.
C. AT MASONRY WALL: 1/4" DIA X 1-3/4" LONG TAP CON ANCHOR SCREW AT 16" O.C. ICC ESR-1671.

5. TESTING: ALL FIELD TESTING MUST BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR.

5.01 POST-INSTALLED ANCHORS IN CONCRETE USED TO SUPPORT HANGER WIRES SHALL BE TESTED AT A FREQUENCY OF 10 PERCENT. POWER-ACTUAUTED FASTENERS IN CONCRETE SHALL BE FIELD TESTED FOR 200 LB. IN TENSION. ALL OTHER POST-INSTALLED ANCHORS IN CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 1913A.7.

5.02 POST-INSTALLED ANCHORS IN CONCRETE USED TO ATTACH BRACING WIRES SHALL BE TESTED AT A FREQUENCY OF 50 PERCENT IN ACCORDANCE WITH CBC SECTION 1913A.7.

5.03 ALL EXISTING CEILING HANGER WIRE/ANCHOR ASSEMBLIES MUST BE TESTED TO 200 LBS.

5.04 ALL EXISTING BRACING WIRE/ANCHOR ASSEMBLIES MUST BE FIELD TESTED TO 440 LB.

5.05 WHERE A NEW WIRE IS SPLICED TO AN EXISTING WIRE, EACH SPLICED WIRE/ANCHOR ASSEMBLY MUST BE FIELD TESTED TO THE LOADS REQUIRED FOR EXISTING CEILING OR BRACE WIRES.

6. LIGHT FIXTURES:

6.01 ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.

6.02 SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.

6.03 LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.

6.04 LIGHT FIXTURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LB. MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE.

EXCEPTION: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LB. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.

6.05 ALL LIGHT FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

6.06 WHERE PENDANT MOUNTED LIGHT FIXTURES ARE INSTALLED IN AN AREA WITH A SUSPENDED CEILING THE LIGHT FIXTURE SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE WITH HANGER WIRES OR CABLE PASSING THRU EACH PENDANT HANGER AND SHALL BE CAPABLE OF SUPPORTING TWO (2) TIMES THE WEIGHT OF THE FIXTURE.

6.07 IF A PENDANT MOUNTED LIGHT FIXTURE IS DIRECTLY AND INDEPENDENTLY BRACED BELOW THE CEILING THEN A BRACE ASSEMBLY IS NOT REQUIRED ABOVE THE THE CEILING.

6.08 IF A PENDANT MOUNTED LIGHT FIXTURE IS FREE TO SWING 45 DEGREES FROM THE VERTICAL IN ALL DIRECTIONS, AND IS NOT DIRECTLY OR INDEPENDENTLY BRACED BELOW THE CEILING, THEN A BRACING ASSEMBLY IS ONLY REQUIRED WHERE THE PENDANT HANGER PENETRATES THE CEILING.

6.09 WHERE THE WEIGHT OF THE PENDANT FIXTURE IS LESS THAN 20 LB. THE VERTICAL COMPONENT OF THE BRACE FORCE NEED NOT BE CONSIDERED. NO COMPRESSION POST/STRUT IS REQUIRED.

7. SERVICES WITHIN THE CEILING:

7.01 ALL FLEXIBLE SPRINKLER HOSE FITTING MOUNTING BRACKETS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS. SCREWS OR APPROVED FASTENERS ARE REQUIRED. A MINIMUM OF TWO ATTACHMENTS ARE REQUIRED AT EACH COMPONENT.

7.02 CEILING-MOUNTED AIR TERMINALS OR OTHER SERVICES WEIGHING LESS THAN OR EQUAL TO 20 LB. SHALL HAVE ONE (1) #12 GAGE SLACK SAFETY WIRE ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.

7.03 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERIVCES WEIGHING MORE THAN 20 LB. BUT LESS THAN OR EQUAL TO 56 LB. SHALL HAVE TWO (2) #12 GAGE SLACK SAFETY WIRES (AT DIAGONAL CORNERS) CONNECTED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE.

7.04 FLEXIBLE SPRINKLER HOSE FITTINGS, CEILING-MOUNTED AIR TERMINALS OR OTHER SERIVCES WEIGHING MORE THAN 56 LB. SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES ATTACHED FROM THE TERMINAL OR SERVICE TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS.

7.05 PENETRATIONS THRU CEILING PANELS FOR SPRINKLER HEADS AND OTHER SIMILAR DEVICES THAT ARE NOT INTEGRALLY TIED TO THE CEILING SYSTEM SHALL HAVE A TWO (2) INCH OVERSIZED RING OR SLEEVE THRU THE CEILING PANEL TO ALLOW ONE (1) INCH OF MOVEMENT IN ALL HORIZONTAL DIRECTIONS. PENETRATIONS TO BE COVERED WITH AN ESCUTCHEON PLATE. FLEXIBLE SPRINKLER HOSE THAT CAN ACCOMODATE THE ONE (1) INCH OF MOVEMENT SHALL NOT REQUIRE THE OVERSIZED SLEEVE OR ADAPTER.

8. OTHER DEVICES WITHIN THE CEILING:

8.01 ALL LIGHTWEIGHT MISCELLANEOUS DEVICES, SUCH AS STROBE LIGHTS, OCCUPANCY SENSORS, SPEAKERS, EXIT SIGN, ETC., SHALL BE ATTACHED TO THE CEILING GRID. IN ADDITION, DEVICES WEIGHING MORE THAN 10 LB. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE ANCHORED TO THE STRUCTURE ABOVE. DEVICES WEIGHING MORE THAN 20 LB. SHALL BE SUPPORTED INDEPENDENTLY FROM THE STRUCTURE ABOVE.

8.02 ALL AIR TERMINALS AND OTHER DEVICES SHALL BE MOUNTED IN A MANNER THAT WILL NOT COMPROMISE CEILING PERFORMANCE IN ACCORDANCE WITH SECTION 13.5.6.2.2, ITEM 5 OF ASCE 7 AS AMENDED BY CBC SECTION 1616A.120 AND ASTM E580 SECTIONS 5.3 AND 5.4.

8.03 CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR OTHER DEVICES.

FOR BID PURPOSES ONLY

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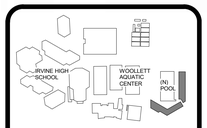
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN: 10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

SUSPENDED CEILING DETAILS

AX3.1

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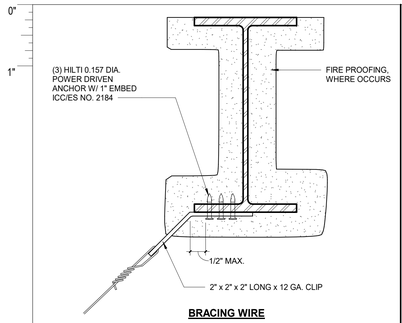
SUSPENDED CEILING DETAILS
AX3.2
FOR BLUEBEAM LABELING/OCR:

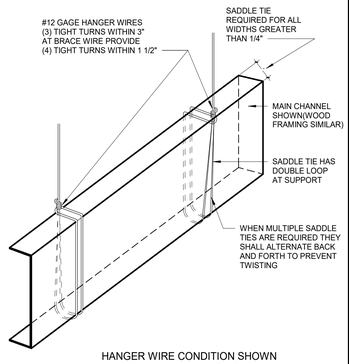


BRACING WIRE

NOTE:

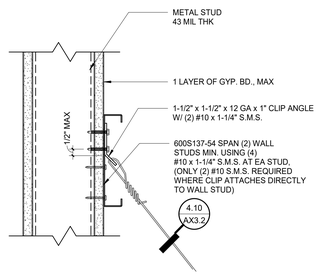
1. BEAM FLANGE THICKNESS SHALL NOT BE LESS THAN 3/16"
2. VERIFY THAT NO PAF IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER. SEE ANSI/AISC 341-10
3. FOR ADDITIONAL INFORMATION REFER TO (4.10 / AX3.2)

BRACE TO STRUCT STEEL	6" = 1'-0"	4.33

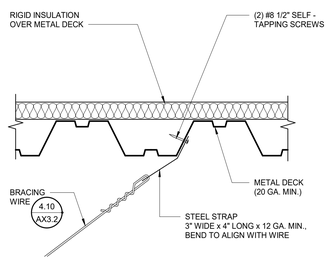


HANGER WIRE CONDITION SHOWN
BRACE WIRE CONDITION SIMILAR

TYPICAL SADDLE TIE	3" = 1'-0"	4.29



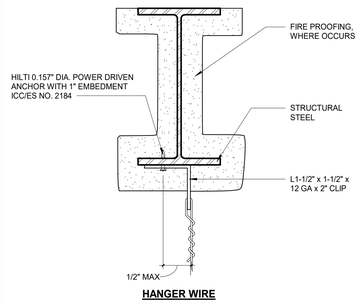
BRACE TO METAL STUD WALL	3" = 1'-0"	4.34



NOTE:

1. IF SELF-TAPPING SCREWS ARE USED WITH CONCRETE FILL, SET SCREWS BEFORE PLACING CONCRETE.

BRACE TO METAL DECK	6" = 1'-0"	4.30

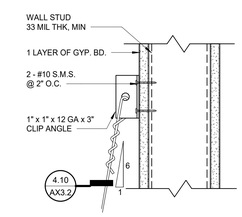


HANGER WIRE

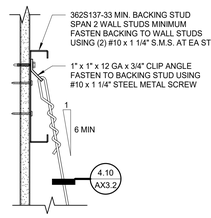
NOTE:

1. BEAM FLANGE THICKNESS SHALL NOT BE LESS THAN 3/16"
2. VERIFY THAT NO PAF IS INSTALLLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER, SEE ANSI/AISC 341-10
3. FOR ADDITIONAL DETAILS REFER TO (4.10 / AX3.2)

HANGER TO STRUCT STEEL	6" = 1'-0"	4.23



OPTION 1



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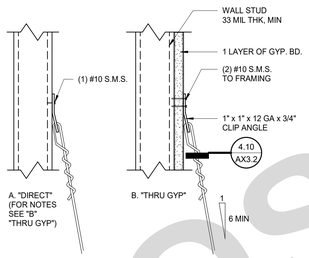
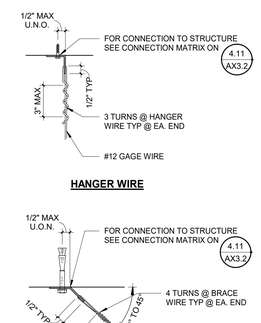


OPTION 3

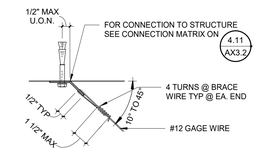
NOTE:

1. THIS IS APPLIED FOR PERIMETER WIRE ATTACHMENT OR WHERE OBSTRUCTION PREVENTS ATTACHEMENT TO STRUCTURE ABOVE

HANGER TO METAL STUD WALL	3" = 1'-0"	4.24



HANGER WIRE

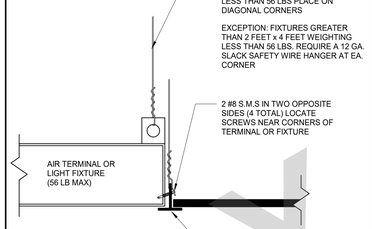


BRACING WIRE

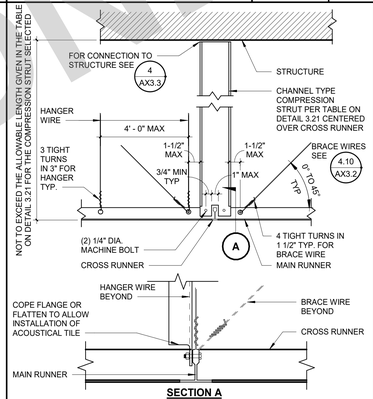
TYPICAL WIRE TURNS	3" = 1'-0"	4.10

STRUCTURAL CONDITION OF FLOOR/ROOF ABOVE SUSPENDED CEILING	APPLICABLE HANGER WIRE DETAIL	APPLICABLE BRACING WIRE DETAIL
METAL DECK	4.20 / AX3.2	4.30 / AX3.2
CONCRETE OVER METAL DECK		
CONCRETE SLAB, BEAM, OR JOIST		
CONCRETE SLAB, BEAM OR JOIST		
METAL STUD WALL	4.24 / AX3.2	4.34 / AX3.2
SAWN TIMBER		
WOOD I JOIST		
WOOD CHORD TRUSS		
OPEN WEM STEEL JOIST		

HANGER AND BRACE MATRIX	3" = 1'-0"	4.11

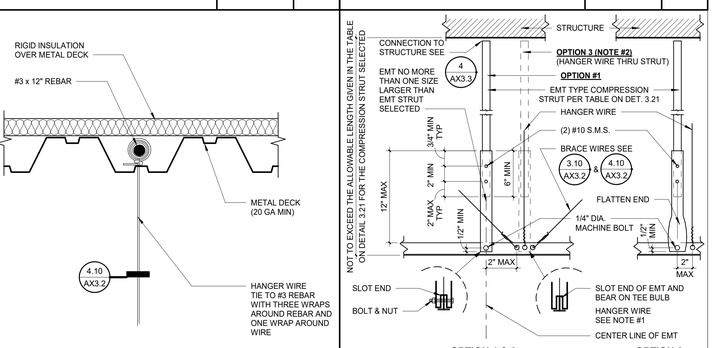


LIGHT/AIR TERMINAL SUPPORT	3" = 1'-0"	2.80



SECTION A

CHANNEL TYPE STRUT	1 1/2" = 1'-0"	3.10



NOTE:

1. FOR ADDITIONAL DETAILS REFER TO (4.10 / AX3.2)

HANGER TO METAL DECK	6" = 1'-0"	4.20

OPTION 1 & 3

OPTION 2

SEE OPTION 1 FOR INFORMATION NOT SHOWN

NOTE:

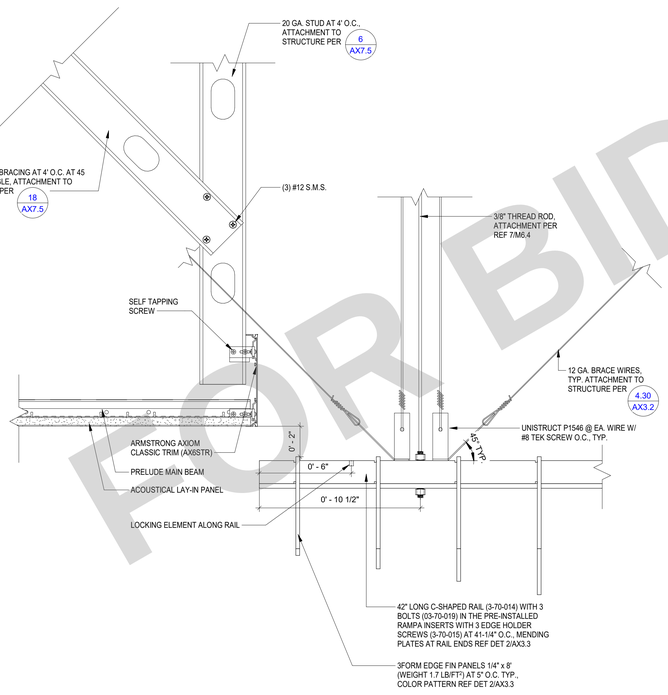
1. MACHINE BOLT IS NOTE REQUIRED ON OPTION 3
2. APPLIABLE TO SAWN TIMBER WITHOUT GYPSUM BOARD ONLY

EMT TYPE STRUT	1 1/2" = 1'-0"	3.20

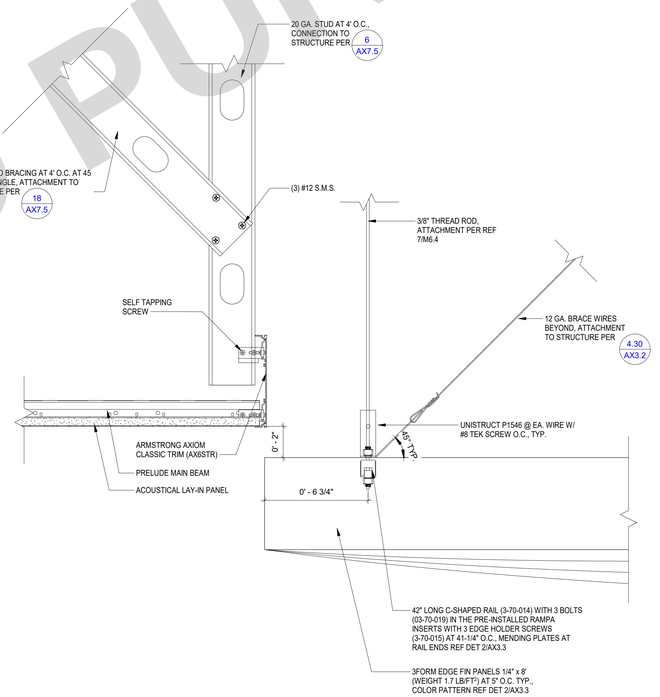
EMT COMPRESSION STRUT	MAXIMUM LENGTH
1/2" DIAMETER EMT (0.42" WALL THICKNESS)	5' - 10"
3/4" EMT DIAMETER (0.049" WALL THICKNESS)	7' - 8"
1" EMT DIAMETER (0.057" WALL THICKNESS)	9' - 9"
1 1/4" EMT DIAMETER (0.065" WALL THICKNESS)	12' - 9"
1 1/2" EMT DIAMETER (0.065" WALL THICKNESS)	14' - 9"
2" EMT DIAMETER (0.065" WALL THICKNESS)	18' - 10"

CHANNEL COMPRESSION STRUT	MAXIMUM LENGTH
250S125-33	5' - 0"
250S137-33	6' - 10"
362S137-33	8' - 0"
250S137-43	8' - 10"
400S137-43	10' - 10"

COMPRESSION STRUT TABLE	3" = 1'-0"	3.21



FIN PANELS ATTACHMENT - PERPENDICULAR	3" = 1'-0"	6



FIN PANELS ATTACHMENT - PARALLEL	3" = 1'-0"	5

FOR BID PURPOSES ONLY

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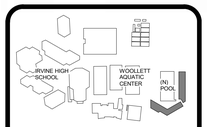
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

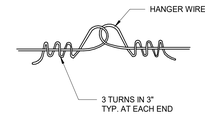
BID DOCUMENTS
BUILDING NUMBER

SUSPENDED CEILING DETAILS

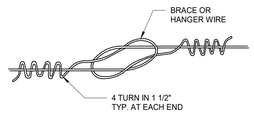
AX3.2

SUSPENDED CEILING DETAILS
AX3.3
FOR BLUEBEAM LABELING/OCR:

0"
1"



HANGER WIRE ONLY

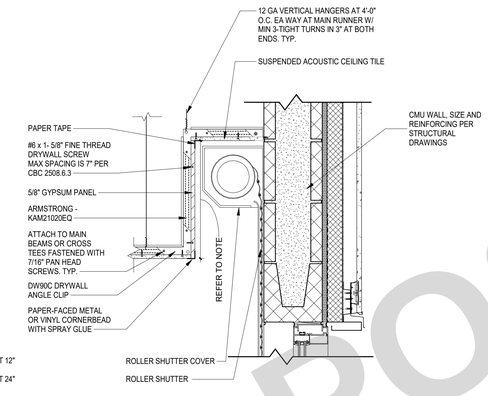


HANGER OR BRACE WIRE

NOTE:

1. WIRE SPLICES ARE SHOWN LOOSELY TIED FOR ILLUSTRATIVE PURPOSES ONLY AND SHALL BE DRAWN TIGHT TO COMPLETE INSTALLATION WHEN CONSTRUCTED

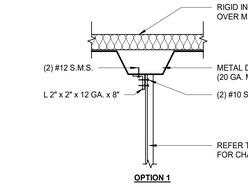
CEILING WIRE SPLICES | 3" = 1'-0" | 9



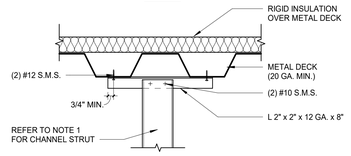
NOTE:

05 1. WINDOW TYPE AT 12"
06 2. WINDOW TYPE AT 24"

SHUTTER HEAD ATTACHEMENT DETAIL | 1 1/2" = 1'-0" | 10

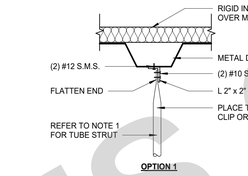


OPTION 1

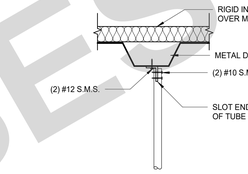


OPTION 2

CHANNEL STRUT



OPTION 1



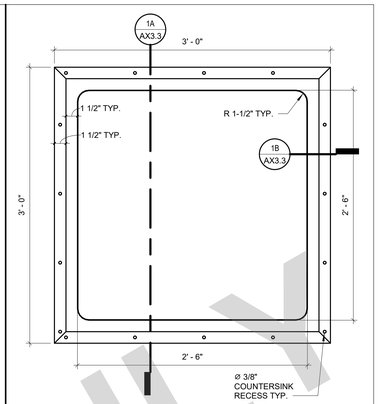
OPTION 2

TUBE STRUT

NOTE:

1. FOR COMPRESSION STRUT TABLE REFER TO (3.21 / AX3.2)

STRUT TO METAL DECK | 1 1/2" = 1'-0" | 6



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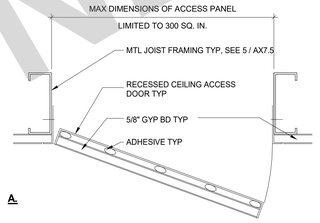
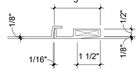


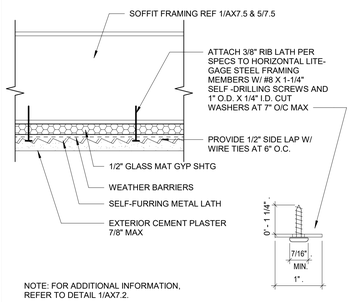


B.

ACCESS PANEL | 1 1/2" = 1'-0" | 1

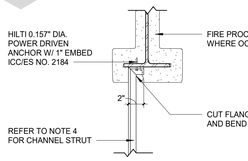
FOR BID PURPOSES ONLY

PROVIDE 1" END LAPS O/ SUPPORTS W/ MAJOR RIBS NESTED

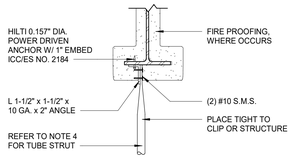


NOTE: FOR ADDITIONAL INFORMATION, REFER TO DETAIL 1/AX7.2.

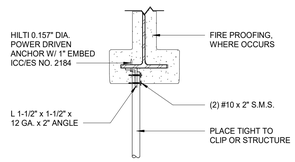
CEMENT PLASTER SOFFIT | 3" = 1'-0" | 12



CHANNEL STRUT



OPTION 1



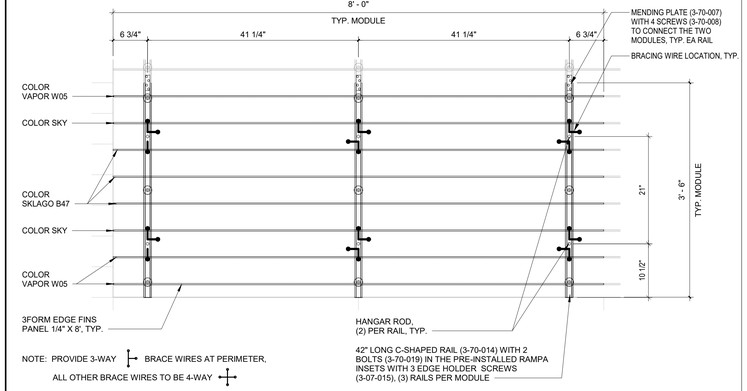
OPTION 2

TUBE STRUT

NOTE:

1. STRUCTURAL STEEL MEMBER SHALL NOT BE LESS THAN 3/16"
2. VERIFY THAT NO PAF IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER, SEE ANSI/AISC 341-10
3. FOR ADDITIONAL INFORMATION REFER TO (6 / AX3.3)
4. FOR COMPRESSION STRUT TABLE REFER TO (4 / AX3.3)

STRUT TO STRUC STEEL | 1 1/2" = 1'-0" | 8



NOTE: PROVIDE 3-WAY ⊢ BRACE WIRES AT PERIMETER, ALL OTHER BRACE WIRES TO BE 4-WAY ✛

CEILING BAFFLE - COLOR PATTERN | 1" = 1'-0" | 3

STRUCTURAL CONDITION OF FLOOR / ROOF ABOVE COMPRESSION STRUT	APPLICABLE DETAIL
METAL DECK	5.20
CONCRETE OVER METAL DECK	5.21
CONCRETE SLAB, BEAM, OR JOIST	5.30
STRUCTURAL STEEL	5.40
SAWN TIMBER WITH GYPSUM BOARD	5.50
SAWN TIMBER WITHOUT GYPSUM BOARD	5.60

COMPRESSION STRUT MATRIX | 3" = 1'-0" | 4

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Anaheim
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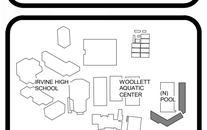
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

SUSPENDED CEILING DETAILS

AX3.3

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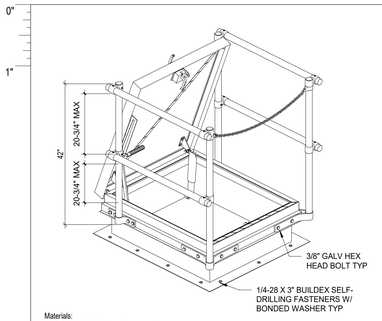
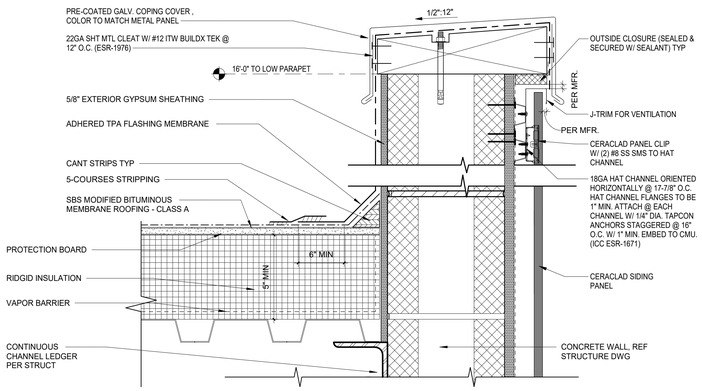
ROOF DETAILS
AX4.1
FOR BLUEBEAM LABELING/OCR:



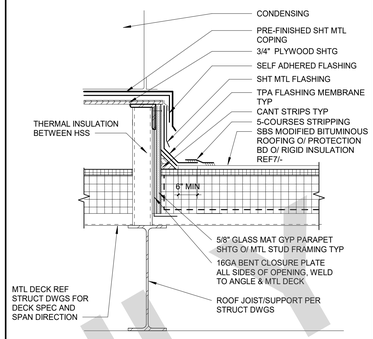
Materials:
Pipe: 1 1/4" ID A53 Grade B seamed steel.
Finish: Galvanized (hot dipped).
Chain system: 3/16" proof coil ASTM specification, zinc plated with quick link and "S" hook.
Self closing gate (optional to chain): Manufacturer's standard spring or gravity operated.
Pipe plugs: Weather and light resistant for pipe ends.
Bolts: Hex head bolts 3/8", grade Z, zinc plated with manufacturer's standard washers inside and outside.
Railing fittings: Manufacturer's standard cast fittings, galvanized. Sealant for brackets: Manufacturer's standard.

Basis of Design: Bilco LU-1 Ladder Safety Post

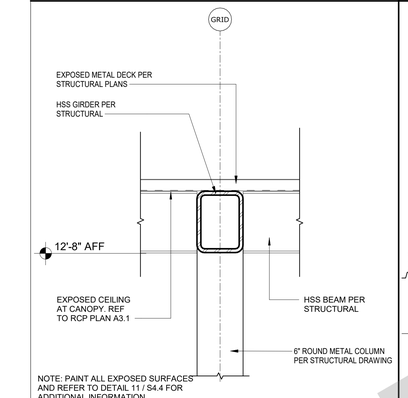
ROOF HATCH RAILING | 3/4" = 1'-0" | 17



CERACLAD @ CMU PARAPET CAP | 3" = 1'-0" | 12

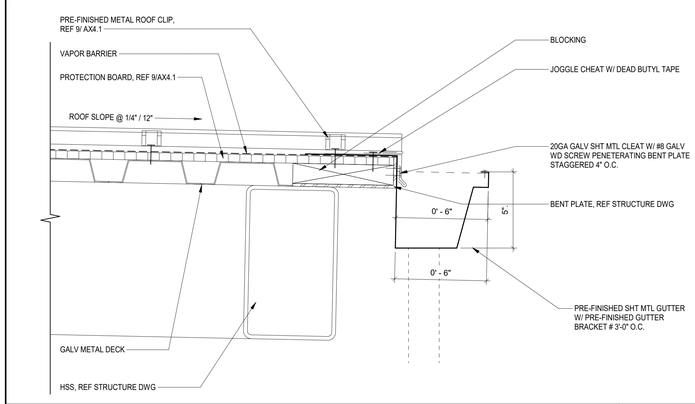


ROOF CURB | 1 1/2" = 1'-0" | 1

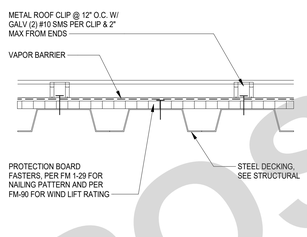


NOTE: PAINT ALL EXPOSED SURFACES AND REFER TO DETAIL 11 / S4.4 FOR ADDITIONAL INFORMATION

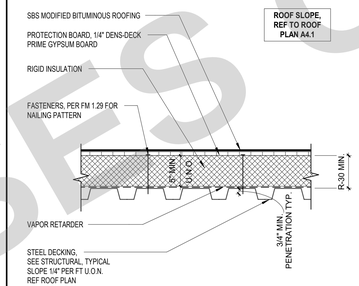
CANOPY COLUMN DETAIL | 1 1/2" = 1'-0" | 19



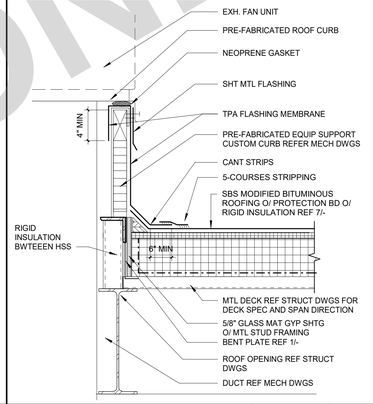
GUTTER @ CANOPY | 3" = 1'-0" | 13



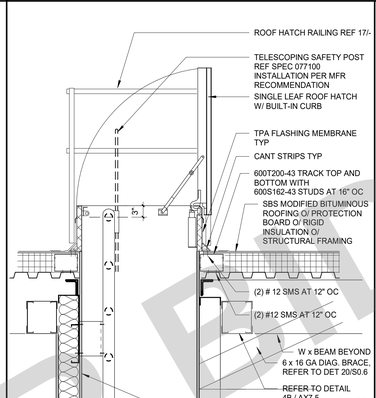
ROOFING @ CANOPY & BLEACHER | 3" = 1'-0" | 9



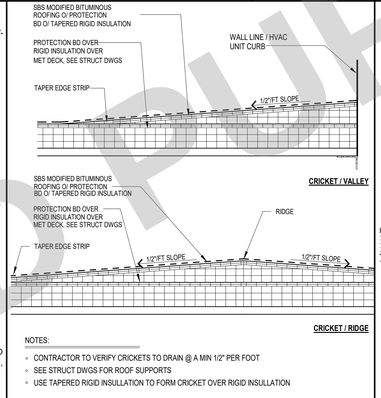
ROOFING SECTION | 1 1/2" = 1'-0" | 6



ROOF CURB | 1 1/2" = 1'-0" | 2

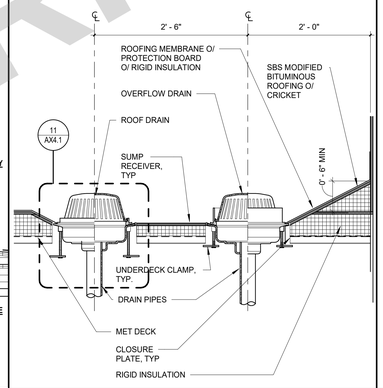


ROOF ACCESS LADDER | 3/4" = 1'-0" | 16

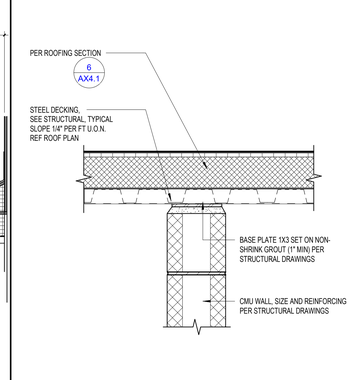


NOTES:
- CONTRACTOR TO VERIFY CRICKETS TO DRAIN @ A MIN 1/2" PER FOOT
- SEE STRUCT DWGS FOR ROOF SUPPORTS
- USE TAPERED RIGID INSULATION TO FORM CRICKET OVER RIGID INSULATION

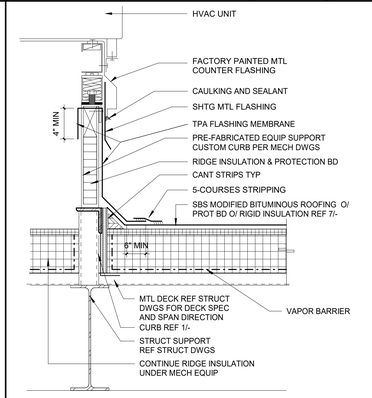
CRICKET | 1" = 1'-0" | 14



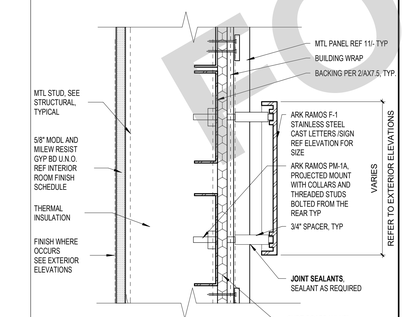
ROOF DRAIN | 1" = 1'-0" | 10



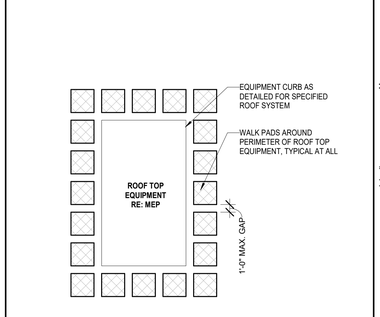
CMU WALL AT METAL DECK | 1 1/2" = 1'-0" | 7



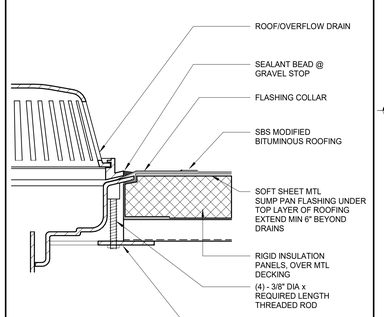
ROOF CURB | 1 1/2" = 1'-0" | 3



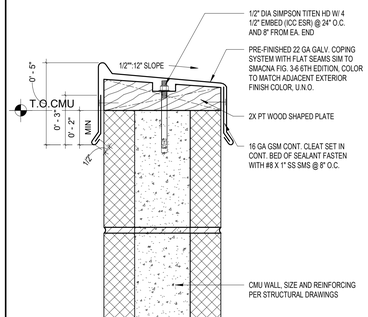
BUILDING CAST ALUMINUM SIGNAGE | 3" = 1'-0" | 20



WALK PADS AT RTU | 1 1/2" = 1'-0" | 15



ROOF / OVERFLOW DRAIN | 1 1/2" = 1'-0" | 11



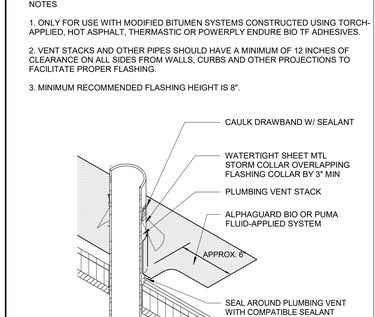
CMU PARAPET COPING DETAIL | 3" = 1'-0" | 8

NOTES

1. ONLY FOR USE WITH MODIFIED BITUMEN SYSTEMS CONSTRUCTED USING TORCH-APPLIED, HOT ASPHALT, THERMASTIC OR POWERPLY ENDURE BIO TF ADHESIVES.

2. VENT STACKS AND OTHER PIPES SHOULD HAVE A MINIMUM OF 12 INCHES OF CLEARANCE ON ALL SIDES FROM WALLS, CURBS AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING.

3. MINIMUM RECOMMENDED FLASHING HEIGHT IS 8".



VENT / PIPE FLASHING | 6" = 1'-0" | 4

FOR BID PURPOSES ONLY

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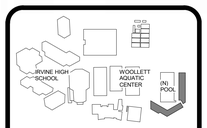
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE EST. 1971



DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN. 10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

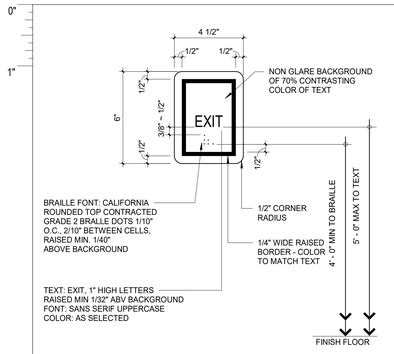
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

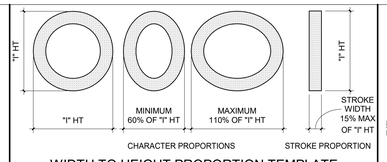
ROOF DETAILS

AX4.1



NOTE: PROVIDE MECHANICALMOUNTING W/ VANDAL RESISTANT FASTNERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING. REFER TO SIGNAGE SCHED FOR LOCATIONS

TACTILE EXIT SIGN | 3" = 1'-0" | 21



WIDTH TO HEIGHT PROPORTION TEMPLATE

TACTILE TEXT TEMPLATE PER (CBC) CALIFORNIA BUILDING CODE (CCR)
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2, SECTION 11B-703

GENERAL NOTES:

1. FINISH AND CONTRAST: CHARACTERS AND THEIR FINISH SHALL BE NON GLARE. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND. REF CBC 11B-703.5.1.

2. PROPORTIONS: CHARACTERS SHALL HAVE A FONT WHERE THE WIDTH OF THE UPPER CASE LETTER "O" IS 60% MINIMUM AND 110% MAXIMUM OF THE UPPER CASE LETTER "I". STROKE THICKNESS SHALL BE 15% MAXIMUM OF THE THICKNESS OF THE UPEPRCASE "I" AS INDICATED ABOVE. REF CBC SECTION 11B-703.2.4. AND 11B-703.2.6.

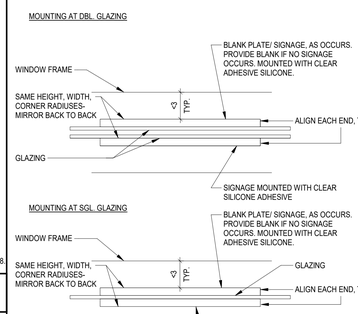
3. TACTILE FONT: SHALL BE UPPER CASE SAN SERIF & BE RAISED A MINIMUM OF 1/32". FONT SHALL BE DUPLICATED IN BRAILLE. REF CBC 11B-703.2.3.

4. HEIGHT: FONT SHALL BE 5/8" MINIMUM AND 2" MAXIMUM BASED UPON HEIGHT OF THE UPPERCASE "I". REF CBC 11B-703.2.5 AND TABLE 11B-703.5.5.

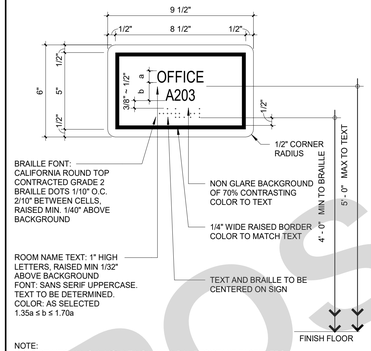
5. CHARACTER SPACING: MIN OF 1/8" AND MAX OF 4 TIMES CHARACTER STROKE WIDTH MEASURED BETWEEN CLOSEST POINTS OF ADJACENT LETTERS AND SHALL BE SEPERATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8" MINIMUM. REF CBC SECTION 11B-703.2.7.

6. LINE SPACING: MIN OF 135% AND MAX OF 170% OF THE UPPERCASE "I" HEIGHT MEASURED BASELINE TO BASELINE OF CHARACTERS. TEXT SHALL BE HORIZONTAL FORMAT. REF CBC 11B-703.2.8.

SIGNAGE TEMPLATE | 1 : 1 | 17



SIGNAGE MOUNTING | 3" = 1'-0" | 14



NOTE:
PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING. REFER TO SIGNAGE SCHED FOR LOCATIONS.

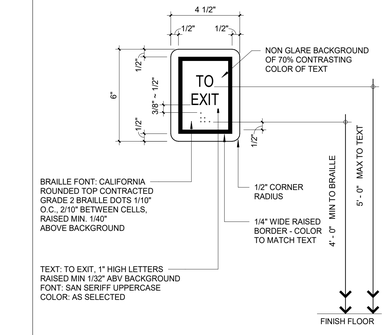
ROOM CONTROL SIGNAGE | 3" = 1'-0" | 10

ITEM DESCRIPTION	DETAIL	LOCATION	REMARKS
FEMALE RESTROOM DOOR SYMBOL	3/AX5.1	ALL FEMALE RESTROOM DOORS	1
MALE RESTROOM DOOR SYMBOL	7/AX5.1	ALL MALE RESTROOM DOORS	1
RESTROOM DOOR SYMBOL	11/AX5.1	ALL SINGLE USE RESTROOM DOORS	1
MALE RESTROOM WALL SIGN	8/AX5.1	ALL MALE RESTROOMS	1, 2
FEMALE RESTROOM WALL SIGN	4/AX5.1	ALL FEMALE RESTROOMS	1, 2
RESTROOM WALL SIGN	12/AX5.1	ALL SINGLE USE RESTROOMS	1, 2
ACCESSIBLE ENTRY SIGN	17/AX5.1	ALL MAIN EXTERIOR BUILDING ENTRIES	1
TACTILE EXIT SIGN (EXTERIOR EXIT)	21/AX5.1	EXTERIOR EXIT DOORS	1, 2, 3
TACTILE EXIT SIGN (RAMP OR STAIRWAY)	24/AX5.1	ALL EXIT RAMPS AND STAIRS	1, 2
ROOM CONTROL SIGNAGE	10/AX5.1	ALL INTERIOR & EXTERIOR ROOMS	1, 2
ASSISTIVE LISTENING SIGN	19/AX5.2	ALL CONFERENCE & ASSEMBLY SPACES	-
			-
			-
			-
DIRECTIONAL ACCESS SIGN	10/AX5.2	REFER TO SITE PLAN FOR LOCATIONS	-
ACCESSIBLE PARKING SIGN	13/AX5.2	ALL ACCESSIBLE AUTO PARKING STALLS	-
ACCESSIBLE VAN PARKING SIGN	14/AX5.2	ALL ACCESSIBLE VAN PARKING STALLS	-
LOADING ZONE SIGN	15/AX5.2	ALL BUS DROP OFF & LOADING AREAS	-
		ALL ACCESSIBLE PARKING LOT ENTRIES	-
ACCESSIBLE SYMBOL	11/AX5.2	ALL ACCESSIBLE PARKING STALLS	-
ROOM CAPACITY SIGN	20/AX5.1	REFER TO DETAIL FOR ROOM LOCATIONS	-
STAIRWAY SIGNAGE	15/AX5.1	ALL FLOOR LEVELS OF STAIRWAYS	2
			-
POOL OCCUPANCY SIGN	19/AX5.1	REFER TO SITE PLAN FOR LOCATIONS	-
SAFE DISPERSAL AREA SIGN	21/AX5.2	ALL EXTERIOR SAFE DISPERSAL AREAS	5
STORAGE ROOM SIGN	22/AX5.2	ALL ELEVATOR MACHINE ROOMS	-

REMARKS

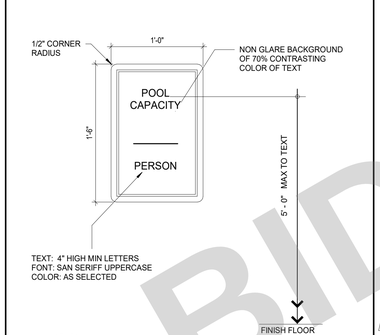
1. REF DET 16/- FOR MOUNTING
2. REF DET 17/- AND 18/- FOR SIGNAGE AND BRAILLE TEMPLATE
3. REF CODE ANALYSIS FOR DOOR LOCATIONS - / ---
4. -----
5. REF SITE PLAN FOR LOCATION OF SAFE DISPERSAL AREAS AND SIGN LOCATIONS

SIGNAGE SCHEDULE | 12" = 1'-0" | 1



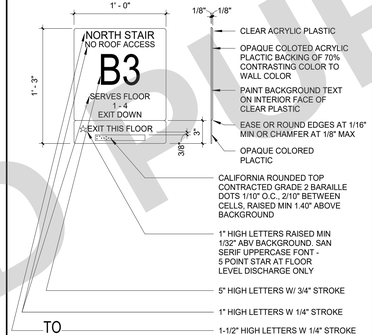
NOTE: PROVIDE MECHANICALMOUNTING W/ VANDAL RESISTANT FASTNERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING. REFER TO SIGNAGE SCHED FOR LOCATIONS

TACTILE EXIT SIGN | 3" = 1'-0" | 23



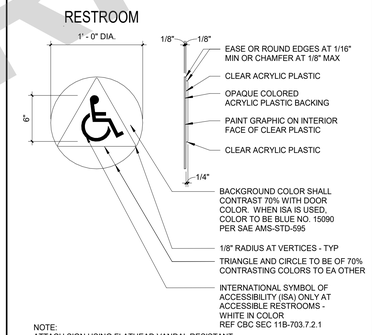
NOTE: PROVIDE MECHANICALMOUNTING W/ VANDAL RESISTANT FASTNERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING. REFER TO SIGNAGE SCHED FOR LOCATIONS

POOL CAPACITY SIGN | 1 1/2" = 1'-0" | 19



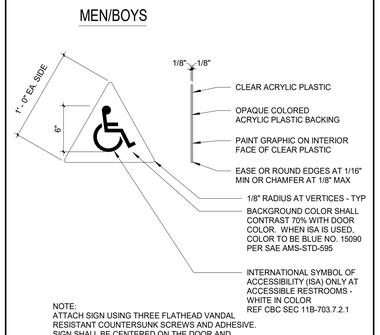
NOTE:
ATTACH SIGN USING COUNTERSUNK VANDDAL RESISTNAT SCREWS AND ADHESIVE. SIGN SHALL BE MOUNTED 5'-0" ABOVE FIN FLR LINE TO CENTER LINE OF SIGN.

STAIRWAY SIGNAGE | 1 1/2" = 1'-0" | 15



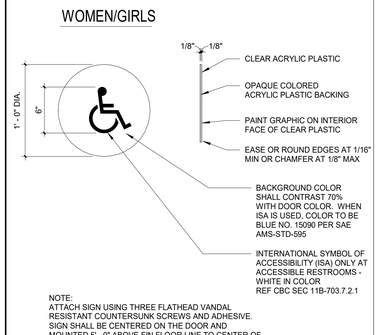
NOTE:
ATTACH SIGN USING FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGN SHALL BE CENTERED ON THE DOOR AND MOUNTED 5' - 0" ABOVE FIN FLOOR LINE TO CENTER OF SIGN. REFER TO SIGNAGE SCHED FOR LOCATIONS

RESTROOM SYMBOL | 1 1/2" = 1'-0" | 11



NOTE:
ATTACH SIGN USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGN SHALL BE CENTERED ON THE DOOR AND MOUNTED 5' - 0" ABOVE FIN FLOOR LINE TO CENTER OF SIGN. REFER TO SIGNAGE SCHED FOR LOCATIONS

RESTROOM SYMBOL | 1 1/2" = 1'-0" | 7



NOTE:
ATTACH SIGN USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGN SHALL BE CENTERED ON THE DOOR AND MOUNTED 5' - 0" ABOVE FIN FLOOR LINE TO CENTER OF SIGN. REFER TO SIGNAGE SCHED FOR LOCATIONS

RESTROOM SYMBOL | 1 1/2" = 1'-0" | 3

NOTE: PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTNAT FASTNERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING. REFER TO SIGNAGE SCHED FOR LOCATIONS

TACTILE EXIT SIGN | 3" = 1'-0" | 24

NOTE:
1. PROVIDE ONE SIGN IN EACH ROOM WITH AN OCCUPANT LOAD OF 50 OR MORE.
2. LOCATE SIGN ADJACENT TO MAIN EXIT DOOR OF ROOM.

RM CAPACITY SIGN DET | 6" = 1'-0" | 20

SIGNAGE MOUNTING DETAIL | 1/2" = 1'-0" | 16

NOTE:
ATTACH SIGNS USING FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE MOUNTED 5' - 0" MAX ABOVE FINISH FLOOR LINE TO THE BOTTOM OF THE LETTERS AND 4' - 0" MINIMUM ABOVE FINISH FLOOR LINE TO THE BOTTOM OF THE BRAILLE. MOUNT SIGN ON STRIKE SIDE OF DOOR. REFER TO SIGNAGE SCHEDULE FOR LOCATIONS

WALL MTD RESTRM SIGN | 1 1/2" = 1'-0" | 12

NOTE:
ATTACH SIGNS USING FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE MOUNTED 5' - 0" MAX ABOVE FINISH FLOOR LINE TO THE BOTTOM OF THE LETTERS AND 4' - 0" MINIMUM ABOVE FINISH FLOOR LINE TO THE BOTTOM OF THE BRAILLE. MOUNT SIGN ON STRIKE SIDE OF DOOR. REFER TO SIGNAGE SCHEDULE FOR LOCATIONS.

WALL MTD RESTRM SIGN | 1 1/2" = 1'-0" | 8

NOTE:
ATTACH SIGNS USING FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE. SIGNS SHALL BE MOUNTED 5' - 0" MAX ABOVE FINISH FLOOR LINE TO THE BOTTOM OF THE LETTERS AND 4' - 0" MINIMUM ABOVE FINISH FLOOR LINE TO THE BOTTOM OF THE BRAILLE. MOUNT SIGN ON STRIKE SIDE OF DOOR. REFER TO SIGNAGE SCHEDULE FOR LOCATIONS.

WALL MTD RESTRM SIGN | 1 1/2" = 1'-0" | 4

FOR BID PURPOSES ONLY

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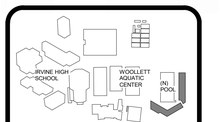
WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

CITY OF IRVINE



DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

SIGNAGES DETAILS

AX5.1

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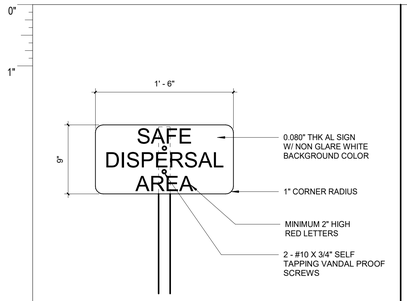
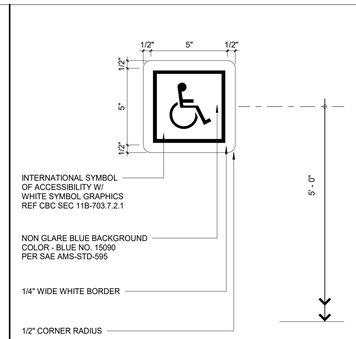


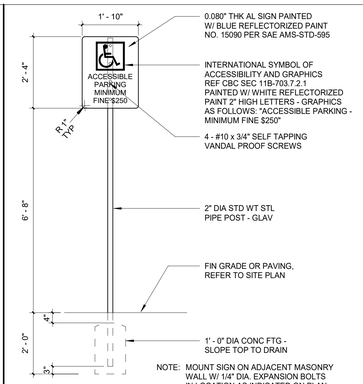
NOTE:
FOR WALL MTD SIGN, DET 14/AX5.1 FOR FENCE FABRIC MOUNTED SIGN.
REFER TO SIGNAGE SCHEDULE & SITE PLAN FOR LOCATIONS.

SAFE DISPERSAL SIGN	1 1/2" = 1'-0"	21



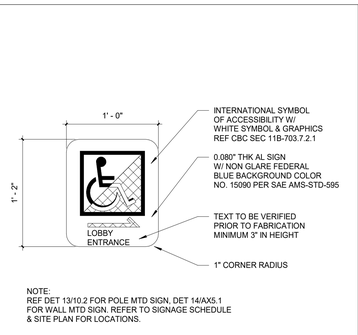
NOTE: PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTNERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING. REFER TO SIGNAGE SCHED FOR LOCATIONS

ACCESSIBLE ENTRY SIGN	3" = 1'-0"	17



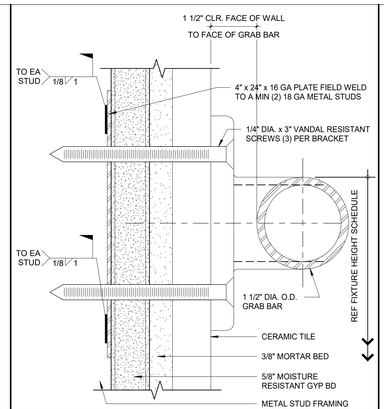
NOTE: MOUNT SIGN ON ADJACENT MASONRY WALL W/ 1/4" DIA. EXPANSION BOLTS IN LOCATION AS INDICATED ON PLAN.

PARKING SIGN	1/2" = 1'-0"	13

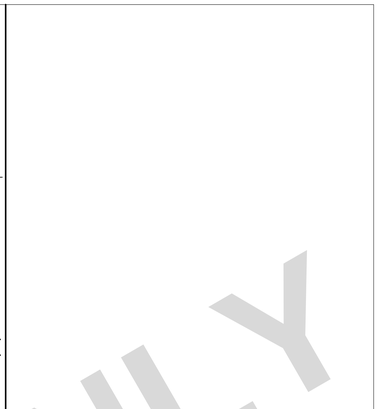


NOTE:
REF DET 13/10.2 FOR POLE MTD SIGN, DET 14/AX5.1
FOR WALL MTD SIGN, REFER TO SIGNAGE SCHEDULE
& SITE PLAN FOR LOCATIONS.

DIRECTIONAL ACCESS SIGN	1 1/2" = 1'-0"	10



GRAB BAR @ MET STUD	1 : 1	5

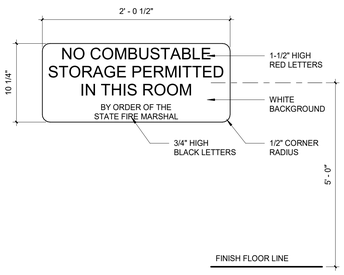


**EXTERIOR STAIRS SHALL HAVE THE UPPER APPROACH AND ALL TREADS BY A STRIPE PROVIDEING CLEAR VISUAL CONTRAST.

**STRIPE SHALL BE MINIMUM OF 2" WIDE TO A MAXIMUM OF 4" WIDE PLACED PARALLEL TO, AND NOT MORE THAN 1" FROM, THE NOSE OF THE STEP OR UPPER APPROACH.

**STRIPE SHALL EXTEND THE FULL WIDTH OF THE STEP OR UPPER APPROACH AND SHALL BE OF MATERIAL THAT IS AT LEAST SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR.

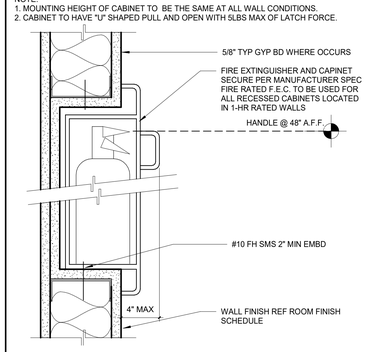
STRIPE @ BLEACHER STAIRS	1 1/2" = 1'-0"	2



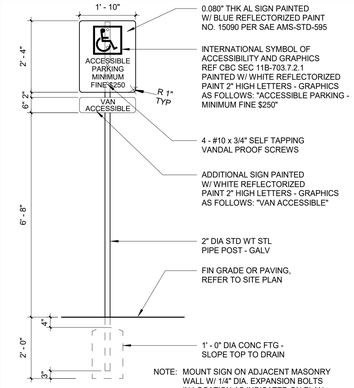
NOTE:
1. SIGN TO BE ACRYLIC PLASTIC W/ HELVETICA MEDIUM LETTERS
2. REFER TO SIGNAGE SCHED FOR LOCATIONS
3. ATTACH SIGN USING FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE

STORAGE SIGN	1 1/2" = 1'-0"	22

NOTE:
1. MOUNTING HEIGHT OF CABINET TO BE THE SAME AT ALL WALL CONDITIONS.
2. CABINET TO HAVE "U" SHAPED PULL AND OPEN WITH 5LBS MAX OF LATCH FORCE.

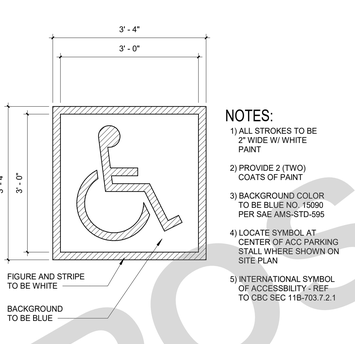


FIRE EXTINGUISHER CABINET	3" = 1'-0"	18



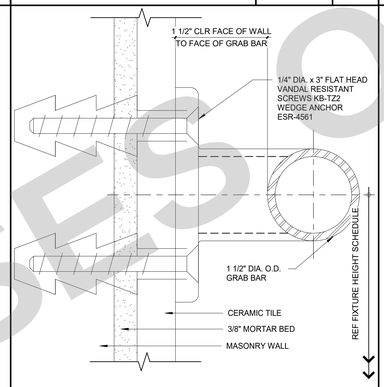
NOTE: MOUNT SIGN ON ADJACENT MASONRY WALL W/ 1/4" DIA. EXPANSION BOLTS IN LOCATION AS INDICATED ON PLAN.

PARKING SIGN	1/2" = 1'-0"	14

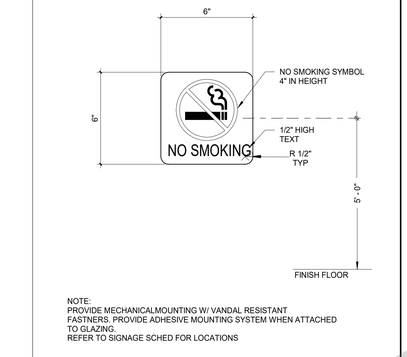


NOTES:
1) ALL STROKES TO BE 2" WIDE W/ WHITE PAINT
2) PROVIDE 2 (TWO) COATS OF PAINT
3) BACKGROUND COLOR TO BE BLUE NO. 15090 PER SAE AMS-STD-595
4) LOCATE SYMBOL AT CENTER OF ACC PARKING STALL WHERE SHOWN ON SITE PLAN
5) INTERNATIONAL SYMBOL OF ACCESSIBILITY - REF TO CBC SEC 11B-703.7.2.1

ACCESS SIGN	3/4" = 1'-0"	11

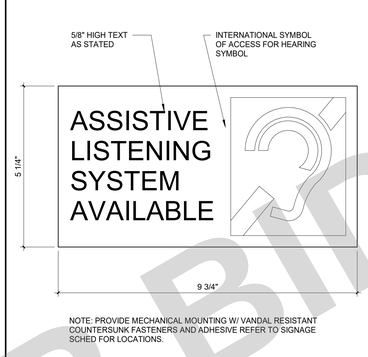


GRAB BAR @ CMU WALL	1 : 1	6



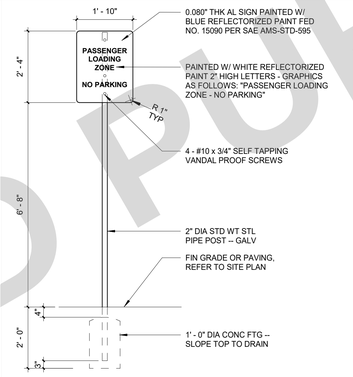
NOTE:
PROVIDE MECHANICALMOUNTING W/ VANDAL RESISTANT FASTNERS. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING.
REFER TO SIGNAGE SCHED FOR LOCATIONS

NO SMOKING SYMBOL	3" = 1'-0"	23



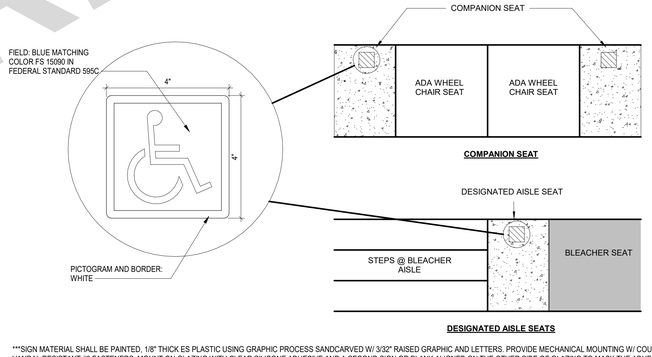
NOTE: PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT COUNTERSUNK FASTENERS AND ADHESIVE REFER TO SIGNAGE SCHED FOR LOCATIONS.

ASSISTIVE LISTENING SIGN	6" = 1'-0"	19



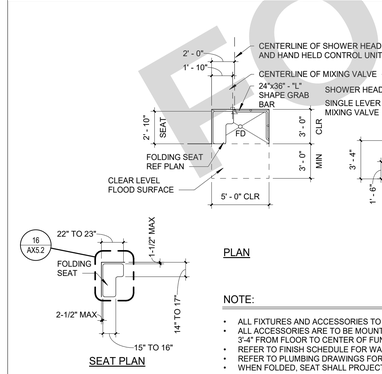
DROP-OFF SIGN	1/2" = 1'-0"	15

NOTE: INTERNATIONAL SYMBOL OF ACCESSIBILITY TO MATCH PROPORTIONS PER CBC FIGURE 11B-703.7.2.1.



***SIGN MATERIAL SHALL BE PAINTED, 1/8" THICK ES PLASTIC USING GRAPHIC PROCESS SANDCARVED W/ 3/32" RAISED GRAPHIC AND LETTERS. PROVIDE MECHANICAL MOUNTING W/ COUNTERSUNK VANDAL RESISTANT #8 FASTENERS. MOUNT ON GLAZING WITH CLEAR SILICONE ADHESIVE AND A SECOND SIGN OR BLANK ALIGNED ON THE OTHER SIDE OF GLAZING TO MASK THE ADHESIVE.

ADA SEAT SIGNAGE @ BLEACHER	6" = 1'-0"	8

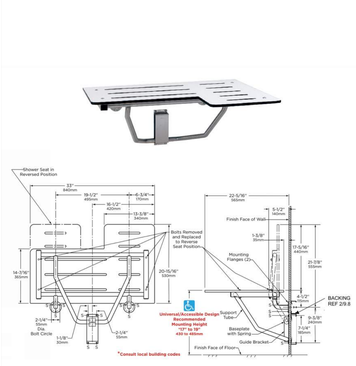


PLAN ELEVATION SECTION

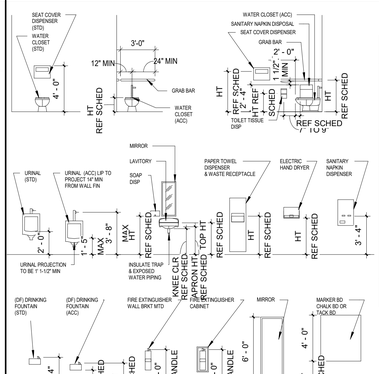
SEAT PLAN

NOTE:
- ALL FIXTURES AND ACCESSORIES TO BE ACCESSIBLE
- ALL ACCESSORIES ARE TO BE MOUNTED WITH A MAXIMUM REACH HEIGHT OF 3'-4" FROM FLOOR TO CENTER OF FUNCTIONAL POINT
- REFER TO FINISH SCHEDULE FOR WALL AND FLOOR FINISH
- REFER TO PLUMBING DRAWINGS FOR ALL EQUIPMENT AND ACCESSORIES
- WHEN FOLDED, SEAT SHALL PROJECT NO MORE THAN 6" FROM MOUNTING WALL

ACCESSIBLE SHOWER DETAIL	3/16" = 1'-0"	24



SHOWER BENCH	N.T.S.	16



MOUNTING HEIGHT SCHEDULE

FIXTURE	SUGGESTED DIMENSION				
	Adult	Age 3-4	Age 5-8	Age 9-12	Reference
Toilet Offset	17"-18"	12"	12"-15"	15"-18"	T 11B-604.9, S 11B-604.2
Toilet Seat Height	17"-19"	11"-12"	12"-15"	15"-17"	T 11B-604.9, S 11B-604.4
Top of Grab Bar Gripping Surface	33"-36"	18"-20"	20"-25"	25"-27"	T 11B-604.9, S 11B-609.4
T.P. Dispenser Outlet (A.F.F., to Centerline of Outlet or Roll)	19" Min.	14"	14"-17"	17"-19"	T 11B-604.9, S 11B-604.7
Furthest T.P. Dispenser in front of W.C.	7"-9" to CL	7"-9" to CL	7"-9" to CL	7"-9" to CL	S 11B-604.7
Lav/Sink Rim Height	34" Max.	31" Max.	31" Max.	31" Max.	S 11B-606.2, S 11B-606.3
Lav/Sink Knee Clearance	27" Min.	Parallel approach permitted	Parallel approach permitted	24" Min.	S 11B-606.2, F 11B-306.3
Urinal Height	17" Max.	17" Max.	17" Max.	17" Max.	S 11B-605.2
Urinal Projection	13-1/2" Min.	13-1/2" Min.	13-1/2" Min.	13-1/2" Min.	S 11B-605.2
Urinal Flush Control Height	44" Max.	44" Max.	44" Max.	44" Max.	S 11B-605.4
High D.F. Spout Height	38"-43"	38"-43"	38"-43"	38"-43"	S 11B-602.7
Low D.F. Approach, Spout Height, and Spout Location from Front Edge of the Unit Including Bumpers	36" Max. A.F.F., 5" Max. from front edge of unit	Parallel approach is permitted if spout is 30" Max. A.F.F. & 3-1/2" Max. from front edge of unit	Same as Ages 3-4	Same as Ages 3-4	S 11B-602.2 (Exception), S 11B-602.4, S 11B-602.5
D.F. Operable Parts	6" Max. from front edge of the unit	Same	Same	Same	S 11B-602.3
Cantilever D.F. Projection	18"-19"	18"-19"	18"-19"	18"-19"	S 11B-602.8
Toe Clearance at Toilet Partition	9" Min.	12" Min.	12" Min.	12" Min.	S 11B-604.8.1.4
Shelf Height	40"-48"	40"-48"	40"-48"	40"-48"	S 11B-604.8.3
Restroom Accessory Reach Height	40" Max.	40" Max.	40" Max.	40" Max.	S 11B-603.5
Mirror Height (Bottom Edge of Reflecting Surface)	40" Max. (above lav or countertop); 35" Max. (not above lav nor countertop)	Same	Same	Same	S 11B-603.3
Mirror Height (Bottom Edge of Reflecting Surface) in Dressing, Fitting, & Locker Rooms	20" Max.	20" Max.	20" Max.	20" Max.	S 11B-803.6

NOTE
1. ALL FIXTURES AND ACCESSORIES ARE ACCESSIBLE UNLESS OTHERWISE NOTED OR DIMENSIONED.
2. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
3. SEE ENLARGED TOILET PLANS FOR TOILET ACCESSORY LOCATIONS.
4. ALL ACCESSORIES ARE TO BE ACCESSIBLE WITH A MAXIMUM REACH HEIGHT OF 3'-4" FROM FLOOR TO TOP OF FUNCTIONAL POINT UNLESS OTHERWISE NOTED OR DIMENSIONED. MIRROR HEIGHT IS TO BOTTOM OF REFLECTIVE SURFACE.

MOUNTING HT SCHEDULE	3/16" = 1'-0"	4

FOR BID PURPOSES ONLY

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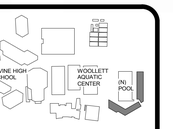
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE



DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

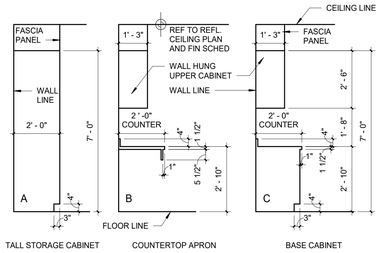
CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

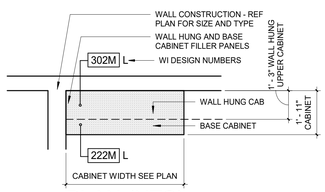
BID DOCUMENTS
BUILDING NUMBER

SIGNAGE & ADA DETAILS

AX5.2



TYPICAL CABINET SECTIONS (NTS)

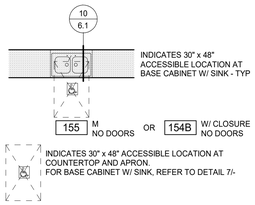


PLAN (NTS)

GENERAL NOTES:

1. REFER TO CASEWORK ANCHORAGE DETAILS 4/6.1
2. REFER TO CASEWORK ANCHORAGE NOTES 2/6.1
3. REFER TO GENERAL NOTES FOR CASEWORK 1/6.1
4. REFER TO ACCESSIBLE BASE CABINET DETAIL 10/6.1

CASEWORK INDICATION IN PLAN (TYP)



FASTENER SCHEDULE
FSTN QUANTITY INDICATED IN EA BOX IS TOTAL NUMBER OF FSTN IN EACH ROW, REF CASEWORK FSTNR LOCATION ELEVATION.

CABINET TYPE AND SIZE	WALL TYPE	CABINET WIDTH (W)						
		12"	18"	24"	30"	36"	42"	48"
BASE CABINET 36" H 24" D	WD	2	3	3	4	4	5	5
	MTL	2	3	3	4	4	5	5
	CMU	2	2	2	3	3	4	4
	CONC	2	2	2	3	3	3	3

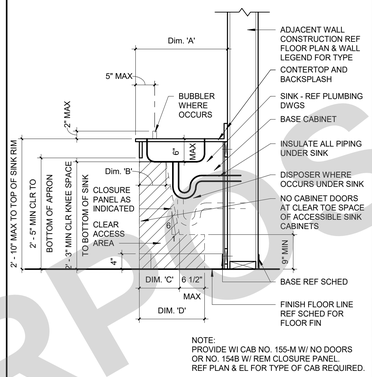
1. CABINET DIMENSIONS SHOWN IS MAXIMUM SIZE. FOR CABINETS OF OTHER SIZES USE FSTN QUANITIES FOR NEXT LARGER CABINET SIZE.
2. WALL TYPE SHOWN AS WD, MTL, CMU AND CONC IS WALL MATERIAL TO WHICH FSTN IS TO BE ATTACHED.
3. FSTN TO BE SPACED EQUALLY IN EACH ROW OR LINE. WHERE SCREW FSTN IS USED, SPACING NOT TO EXCEED 12" O.C.

1. ALL CASEWORK SHOWN ON SCHEDULE NOT NECESSARILY USED. ONLY THOSE CASEWORK ITEMS CALLED OUT ON INTERIOR ELEVATIONS AND/OR FLOOR PLANS SHALL BE USED.
2. CASEWORK NUMBERS SHOWN ON SCHEDULE ARE THOSE OF THE WOODWORK INSTITUTE (WI) DESIGN NUMBERING SYSTEM.
3. ALL CASEWORK TO BE INSTALLED ACCORDING TO THE WI CERTIFIED SEISMIC INTALLATION AND MONITORED COMPLIANCE PROGRAM.
4. ALL CABINET DIMENSIONS INDICATED IN SCHEDULE ARE NOMINAL OUTSIDE DIMENSIONS.
5. ALL DIMENSIONS NOTED ON SCHEDULE ARE IN INCHES.
6. FILLER STRIPS ARE REQUIRED AT ENDS OF CABINETS WHERE CABINETS ARE ADJACENT TO WALLS.
7. ALL FILLER STRIPS AT ALL TALL AND WALL CABINETS TO HAVE TOP AND BOTTOM RETURNS.
8. HEIGHT DIMENSIONS OF BASE CABINETS INCLUDE FINISHED TOP THICKNESS OF 1 1/2" & SUBBASE HEIGHT OF 4" UNLESS OTHERWISE NOTED.
9. HEIGHT DIMENSIONS OF APRONS INCLUDE FINISHED TOP THICKNESS OF 1 1/2" UNLESS OTHERWISE NOTED.
10. HEIGHT DIMENSIONS OF TOPS WITH APRONS FROM FINISHED FLOOR LINE SHALL MATCH HEIGHT OF ADJACENT BASE CABINETS UNLESS OTHERWISE NOTED.
11. ALL PLAN DIMENSIONS OF CASEWORK ARE CABINET DIMENSIONS ONLY & DO NOT INCLUDE TOPS.
12. PROVIDE FINISHED END PANELS FOR SUPPORT OF COUNTERTOPS AT UNDERCOUNTER EQUIPMENT OR KNEE SPACES WHERE THERE IS NO ADJACENT WALL OR CABINET THAT CAN BE USED FOR SUPPORT.
13. FINISH ALL EXPOSED PORTIONS OF CASEWORK AND COUNTERTOPS.
14. ALL UNITS INCLUDING OPEN UNITS SHALL HAVE CASEWORK MANUFACTURERS STANDARD CABINET LINER UNLESS OTHERWISE NOTED.
15. ALL TOE SPACES SHALL BE 4" IN HEIGHT AND 3" IN DEPTH AND SHALL RETURN TO WALL WHERE ENDS OF CABINETS ARE EXPOSED.
16. ALL SHELVING SHALL BE ADJUSTABLE UNLESS OTHERWISE NOTED.
17. PROVIDE DUST CLOSURE PANELS TO CEILING OR DROPPED SOFFIT AS INDICATED ON ELEVATIONS OR PLAN.
18. ALL COUNTERTOPS SHALL BE OF DEPTHS AS SHOWN IN SCHEDULE AND SHALL BE OF MAXIMUM PRACTICAL LENGTHS REQUIRED TO CONFORM TO OVERALL BASE CABINET DIMENSIONS.
19. PROVIDE BACKSPLASH RETURN AT ENDS OF COUNTERTOPS WHERE ADJACENT TO WALL OR OTHER FULL HEIGHT CASEWORK.
20. ALL SINKS, SINK TRIM & ELECTRICAL ITEMS SHALL BE FURNISHED BY OTHER THAN THE CASEWORK MANUFACTURER UNLESS OTHERWISE NOTED.
21. ALL COUNTERTOPS SHALL BE PLASTIC LAMINATE UNLESS OTHERWISE NOTED.

TYPICAL CASEWORK LEGEND	NTS	9

FASTENER SCHEDULE	NTS	5

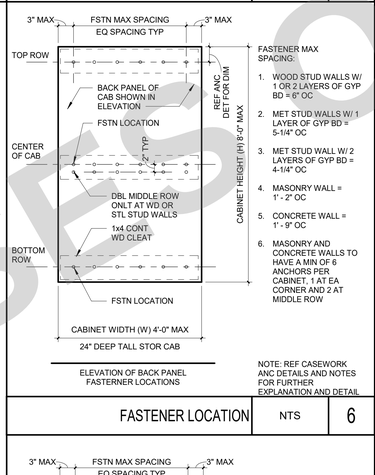
GEN NOTES FOR CASEWORK	NTS	1



NOTE:
PROVIDE WI CAB NO. 155-M W/ NO DOORS OR NO. 154B W/ REM CLOSURE PANEL. REF PLAN & EL FOR TYPE OF CAB REQUIRED.

DIM. 'A'	DIM. 'B'	DIM. 'C'	DIM. 'D'
17"	8"	11"	17"
18"	9"	12"	18"
19"	10"	13"	19"
20"	11"	14"	20"
21"	12"	15"	21"
22"	13"	16"	22"
23"	14"	17"	23"
24"	15"	18"	24"
25"	16"	19"	25"

ACCESSIBLE CASEWORK	3/4" = 1'-0"	10



ELEVATION OF BACK PANEL FASTERNER LOCATIONS

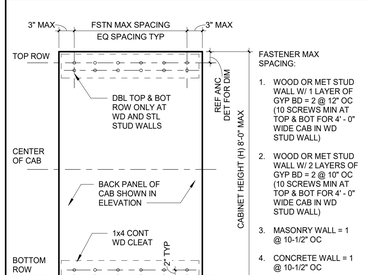
NOTE: REF CASEWORK ANC DETAILS AND NOTES FOR FURTHER EXPLANATION AND DETAIL

FASTENER LOCATION	NTS	6

1. CASEWORK (FRONT) (BACK) (TOP) (BOTTOM)
2. FACE OF WALL
3. 1 x CONT WOOD CLEAT
4. CLG OR SOFFIT. REF REFL CLG PLAN AND INTERIOR ELEVATIONS.
5. FASTENER-TYPE VARIES BASE UPON WALL CONSTRUCTION AS FOLLOWS:
   WOOD STUD FRAMING - #14 FHWS W/ 2-1/2" MIN PENETRATION INTO 3X6 WD BLKG. 3" MAX FROM EA END. ANC BLKG TO EA WALL STUD W/ A34 ANC T& B. REF CASEWORK FSTN LOCATION EL FOR ANC SPACING.
   OR
   METAL STUD FRAMING - #14 FHMS W/ MIN 3 THREADS EXPOSED BEYOND BACKING PLATE. 3" MAX FROM EA END. BACKING PL TO BE 0.0538" THK X 6" HIGH GALV 50 KSI STL PL. ANC PL TO EA WALL STUD W/ 3-#10X1" LONG FHMS. REF CASEWORK FSTN LOCATION EL FOR ANC SPACING.
   OR
   MASONRY- 3/8" DIA HILTI KWIK BOLT 3 W/ 2-1/2" MIN EMBEDMENT & 4" MIN EDGE DISTANCE. ICC/ES NO. 1385. 3" MAX FROM EA END. INSTAL TORQUE 15 FT LB. REF CASEWORK FSTN EL FOR ANC SPACING.
   OR
   CONCRETE - 3./8" DIA HILTI KWIK BOLT KB-TZ2 W/ 2" MIN EMBEDMENT & 6" MIN EDGE DISTANCE ICC/ES NO. ESR-4266. 3" MAX FROM EA END. INSTAL TORQUE 25 FT LB. REF CASEWORK FSNT EL FOR ANC SPACING.
6. 3/4" PARTICLE BOARD BASE
7. CONT 2-1/2" X 2-1/2" X 0.0538" THK GALV 50 KSI BENT SHT STL ANGLE
8. 3/4" MEDIUM DENSITY FIBERBOARD FASCIA
9. 2 x 12 GUSSET @ 16"OC, 3" FROM EACH END W/ #12 x 2" LONG FHWS, SET 2X IN GLUE, NO EXPOSED SCREW HEADS IN EXPOSED VERTICAL PORTIONS OF FASCIA.
10. #12 x 1-1/2" LONG FHWS - 4" FROM EA END AND @ 12" OC
11. 3/8" DIA SIMPSON STRONG BOLT 2 W/ 2" MIN EMBEDDMENT, 3" FROM EA END & AT 24" OC W/ 6" MIN EDGED DISTANCE. ICC/ES NO. 3037, INSTAL TORQUE 30 FT LB MINIMUM 2 PER CABINET.

NOTE: REFER TO CASEWORK ANCHORAGE DETAILS, CASEWORK FASTENER SCHEDULE AND LOCATION ELEVATIONS FOR FURTHER EXPLANATION AND DETAIL.

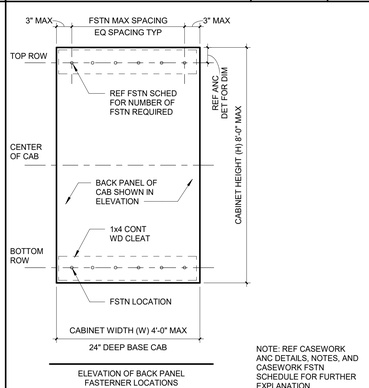
ANCHORAGE NOTES	NTS	2



ELEVATION OF BACK PANEL FASTERNER LOCATIONS

NOTE: REF CASEWORK ANC DETAILS AND NOTES FOR FURTHER EXPLANATION AND DETAIL

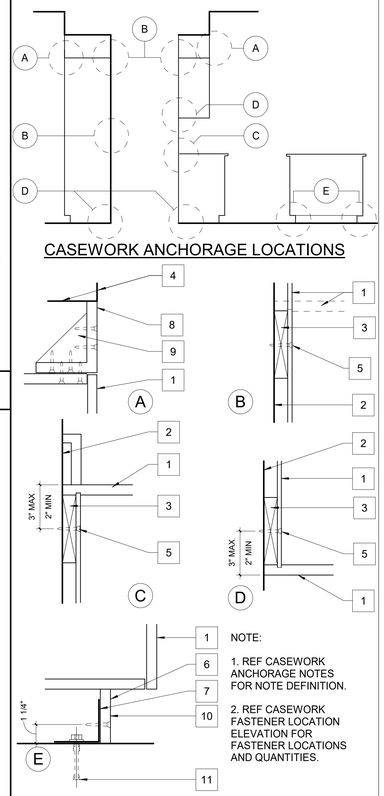
FASTENER LOCATION	NTS	7



ELEVATION OF BACK PANEL FASTERNER LOCATIONS

NOTE: REF CASEWORK ANC DETAILS, NOTES, AND CASEWORK FSTN SCHEDULE FOR FURTHER EXPLANATION AND DETAIL

FASTENER LOCATION	NTS	8



CASEWORK ANCHORAGE LOCATIONS

NOTE:
1. REF CASEWORK ANCHORAGE NOTES FOR NOTE DEFINITION.
2. REF CASEWORK FASTENER LOCATION ELEVATION FOR FASTENER LOCATIONS AND QUANTITIES.

ANCHORAGE DETAILS	NTS	4

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DSA SUBMITTAL DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

MILLWORK DETAILS AND SCHEDULES

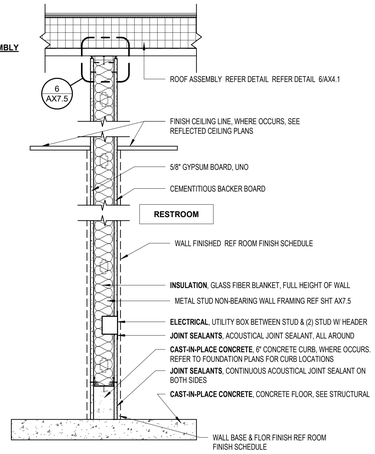
AX5.3

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
CHECKED BY:
XX
DRAWN BY:
XX
PLOT STAMP:
12/15/2025 4:47:09 PM

WALL TYPE
AX7.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

TYPICAL WALL ASSEMBLY

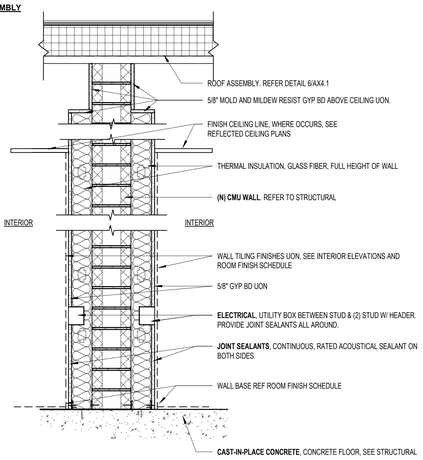


TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
B1	6" REF SHT AX7.5	(1) LAYER GYP BOARD - (1) LAYER CEMENTITIOUS BACKER BOARD
B2	4" REF SHT AX7.5	(2) LAYER CEMENTITIOUS BACKER BOARD
B3	6" REF SHT AX7.5	(2) LAYER CEMENTITIOUS BACKER BOARD
B4	10" REF SHT AX7.5	(2) LAYER CEMENTITIOUS BACKER BOARD

NON-RATED METAL STUD WALL W/ CURB | 1" = 1'-0" | 7

TYPICAL WALL ASSEMBLY

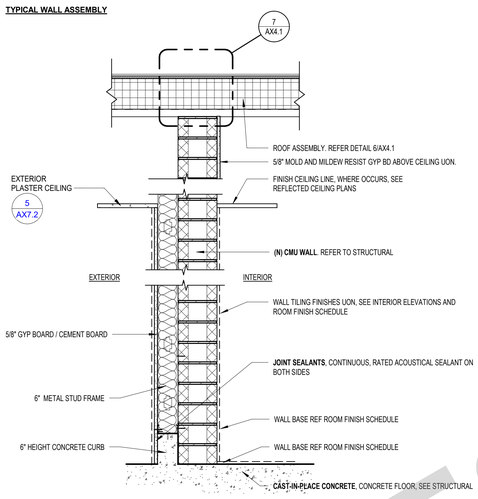


TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
A6	4" MTL + 8"X8" CMU + 6" MTL	PROVIDED 6" CONCRETE CURB & CEMENT BOARD WHERE SPACE IS LOCATED IN RESTROOM, REF TO A2.3
A7	4" MTL + 8"X8" CMU + 4" MTL	PROVIDED 6" CONCRETE CURB & CEMENT BOARD WHERE SPACE IS LOCATED IN RESTROOM, REF TO A2.3
A8	6" MTL + 8"X8" CMU + 6" MTL	PROVIDED 6" CONCRETE CURB & CEMENT BOARD WHERE SPACE IS LOCATED IN RESTROOM, REF TO A2.3

FURRED INTERIOR CMU WALL | 1" = 1'-0" | 5

TYPICAL WALL ASSEMBLY

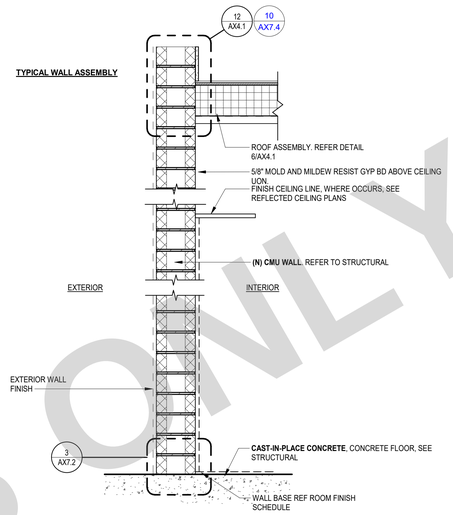


TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
A3	8"X8" CMU + 6" MTL	(1) LAYER CEMENTITIOUS BACKER BOARD ON METAL STUD

EXTERIOR NON-RATED WALL | 1" = 1'-0" | 3

TYPICAL WALL ASSEMBLY

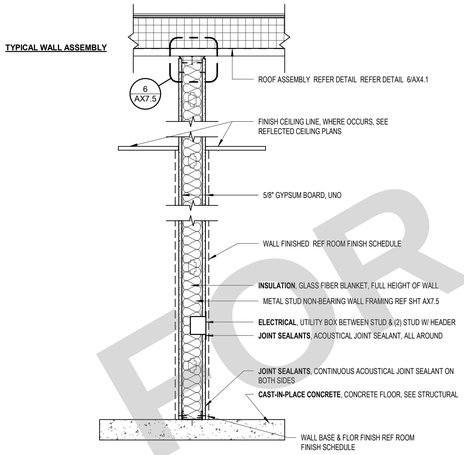


TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
A1	8" X 8" CMU	

EXTERIOR CMU WALL | 1" = 1'-0" | 1

TYPICAL WALL ASSEMBLY

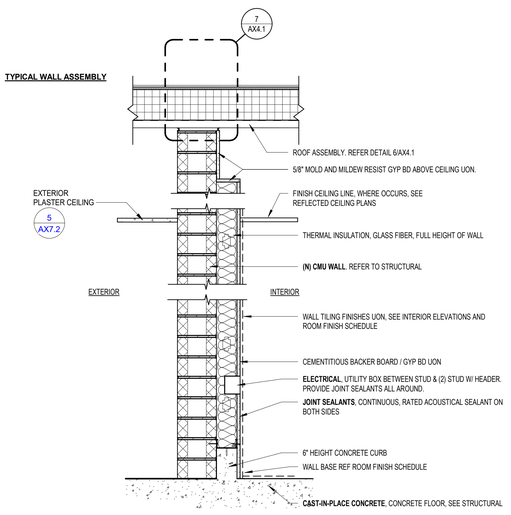


TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
B5	4" - REF SHT AX7.5	(1) LAYER GYP BOARD ONE SIDE
B6	6" - REF SHT AX7.5	(1) LAYER GYP BOARD BOTH SIDE

NON-RATED METAL STUD | 1" = 1'-0" | 8

TYPICAL WALL ASSEMBLY

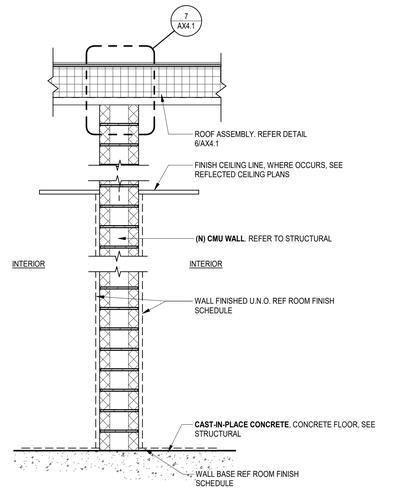


TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
A4	8"X8" CMU + 6" MTL	PROVIDED 6" CONCRETE CURB & CEMENT BOARD WHERE SPACE IS LOCATED IN RESTROOM, REF TO A2.3
A5	8"X8" CMU + 4" MTL	PROVIDED 6" CONCRETE CURB & CEMENT BOARD WHERE SPACE IS LOCATED IN RESTROOM, REF TO A2.3

EXTERIOR NON-RATED WALL | 1" = 1'-0" | 4

TYPICAL WALL ASSEMBLY



TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
A2	8" X 8" CMU	

INTERIOR CMU WALL | 1" = 1'-0" | 2

FOR BID PURPOSES ONLY

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_Central.rvt

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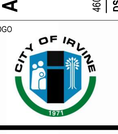
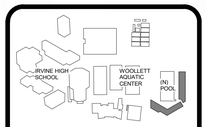
949-548-5000 P

WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO





DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

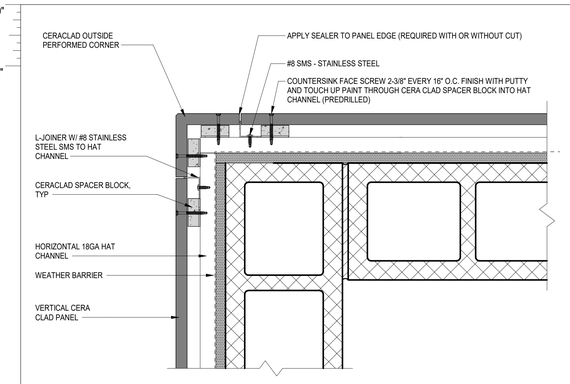
BUILDING NUMBER

WALL TYPE

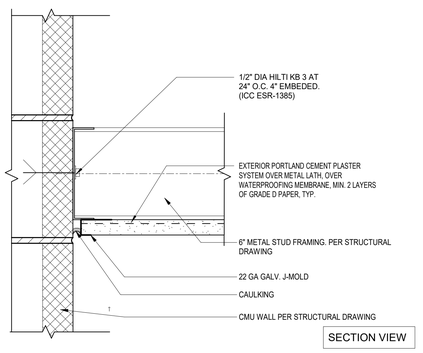
AX7.1

WALL DETAILS
AX7.2
FOR BLUEBEAM LABELING/OCR:

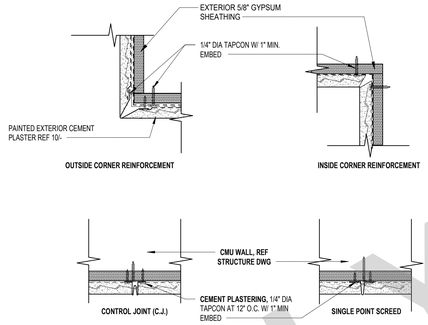
0"
1"



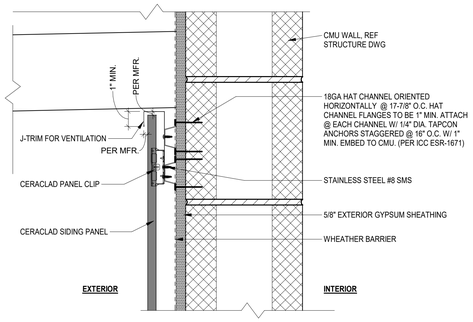
CERACLAD @ CORNER | 3" = 1'-0" | 13



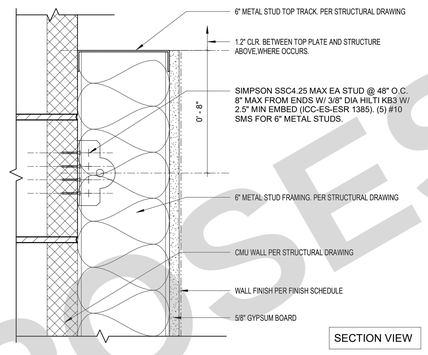
EXTERIOR PLASTER CEILING AT CMU WALL | 3" = 1'-0" | 5



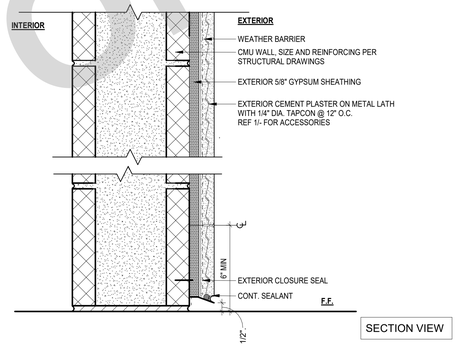
CEMENT PLASTER ACCESSORIES @ CMU WALL | 3" = 1'-0" | 1



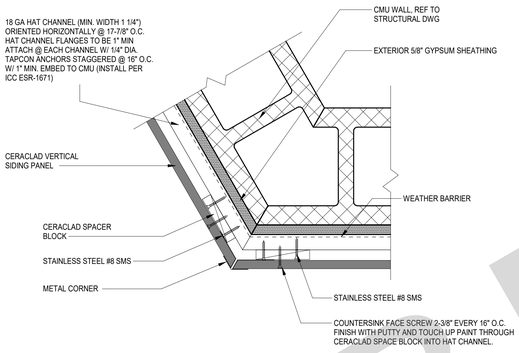
CERACLAD @ BELOW ROOF | 3" = 1'-0" | 14



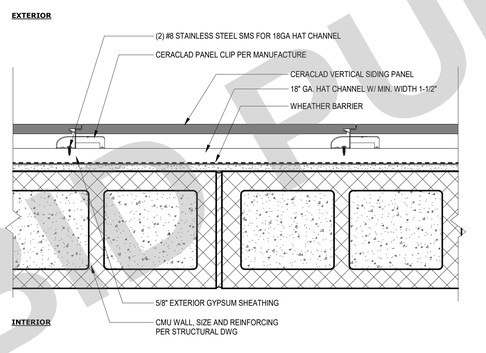
HEAD OF METAL STUD FURRING AT CMU DETAIL | 3" = 1'-0" | 6

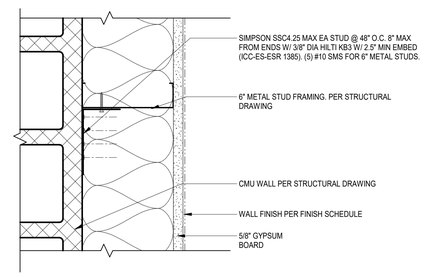


EXTERIOR PLASTER ON CMU WALL | 3" = 1'-0" | 2

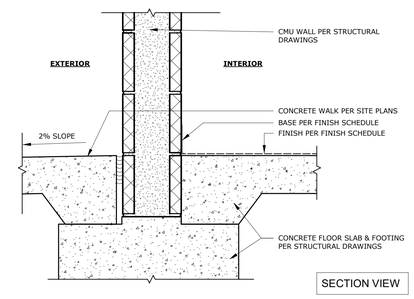


CERACLAD @ 120 CORNER WALL | 3" = 1'-0" | 15

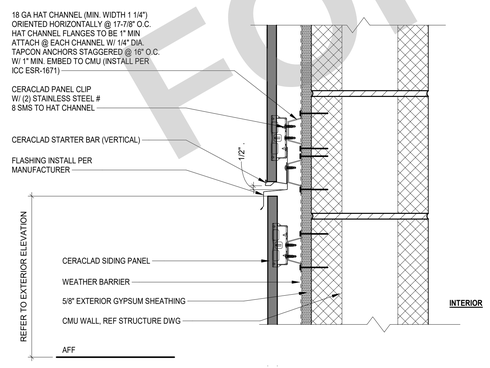




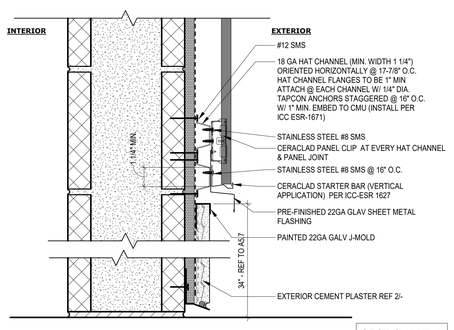
METAL STUD FURRING AT CMU DETAIL | 3" = 1'-0" | 7



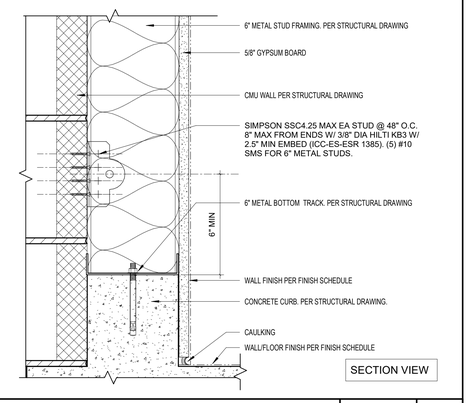
CMU WALL FOOTING | 1 1/2" = 1'-0" | 3



CERACLAD PANEL JOINT | 3" = 1'-0" | 16



CERA CLADDING @ CMU WALL | 3" = 1'-0" | 12



BASE OF FURRING AT CMU WALL | 3" = 1'-0" | 8

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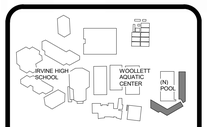
DSA APPL NO.: 04-124187
DSA FILE NO.: 30-H15

CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

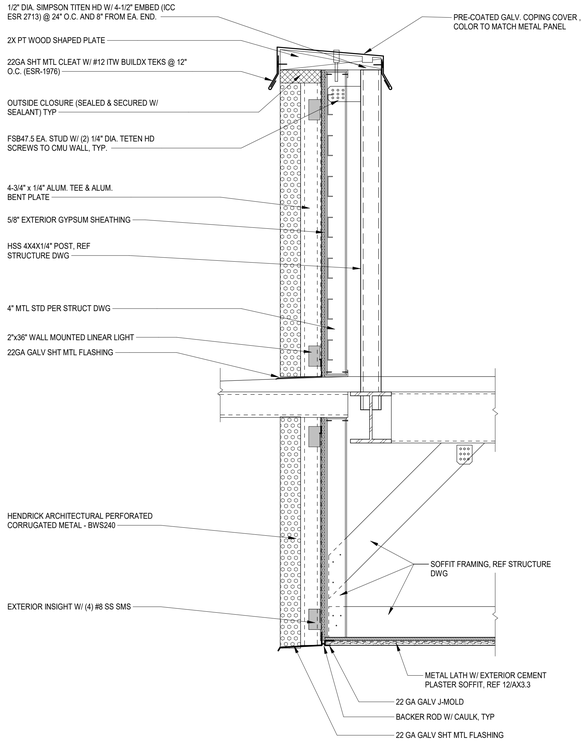
BID DOCUMENTS

BUILDING NUMBER

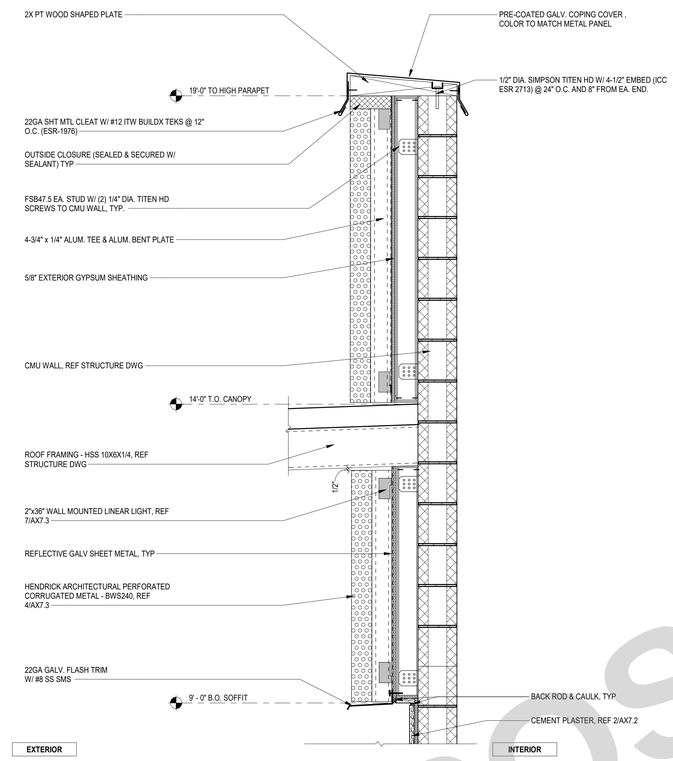
WALL DETAILS

AX7.2

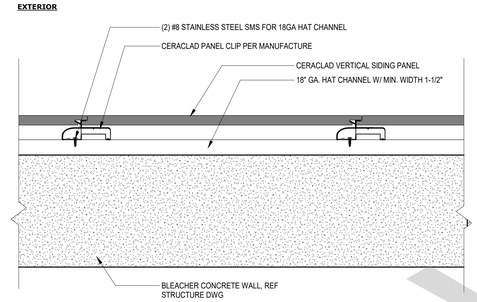
WALL DETAILS
AX7.3
FOR BLUEBEAM LABELING/OCR:



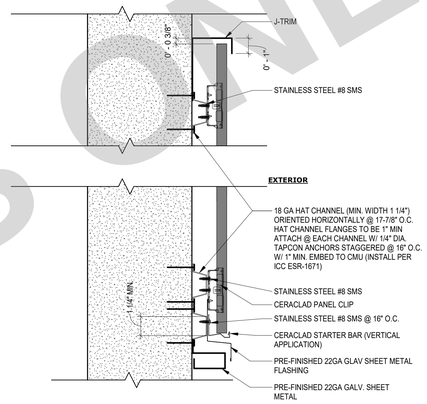
PERFORATED METAL WALL @ MTL STUD FRAME & ROOF | 1" = 1'-0" | 18



PERFORATED METAL WALL @ CMU & ROOF | 1" = 1'-0" | 10

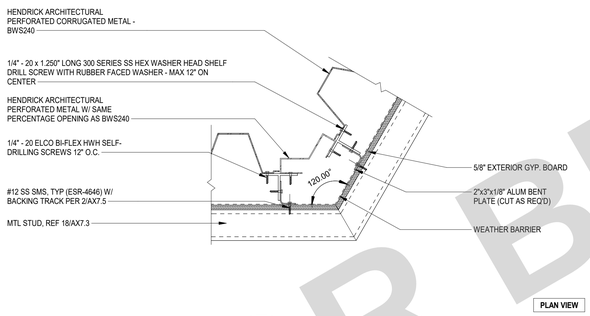


PLAN VIEW



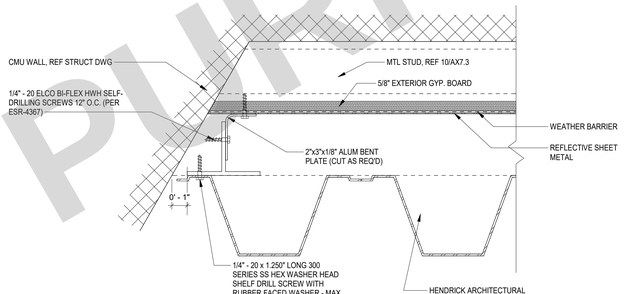
SECTION VIEW

CERA CLADDING @ CONCRETE WALL | 3" = 1'-0" | 2



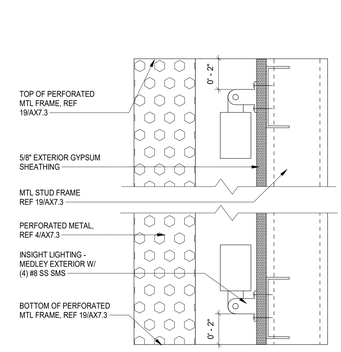
PLAN VIEW

PERFORATED METAL WALL @ MTL STUD FRAME & ROOF | 1" = 1'-0" | 18

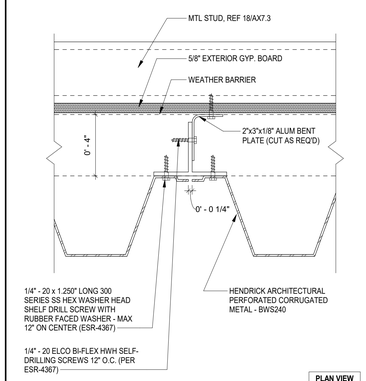


PLAN VIEW

PERFORATED MTL @ CMU CORNER | 3" = 1'-0" | 11

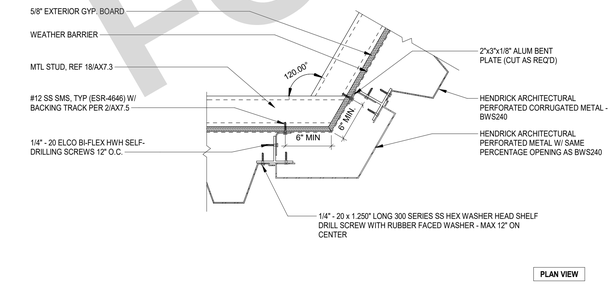


EXTERIOR LIGHT @ PERFORATED MTL | 3" = 1'-0" | 7



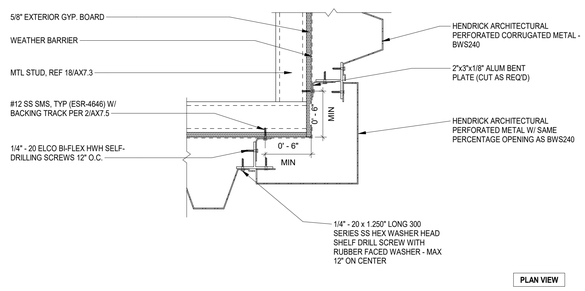
PLAN VIEW

PERFORATED MTL @ VERTICAL JOINT | 3" = 1'-0" | 3



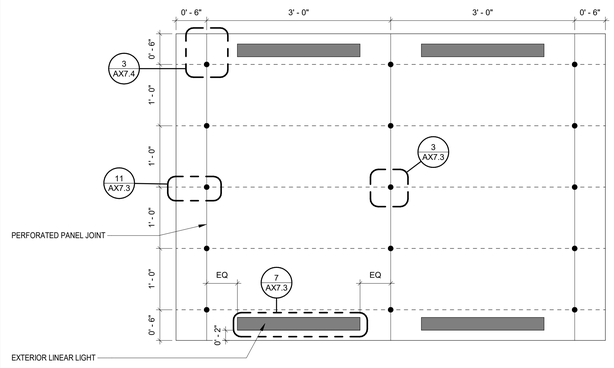
PLAN VIEW

PERFORATED MTL @ 120 DEGREE CORNER | 1 1/2" = 1'-0" | 20



PLAN VIEW

PERFORATED MTL @ CORNER | 1 1/2" = 1'-0" | 12



PERFORATED METAL PANEL | 1" = 1'-0" | 4

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DSA FILE NO.: 30-H15
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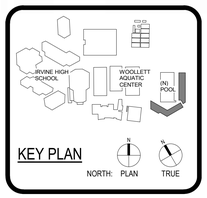
CLIENT LOGO



DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

WALL DETAILS

AX7.3

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
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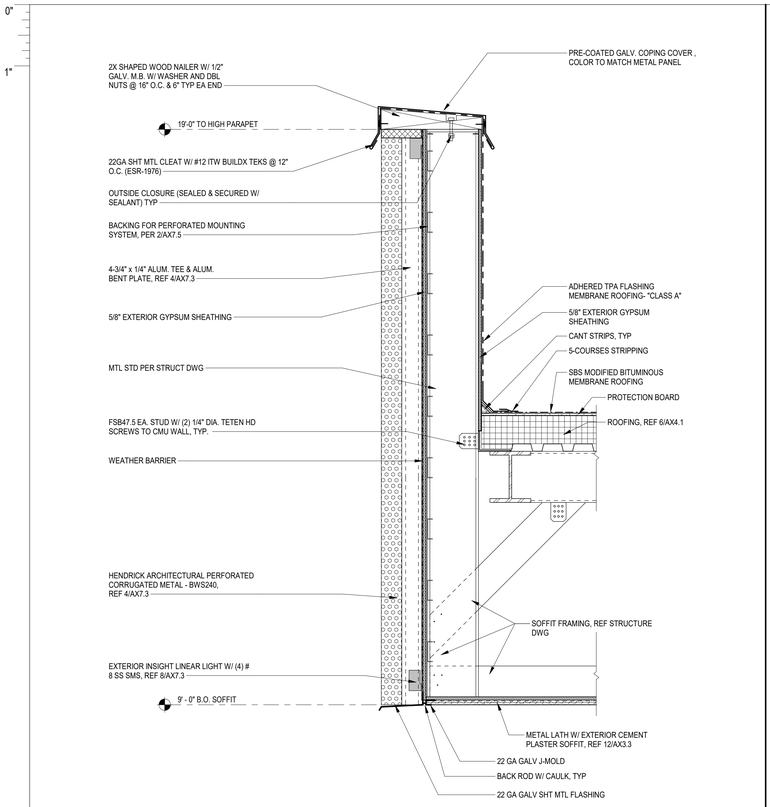
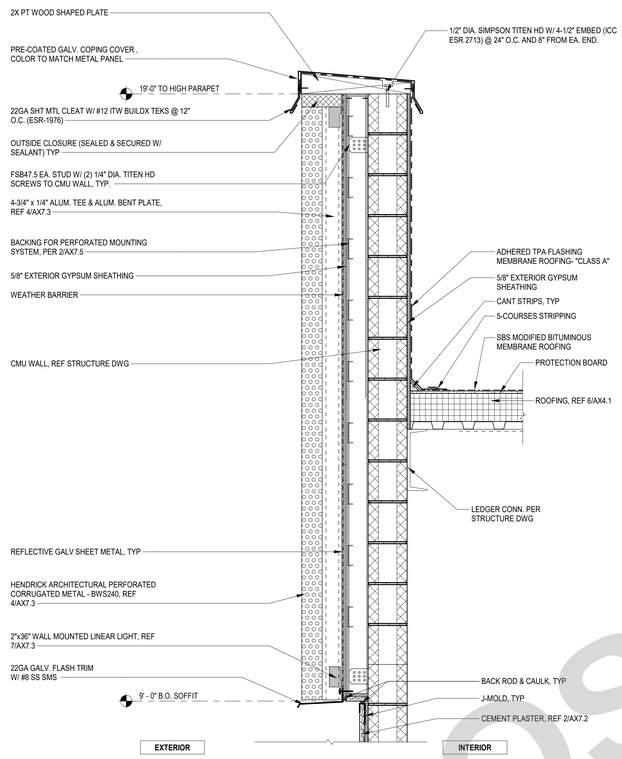
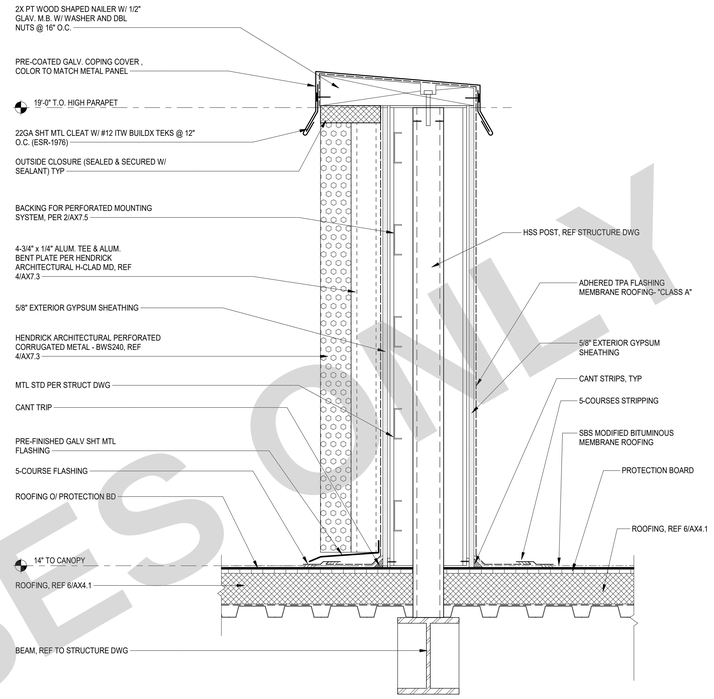


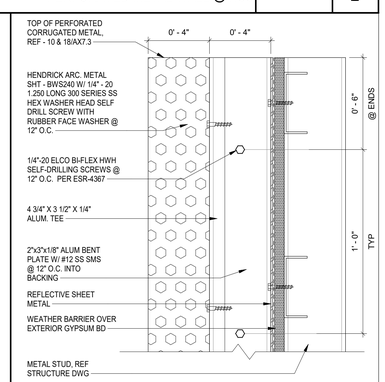
PERFORATED METAL WALL @ MTL STUD FRAME | 1" = 1'-0" | 18



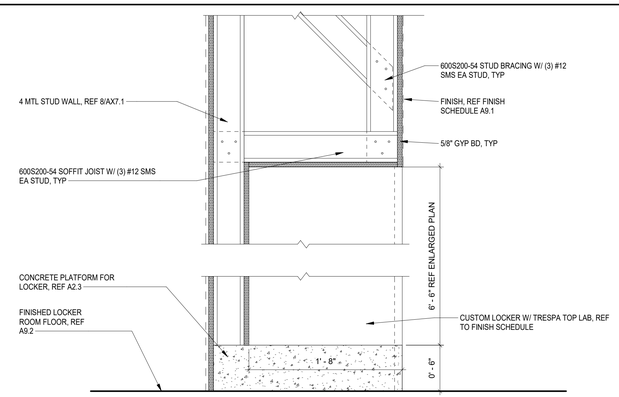
PERFORATED METAL WALL @ CMU | 1" = 1'-0" | 10



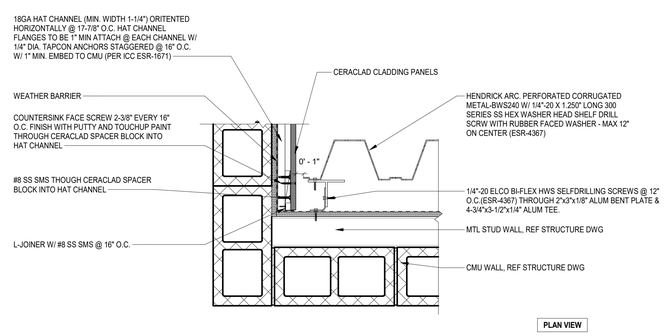
PERFORATED METAL WALL @ HSS | 1 1/2" = 1'-0" | 2



PERFORATED MTL @ TOP | 3" = 1'-0" | 3



LOCKER ROOM SOFFIT | 1 1/2" = 1'-0" | 8



PERFORATED MTL @ CLADDING | 1 1/2" = 1'-0" | 4

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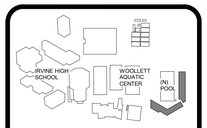

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

WALL DETAILS

AX7.4

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
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METAL STUD DETAILS
AX7.5
FOR BLUEBEAM LABELING/OCR:

0"
1"

STUD BLOCKING SAME SIZE AND GAUGE AS CEILING JOIST AT 8'-0" O.C. MAX AT EACH CHANNEL TRACK LOCATION WITH 4- #8 TEK TO TRACK

1- #8 TEK SCREWS AT EACH JOIST
4"X43 MILS CHANNEL TRACK AT 48" O.C. MAX
CEILING JOIST AS PER SCHEDULE TYP
2- #8 TEK EACH END BLOCKING TO JOIST
CEILING FINISH REF FINISH SCHEDULE
CUT FLANGES AND BEND WEBS FOR SCREW ATTACHMENT AT STUD BLOCKING
CEILING ATTACHMENT TO BLOCKING PER CODE (3- #8 MIN)

NOTE:
BRACING NOT REQUIRED WHERE APPROVED CONTINUOUS SHEATHING ATTACHED TO TOP OF JOIST OCCURS.

TYP CEILING JOIST BRACING | 1 1/2" = 1'-0" | 21

REF DET 11/- & 21/- FOR TOP FLANGE BRACING WHERE OCCURS
REF DET 11/- & 21/- FOR TOP FLANGE BRACING WHERE OCCURS
APPROVED SHEATHING WHERE OCCURS
2- #8 TEK EACH STUD
#8 TEK AT 6" O.C.
STUD AND TRACK PER SCHEDULE
WALL AND CEILING FINISH AS OCCURS REF FIN SCHED -TYP

JOISTS PARALLEL TO WALL

WALL FINISH REF FINISH SCHED
54 MILS UNPUNCHED TRACK (1-1/2" LEG) WITH 2- #8 SCREWS EACH STUD
1- #8 SCREW EACH FLANGE
12" MAX
LOCATE 1ST BRIDGING BELOW CEILING JOIST

WALL FINISH REF FINISH SCHED
BRIDGING WHERE OCCURS
2- #8 TEK SCREWS TYP AT 4" STUD OR JOIST
4- #8 TEK SCREWS TYP AT 6" STUD OR JOIST
JOIST PER SCHEDULE
2X2X43 MILS ANGLE WITH 2- #8 EACH LEG TO STUD & CEILING JOIST
STUD PER SCHEDULE

JOISTS PERPENDICULAR TO WALL

BLOCKING SAME THICKNESS AS CEILING JOIST WITH 4- #8 TEK TO WALL TRACK
CUT FLANGE OF BLOCKING, BENT WEB & SCREW WITH 2- #8 TEK TYP
#8 TEK EACH STUD
12" MIN JOIST
LAP WHERE OCCURS OVER SUPPORT WITH 2- #8 TEK SCREWS AT EACH END OF LAP
JOIST PER SCHEDULE
STAGGER BENT WEB OR BLOCKING EACH SIDE OF JOIST
STUD & TRACK PER SCHEDULE
MASONRY WALL
1/2" DIA HILTI KB 3 AT 24" O.C. 4" EMBEDED. (ICC ESR-1385)
JOIST AND TRACK
2X WOOD STUD WALL
2- #8 , 2-1/2" LONG WOOD SCREWS AT EACH STUD
JOIST AND TRACK
#8 TEK EACH STUD

CEILING JOISTS CONTINUED OVER WALL

GENERAL STUD NOTES | 1" = 1'-0" | 1

GENERAL NOTES:

1. METAL STUDS SHALL COMPLY WITH ICC-ESR-3064P
   -METAL STUD EFFECTIVE PROPERTIES ARE:
   -Fy=50ksi 54 MIL SECTIONS.
   -Fy= 33ksi FOR 43 AND 33 MILS SECTIONS.
2. 362S137-33 SEE MANUFACTURES CALL-OUT FOR 1.STUD DEPTH, 2.STUD STYLE, 3.FLANGE WIDTH AND 4.STUD THICKNESS, REFER TO TYP STUD SECTION BELOW

CEILING JOIST:
1. ALL DBL JOIST TO BE 54 MILS
2. TOP OF ALL CEILING JOIST SHALL BE BRACED @ 48" O.C. MAX
3. CEILING D.L. = 6 PSF

PARTITIONS:
1. ALL TRACKS TO BE ONE MIL THICKER THAN STUDS OR JOIST FRAMING TO THEM UNLESS THICKER MILS REQUIRED AS NOTED BELOW OR NOTED OTHERWISE:
   A) PERIMETER WALLS = 54 MILS MIN
2. ALL STUDS SUPPORTING DBL JOIST TO BE 54 MILS
3. ALL PARTITIONS SUPPORTING ANY OF THE FOLLOWING ITEMS SHALL BE 54 MILS:
   A) HUNG CABINETS.
   B) FREE STANDING CABINETS AND EQUIPMENT TALLER THAN 36" SHALLBE ANCHORED TO WALL.

MAXIMUM SPAN FOR CEILING JOIST INTERIOR STEEL STUD SECTIONS

TYPE	SPACING	33	43
400S137	12"	11'-10"	13'-0"
	16"	11'-0"	12'-0"
600S137	12"	13'-4"	14'-6"
	16"	12'-4"	13'-4"

METAL TRACK DEEP LEG SECTION PROPERTIES

SECTION	Sx" 3	Ix" 4
250T200-54	0.228	0.396
362T200-54	0.372	0.879
400T200-54	0.379	1.037
600T200-54	0.717	2.641

TYP S STUD SECTION

MAXIMUM HEIGHT FOR NON-BEARING INTERIOR STEEL STUDS, 'S' SECTION

TYPE	SPACING	33	43	54
362S137	12"	18'-5"	20'-0"	21'-5"
	16"	16'-9"	18'-2"	19'-6"
400S13	12"	19'-11"	21'-8"	23'-2"
	16"	18'-1"	19'-8"	21'-0"
600S137	12"	27'-5"	29'-10"	32'-0"
	16"	24'-11"	27'-2"	29'-1"

METAL STUD SECTION PROPERTIES

SECTION	Sx" 3	Ix" 4	SECTION	Sx" 3	Ix" 4
250S137-33	0.156	0.203	400S137-33	0.290	0.603
250S137-43	0.205	0.261	400S137-43	0.382	0.776
250S137-54	0.252	0.318	400S137-54	0.477	0.953
362S137-33	0.254	0.478	600S137-33	0.510	1.392
362S137-43	0.334	0.616	600S137-43	0.670	2.042
362S137-54	0.417	0.745	600S137-54	0.830	2.518

TYPICAL NON-BEARING WALL | 1 1/2" = 1'-0" | 18

LIGHT WEIGHT CONCRETE OVER METAL DECK
3-HILTI SHOT PINS WITH 1 1/2" MIN EMBEDMENT (ICC ESR2269)
68 MIL CLIP ANGLE 4"X4"X26" LG
3- #12 S.M.S.
43 MIL STUD BRACE

STUD BRACE PERPENDICULAR TO ROOF METAL DECK

METAL DECK
68 MIL CLIP ANGLE 4"X4"X16" LONG
3- #12 S.M.S.
3- #12 S.M.S.
43 MIL STUD BRACE

STUD BRACE PERPENDICULAR TO ROOF METAL DECK

METAL BRACES @ 8'-0" O.C. ALTERNATE
1 1/2" FURRING C: L = 4'-0" MAX.
4"X 43 MIL STUD: L = 8'-0" MAX.
L 3"X3"X3/16": L = 12'-0" MAX.
68 MIL BENT PLATE WITH 3- #12 S.M.S. TYPICAL AT EACH LEG
3-HILTI SHOT PINS WITH 1 1/2" MIN EMBEDMENT (ICC ESR2269)
LIGHT WEIGHT CONCRETE OVER METAL DECK
68 MIL CLIP ANGLE 4"X4"X26" LG AT LOW DECK CORRUGATION
3- #12 S.M.S.
43 MIL STUD BRACE
CONTINUOUS TRACK
CEILING LINE
METAL STUDS

STUD BRACE PARALLEL TO ROOF METAL DECK

METAL DECK PER PLAN
68 MIL X 3" - 4" LONG PLT. WITH 3-#12 S.M.S. AT EACH LEG
68 MIL CLIP ANGLE 4"X4"X16" LONG WITH 3-#12 S.M.S. AT LOW CORRUGATION
43 MIL STUD BRACE

STUD BRACE PARALLEL TO ROOF METAL DECK

TYPICAL STEEL STUD CONNECTIONS | 1 1/2" = 1'-0" | 6

METAL DECK OR METAL DECK AND CONCRETE
FASTNERS - 3 #12 SMS
1/2" CLR
54 MIL X CONT. STL PL. - ATTACH TO 3 FLUTES MIN
SLOTTED TRACK
2 #12 SMS @ 24" OC
METAL STUD

A - TOP CONNECTION PARALLELTO DECK

METAL DECK OR METAL DECK AND CONCRETE
1/2" CLR
SLOTTED TRACK
METAL STUD
SLOTTED TRACK CONTINUOUS WITH 0.177" DIAMETER X1 1/2"@24" O.C. HILTI SHOT PINS (ICC ESR 2269) 2-#12 SMS @24" O.C. TO METAL DECK WITHOUT CONCRETE TOPPING TYP.

B - TOP CONNECTION PERPENDICULAR TO DECK

10D @ 12" O.C.
3-16D EACH END
1/2" CLR
SLOTTED TRACK
FLOOR OR ROOF SHEATHING
FLOOR OR ROOF JOISTS
1/2" CLR
SLOTTED TRACK
2X BLK'G @ 32" O.C.
#10 W.S. @ 32" O.C.
METAL STUDS

PARALLEL **PERPENDICULAR**

C - TOP CONNECTION AT WOOD

CONCRETE SLAB
CONT. STUD TRACK W/.177 X 1'-8" @ 24" O.C. HILTI SHOT PINS. (ICC ESR 2269)

D - TOP CONNECTION AT CONCRETE

METAL STUD
CONCRETE
CONT. STUD TRACK WITH HILTI X-U 0.177" DIA. X 1 1/2" @ 32" O.C. HILTI SHOT PINS (ICC ESR 2269) AT STUDS WITH CABINTRY, 3/8" DIA. @ 16" O.C. 3" EMBED. HILTI KB TZ2 (ICC ESR 4266)
1 1/2" MIN
3 3/4" MIN
EDGE OF CONCRETE WHERE OCCURS

E - TYPICAL BASE

WALL FINISH AS OCCURS- REF FIN SCHED - TYP
3/8" DIA. @ 32" O.C. 3" EMBED HILTI KB TZ2 (ICC ESR 4266)
3" MIN

F - AT CURB

STUD BACK-UP | 1 1/2" = 1'-0" | 2

1/8" 1"
BACK-UP TD 600T200-54 (UNP) BETWEEN STUDS OR AS NOTED
1/8" 1" 2 PLC'S.
4"X54 MILS @ 16" O.C. (MIN. STUD SIZE)

TD 6X54 MIL BACK-UP WITH WELDING

400S 137-54 @ 16" O.C. (MIN STUD SIZE)
BACK-UP TD 600T200-54 (UNP) BETWEEN STUDS OR AS NOTED
3-#10-S.M.S.

TD 6X54 MIL BACK-UP WITH SCREWS

TYP WALL INTERSECTIONS | 1" = 1'-0" | 24

#6 GA S.M.S. @ 30" O.C. STUD TO STUD
#6 GA SMS @30" O.C. STUD TO TRACK
TYP TRACK
TYP STUD

TYPICAL CORNERS

TYP TRACK BELOW
#6 GA S.M.S. @ 30" O.C. STUD TO STUD
STUD
TRACK
STUD

TYPICAL INTERSECTION

STUD WEB PENETRATIONS | 1 1/2" = 1'-0" | 19

NOTES:

1. FLANGES SHALL NOT BE NOTCHED OR CUT.
2. PRIOR VERIFICATION IS REQUIRED FOR ANY OPENINGS LOCATED AT CONCENTRATED LOADS AND BEARING ENDS.
3. FOR UNPUNCHED MEMBERS OBTAIN APPROVAL PRIOR TO ANY FIELD PENETRATIONS.

OPENING CENTERED IN WEB
REINFORCEMENT REQUIRED - FOR PENETRATIONS GREATER THAN PUNCH-OUT DEPTH USE 54 MIL. SQ. PLATE SIZE OF STUD WITH 6-#8 S.M.S. AS SHOWN, MAX OPENING 1/2" STUD WIDTH.

SOLID BLOCKING @ STUDS | 1" = 1'-0" | 15

CLIP ANGLE, SAME THICKNESS AND LEG WIDTH AS STUD SIZE, ATTACH TO STUD & BLOCKING WITH 4-#10 S.M.S. AT EACH LEG
SOLID BLOCKING SAME SIZE AND THICKNESS AS STUDS

ANCHOR @ STUD WALL | 1 1/2" = 1'-0" | 11

43 MILS STUD BLOCKING CUT FLANGES AND BEND UP WEB WITH 1- #8 EACH FLANGE 2- #8 EACH WEB
4"X43MIL. CHANNEL TRACK AT 48" O.C. WITH 4-#8 TEK SCREWS TO WALL BLOCKING

STEEL STUD FLANGE BRACING | 1 1/2" = 1'-0" | 3

PROVIDE BLOCKING SAME THICKNESS AS STUD @ 8'-0". IF STRAP IS USED, BLOCKING MUST BE AT EACH END. COPE FLANGES, BEND WEB AND USE 2-#8 TEK SCREWS OR WELD WITH 1/8" x 1/2" FILLET WELD E.S.
54 MILS x 1-1/4" STRAP WITH #8 SMS EACH STUD OR WELD WITH 1/8" x 1/2" FILLET WELD ON EACH SIDE
4-#8 SCREWS OR 4 - 1/8" x 3/4" FILLET WELDS EACH SIDE OF STRAP TO BLOCKING

NOTE:
USE THIS BRACING AT MID HEIGHT FROM FLOOR TO FLOOR, AND SPACING SHALL NOT EXCEED 3'-0" O.C.

NOTE:
PROVIDE STRAP ON SIDE WITH NO FINISH MATERIAL ON WALL. IF NO FINISH ON EITHER SIDE, PROVIDE STRAP ON EACH SIDE.

OPTIONAL METHOD OF LARGE BRACING

METAL STUDS, TYP
1/8" 1/2"
CRC OR BN CHANNEL
4- #8 SCREWS 12" EACH LEG)
CONTINUOUS CHANNEL POSITIONED THRU STUD PUNCHOUTS AT 4'-0" O.C.

BRIDGING CHANNEL WELD-ATTACHED USING BRIDGE CLIP

BRIDGING CHANNEL SCREW-ATTACHED USING BRIDGE CLIP

TYPICAL INTERIOR METAL STUDS | 1 1/2" = 1'-0" | 4

SIDE VIEW
1" TYP
1/4" TYP
1/2"
2-1/2"
1-1/2" TYP
1/2" TYP
VARIES (3-5/8" TO 8")
2-1/2"
P
1-1/4"
1-1/4"
1/4"
#8 X ~9 WAFERHEAD FRAMING SCREWS (TYP)
METAL STUD
STUD WALL WIDTH VARIES

STUD SIDE VIEW | 1 1/2" = 1'-0" | 23

SILL SCHEDULE

SILL LENGTH	'A'	'B'
UP TO 6'-0"	NOT REQ'D	NOT REQ'D
6'-1" TO 8'-0"	54 MIL	54 MIL

2 ROWS OF #10 SMS @ 24" O.C. (STAGG.) IN LIEU OF WELDING
OPENING
UNPUNCHED CHANNEL STUD SEE "B" IN SILL SCHEDULE (SAME WIDTH AS WALL STUD)
UNPUNCHED TRACK, SEE "A" IN SILL SCHEDULE
IN LIEU OF WELDING USE #10 S.M.S. @ 12" O.C. EACH SIDE (STAGG.)
1/16" 1-1/2" - 12
1/16" 1-1/2" - 12
#10 SMS ON EACH SIDE AT EACH STUD
54 MIL UNPUNCHED TRACK TYP

D - SILL SECTION

WHERE STUDS ARE ABOVE OR BELOW HEADER TURN TRACK UP OR DOWN TO STUD FOR ATTACHMENT AS SHOWN
2-#8 SMS @ HDR TYP
#8 SMS @ 12" O.C. MAX TYP
4-#8 SMS
TRACK
ALTERNATE JAMB STUD FRAMING SHOWN

TOP TRACK AT FLOOR OR ROOF
STEEL STUD @ 16" OC
#8 SMS IN TURNED UP TRACK WEB
HEADER SPAN "L" (JAMB TO JAMB)
STUD BRIDGING EACH SIDE OF OPENING
4" MAX

C - DOOR HEAD

#8 SMS @ 12" O.C. MAX TYP
ALTERNATE HEADER FRAMING

DOUBLE STUD HEADER SEE SCHEDULE
TOP TRACK AT FLOOR OR ROOF
STEEL STUD @16" O.C.
STEEL STUD TRACK
STUD WITH 4-#8 SMS TO JAMB STUD
HEADER SPAN "L" (JAMB TO JAMB)
STUD BRIDGING EACH SIDE OF OPENING
STEEL STUD @ 16" O.C., TYP
STEEL STUD TRACK
#8 SMS EA STUD FLANGE TO TRACK
4" MAX

HEADER SCHEDULE

HEADER SPAN	DOUBLE STUD HEADER	TRACK SIZE
L<4'-0"	4" X 43 MIL	6" X 43 MIL
L<8'-0"	6" X 43 MIL	6" X 43 MIL

A - WINDOW HEAD

TYP BRIDGING CONNECTION @4'-0" O.C. WHEN WALL IS NOT SHEATHED ON BOTH SIDES REF DET 3/-
6
3
1'-0" MAX
D
A
C
X
W (FEET)
4" MAX
B
4" MAX
STUDS
6E
AT EACH SIDE OF JAMB, TYP
54 MILS TRACK TO MATCH STUD SIZE

B - JAMB SECTION
W=0' TO 8'-0"

43 MIL TRACK WITH #10 SMS @ 6" O.C. EACH STUD
(2)-C6 OR 8" x 43 MIL STEEL STUDS
OPTION TO SCREW

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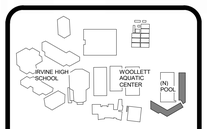

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

METAL STUD DETAILS

AX7.5

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_Central.rvt
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DRAWN BY: XX
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WALL TYPE

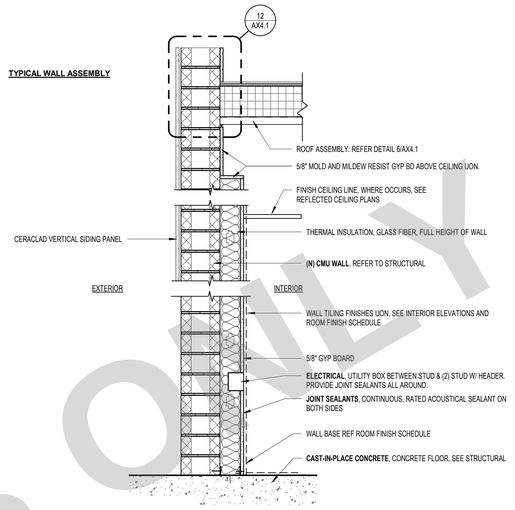
AX7.6

FOR BLUEBEAM LABELING/OCR:

0"

1"

TYPICAL WALL ASSEMBLY



TYPICAL WALL ASSEMBLY TABLE

WALL TYPE	STUD SIZE	WALL ASSEMBLY
A8	8"X8" CMU + 4" MTL	(1) LAYER GYP. BOARD ON METAL STUD WALL

EXTERIOR NON-RATED WALL | 1" = 1'-0" | 1

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DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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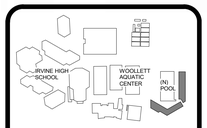
CITY OF IRVINE 1971



DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/15/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

WALL TYPE

AX7.6

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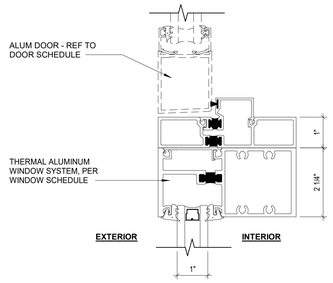
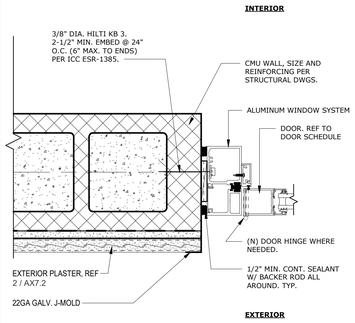
DOORS DETAILS
AX8.1
FOR BLUEBEAM LABELING/OCR:

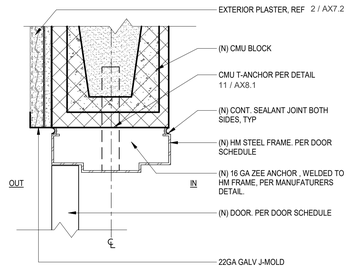
0"
1"



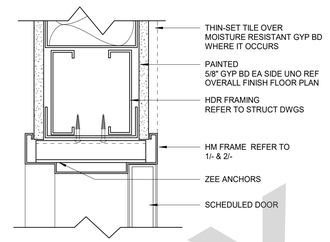
ALUM. DOOR JAMB @ WINDOW | 6" = 1'-0" | 13



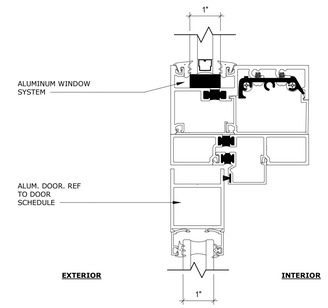
EXT. ALUM. DOOR JAMB AT CMU | 3" = 1'-0" | 9



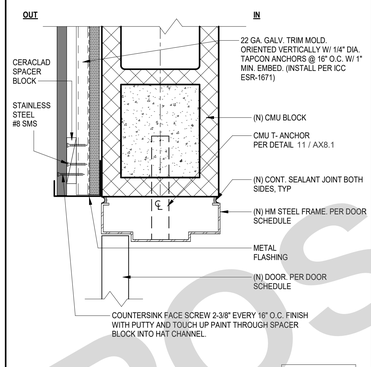
HM DOOR JAMB/HEAD @ CMU PLASTER | 3" = 1'-0" | 5



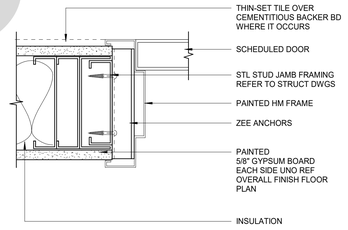
HM DOOR HEAD @ METAL STUD WALL | 3" = 1'-0" | 1



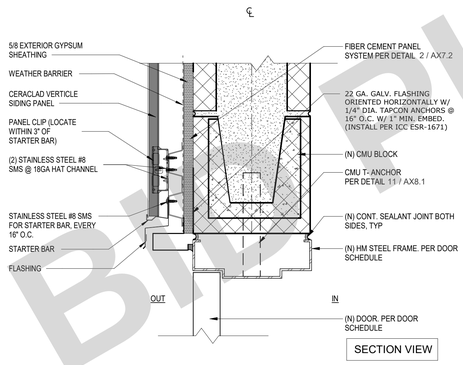
ALUM. DOOR HEADER @ WINDOW | 6" = 1'-0" | 14



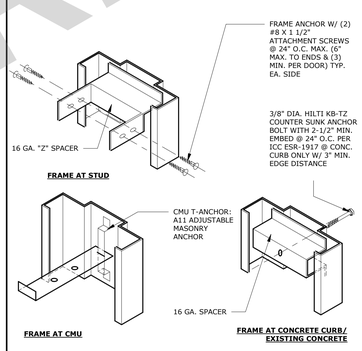
HM DOOR JAMB @ CMU W/ CLADDING | 3" = 1'-0" | 10



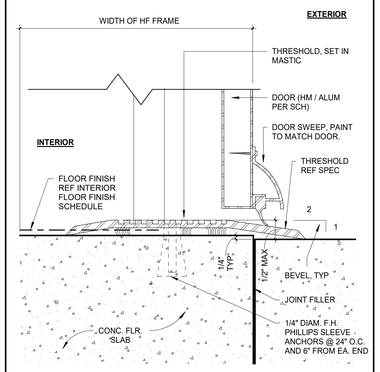
HM DOOR JAMB @ METAL STUD WALL | 3" = 1'-0" | 2



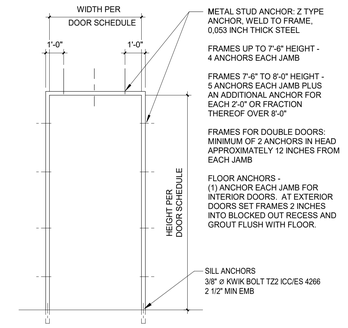
HM DOOR HEAD @ CMU W/ CLADDING | 3" = 1'-0" | 15



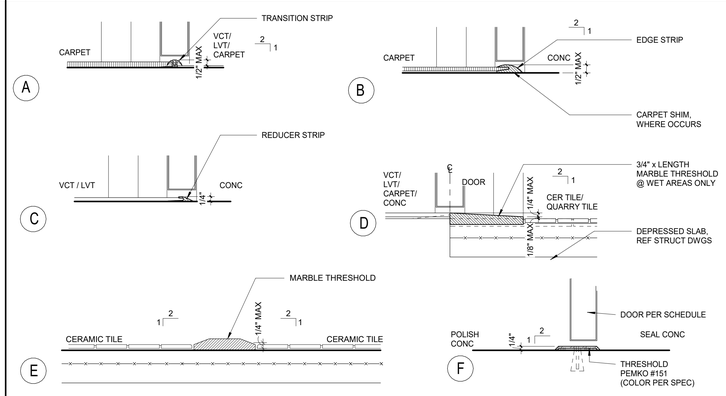
TYP. FRAME ANCHOR | 12" = 1'-0" | 11



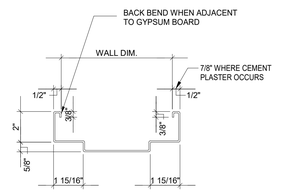
HM DOOR SILL | 3" = 1'-0" | 7



HM DOOR FRAME | 1/2" = 1'-0" | 3



HM DOOR SILL | 3" = 1'-0" | 8



HOLLOW METAL FRAME PROFILE

HM FRAME PROFILE | 3" = 1'-0" | 4

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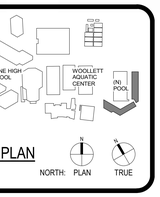


DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538
DRAWING HISTORY

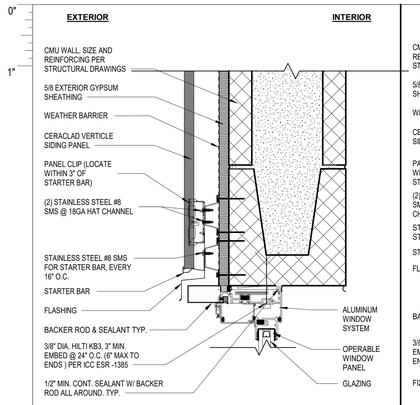
No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

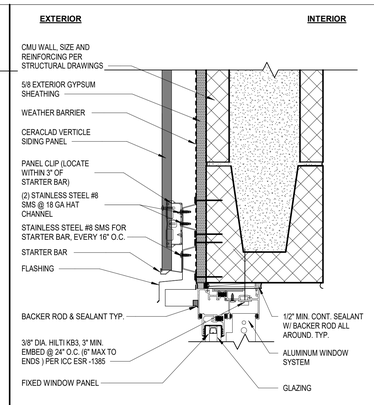
DOORS DETAILS

AX8.1

WINDOWS DETAILS
AX8.2
FOR BLUEBEAM LABELING/OCR:



OP WINDOW @ SLIDING FRAME HEADER | 3" = 1'-0" | 21



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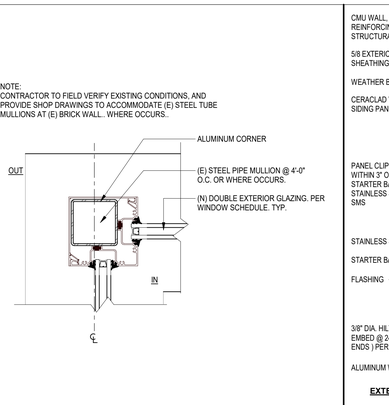
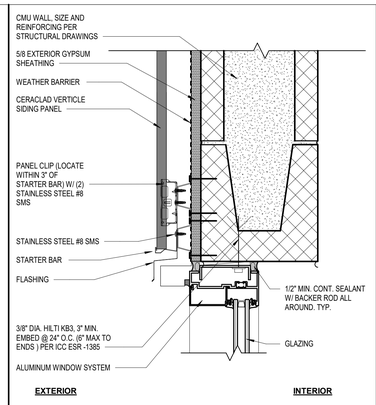
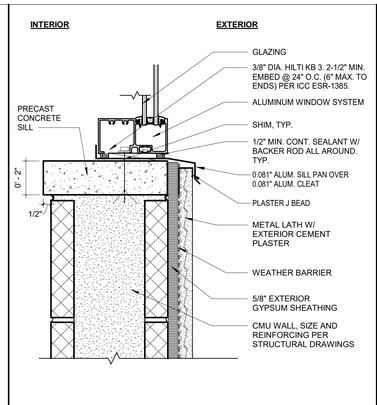


WINDOW CORNER MULLION ATTACH. | 3" = 1'-0" | 13



EXT. ALUM. WINDOW HEAD @ CMU | 3" = 1'-0" | 9



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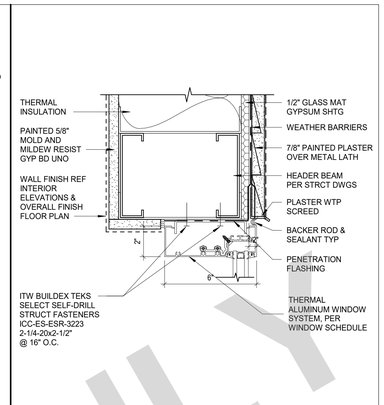
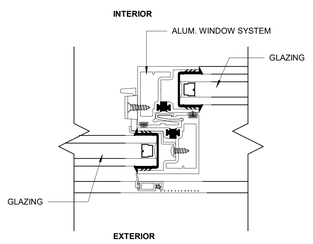
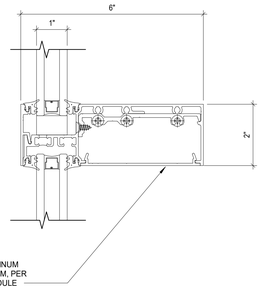


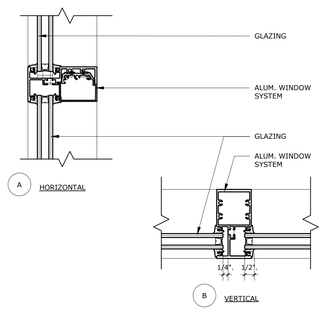
WINDOW HEAD - PLASTER | 3" = 1'-0" | 1



OP WINDOW @ MID MULLION | 6" = 1'-0" | 22



WINDOW JAMB | 6" = 1'-0" | 18



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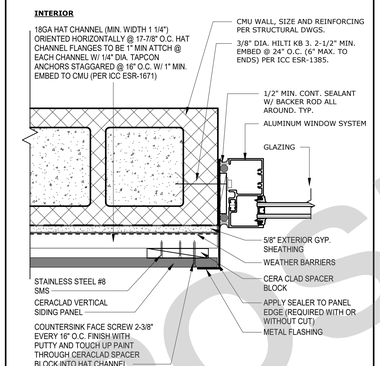
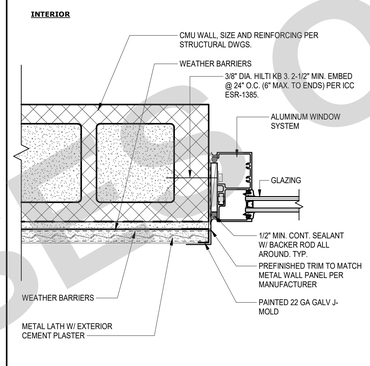
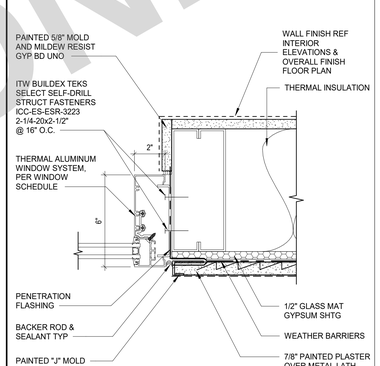


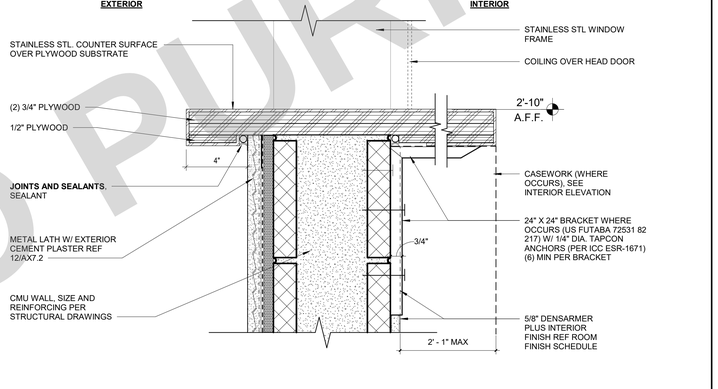
EXT. ALUM. WINDOW JAMB AT CMU | 3" = 1'-0" | 10



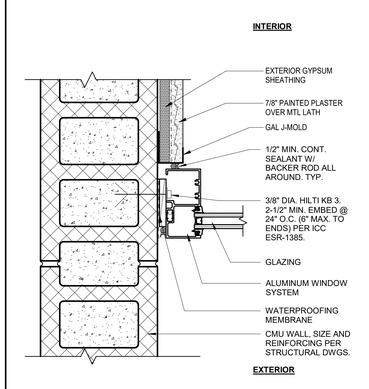
ALUM. WIN. JAMB @ CMU W/ INSULATION | 3" = 1'-0" | 6



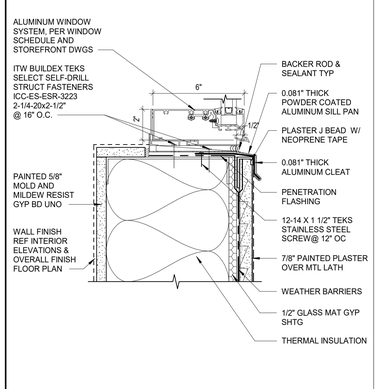
WINDOW JAMB - PLASTER | 3" = 1'-0" | 2



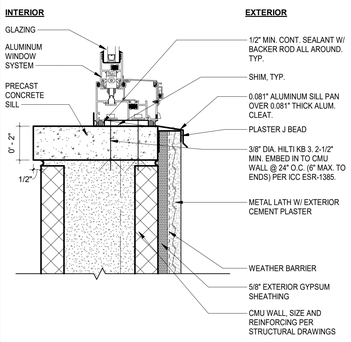
COILING COUNTER DOOR SILL | 3" = 1'-0" | 11



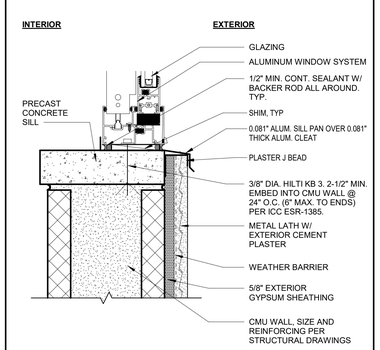
EXT WIN. JAMB @ CMU PERPENDICULAR | 3" = 1'-0" | 7



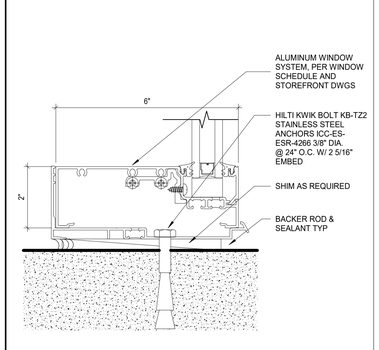
WINDOW SILL | 3" = 1'-0" | 3



OP WINDOW @ SLIDING FRAMED SILL | 3" = 1'-0" | 15



OP WINDOW @ FIXED FRAMED SILL | 3" = 1'-0" | 12



WINDOW SILL - PLASTER | 6" = 1'-0" | 4

FOR BID PURPOSES ONLY

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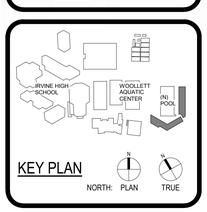
CLIENT LOGO
CITY OF IRVINE



DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/27
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/15/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS
BUILDING NUMBER

WINDOWS DETAILS

AX8.2

GENERAL NOTES

S0.1

FOR BLUEBEAM LABELING/OCR:

0"

1"

POST-INSTALLED ANCHORAGE INTO MASONRY:

1. POST-INSTALLED MECHANICAL ANCHORS INTO MASONRY SHALL BE SIMPSON STRONG-BOLT 2 (IAPMO ER-240), HILTI KWIK-BOLT-TZ2 (ICC ESR-4561), OR EQUAL. INSTALL ANCHORS IN CONFORMANCE WITH THE ICC REPORT AND MANUFACTURER'S SPECIFICATIONS. COMPLY WITH ACI 530 AND CBC.
2. ALL HOLES SHALL BE DRILLED PER MANUFACTURER'S RECOMMENDATIONS. CORE DRILLED HOLES ARE NOT PERMITTED.
3. CONTRACTOR SHALL DETERMINE LOCATION OF EXISTING REINFORCING STEEL PRIOR TO DRILLING FOR ANCHORS, AND DRILL THE ANCHOR HOLES TO CLEAR THE REINFORCING STEEL PER THESE NOTES. NO REINFORCING STEEL SHALL BE NICKED, CUT OR DAMAGED IN ANY WAY. DAMAGED REINFORCING WILL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST. IF THE LOCATION OF ANCHORS MUST BE MOVED SLIGHTLY TO ACCOMMODATE THE LOCATION OF EXISTING REINFORCING STEEL, THE CONTRACTOR SHALL PREPARED A SLIGHTLY MODIFIED DESIGN OF THE ITEM TO BE ANCHORED AND SUBMIT TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. THE MODIFIED DESIGN SUGGESTED BY THE CONTRACTOR SHALL INVOLVE THE ABSOLUTE MINIMUM RELOCATION OF ANCHORS TO MEET THE DETAILS AND REQUIREMENTS HEREIN, AND SHALL BE BASED ON A TEMPLATE BY THE CONTRACTOR WHICH ACCURATELY PORTRAYS THE POSITION OF THE ANCHORS.
4. MAINTAIN A MINIMUM CLEARANCE OF 1-INCH BETWEEN THE REINFORCEMENT AND THE POST-INSTALLED ANCHOR.
5. ANCHORS SHALL BE INSTALLED A MINIMUM OF 1-3/8 INCH FROM ANY VERTICAL MORTAR JOINT.
6. ANCHOR LOCATIONS ARE LIMITED TO ONE PER MASONRY CELL, WITH A MINIMUM SPACING OF 8 INCHES ON CENTER.
7. EMBEDMENT SHALL BE MEASURED FROM THE OUTSIDE FACE OF THE CONCRETE MASONRY UNIT.
8. STAINLESS STEEL ANCHORS SHALL BE PROVIDED FOR EXTERIOR EXPOSURES.
9. CONTINUOUS SPECIAL INSPECTION IS REQUIRED.
10. PER CBC 2019, SECTION 1705A.4 TEST POST-INSTALLED ANCHORS IN MASONRY USING THE REQUIREMENTS FOR TEST LOADS, FREQUENCY, ACCEPTANCE CRITERIA AND PROCEDURE SET FORTH IN CBC 2019, SECTION 1910A.5. TEST LOADS SHALL BE IN ACCORDANCE WITH 1913A.7.2, METHOD 2 FOR ANCHORS OTHER THAN MECHANICAL ANCHORS WHICH ARE COVERED IN THE ABOVE TABLE.

EXPANSION BOLTS IN MASONRY

ACCEPTABLE PRODUCTS	ICC-ES EVALUATION REPORT
HILTI - KWIK BOLT TZ2	ESR-4561
SIMPSON - STRONG-BOLT 2	IAPMO ER-240
AN EQUIVALENT PRODUCT ACCEPTABLE TO ENGINEER	

HILTI KWIK BOLT TZ2

BOLT DIAMETER (DIA.)	EFFECTIVE MIN. DEPTH (U.N.O.)	INSTALLATION TORQUE - CARBON STEEL (FT-LB)	INSTALLATION TORQUE - STAINLESS STEEL (FT-LB)
3/8"	2"	15	15
1/2"	3 1/4"	25	15
5/8"	4"	30	35
3/4"	4 3/4"	50	50

ANCHORS MUST ATTAIN SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

SIMPSON STRONG-TIE STRONG-BOLT 2

BOLT DIAMETER (DIA.)	EFFECTIVE MIN. DEPTH (U.N.O.)	INSTALLATION TORQUE - CARBON STEEL (FT-LB)
3/8"	2 5/8"	20
1/2"	3 1/2"	35
5/8"	4 3/8"	55
3/4"	5 1/4"	100

ANCHORS MUST ATTAIN SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

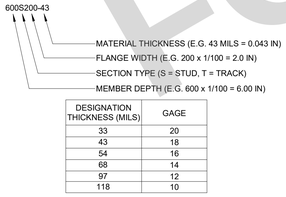
ADHESIVE ANCHOR SYSTEM FOR THREADED ROD OR REBAR IN MASONRY

ACCEPTABLE PRODUCTS	ICC-ES EVALUATION REPORT
HILTI HIT-HY 200 V3	ESR-4878
AN EQUIVALENT PRODUCT ACCEPTABLE TO ENGINEER	

THREADED ROD DIAMETER (IN)	MIN. EMBEDMENT DEPTH (U.N.O.)	REBAR SIZE	TESTING FORCE
3/8"	3 5/8"	#3	1,920 LB
1/2"	4 1/2"	#4	3,040 LB
5/8"	5 5/8"	#5	3,620 LB
3/4"	6 3/4"	#6	4,430 LB

COLD-FORMED STEEL FRAMING:

1. DESIGN, FABRICATION AND ERECTION OF COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS OF AMERICAN IRON AND STEEL INSTITUTE (AISI).
2. STEEL STUDS, JOISTS AND ACCESSORIES SHALL BE MANUFACTURED BY MEMBERS OF STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) OR APPROVED EQUAL.
3. SECTION PROPERTIES FOR STDS AND TRACKS SHALL BE IN ACCORDANCE WITH STEEL FRAMING INDUSTRY ASSOCIATION (SFIA) AND EVALUATION REPORT ESR-4025.
4. STEEL STUDS, JOISTS AND ACCESSORIES SHALL BE FORMED WITH STEEL MATERIAL COMPLYING WITH ASTM A1003. MINIMUM YIELD STRESS SHALL BE 50 KSI FOR 16 GAUGE (54 MIL) AND HEAVIER ITEMS, OR 33 KSI FOR 18 GAUGE (43 MIL) AND LIGHTER ITEMS.
5. STEEL STUDS, JOISTS AND ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A525, G60, UNLESS OTHERWISE NOTED.
6. ALL CONNECTIONS OF COLD-FRAME MEMBERS SHALL BE WITH SELF DRILLING SCREWS OR WELDING.
7. ALL SCREWS SHALL BE PRO-TWIST MARKER AND DARTS SELF-DRILLING TAPPING SCREWS (ICC ESR-1408), ITW BUILDEX TEX SELF-DRILLING FASTENERS (ICC ESR-1976) OR APPROVED EQUAL.
8. PENETRATION OF SCREWS THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN 3 EXPOSED THREADS. SCREWS SHALL BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH SCREW MANUFACTURER'S RECOMMENDATIONS.
9. STEEL STUD AND SHEET METAL WELDING SHALL BE PER AWS D1.3 USING ELECTRODES IN COMPLIANCE WITH AWS A5.1 OR A5.5 AND TABLE 5.1 OF AWS D1.3.
10. ALL WELDS OF GALVANIZED STEEL STUDS, JOISTS AND ACCESSORIES SHALL BE TOUCHED UP WITH A ZINC-RICH GALVANIZED TOUCH UP PAINT.
11. COLD-FORMED STUD MEMBERS SHALL BE UNPUNCHED WHERE USED FOR HEADERS AND SILLS OF OPENINGS WIDER THAN 3'-0", AND BUILT-UP BOX OR BACK-TO-BACK SECTIONS. PUNCH-OUTS SHALL NOT BE PLACED WITHIN 1'-0" DISTANCE FROM THE END OF THE MEMBER OR A SUPPORT.
12. PUNCH-OUTS SHALL BE LOCATED IN THE CENTER OF THE WEB WITH A MAXIMUM WIDTH OF HALF THE MEMBER DEPTH OR 2 1/2", WHICHEVER IS LESS, AND A MAXIMUM LENGTH OF 4 1/2". THE SPACING BETWEEN PUNCH-OUTS SHALL NOT BE LESS THAN 24" O.C.
13. COLD-FORMED MEMBER DESIGNATION



DESIGNATION THICKNESS (MILS)	GAGE
33	20
43	18
54	16
68	14
97	12
118	10

POST-INSTALLED ANCHORAGE INTO CONCRETE:

1. ANCHORAGE SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS, AND SHALL COMPLY WITH ACI 318 CHAPTER 17 AND CBC.
2. ADHESIVE ANCHOR INSTALLERS SHALL BE CERTIFIED IN ACCORDANCE WITH THE ACI-CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.
3. THE CONTRACTOR SHALL PREPARE A WRITTEN PROCEDURE PRIOR TO CONSTRUCTION FOR AN INSTALLATION METHOD TO AVOID DRILLING INTO OR CONTACTING IN ANY WAY REINFORCING STEEL AND OTHER EMBEDDED ITEMS. APPROVED METHODS COULD INCLUDE PLASTIC MARKINGS FORMED INTO THE CONCRETE SURFACE, OR USE OF GROUND PENETRATING RADAR EQUIPMENT SUCH AS HILTI FERROSCAN PS300. ANCHORS SHALL CLEAR EXISTING REBAR BY 1" MINIMUM.
4. CONFORM WITH ICC RECOMMENDED VALUES FOR ANCHOR SPACING AND EDGE DISTANCE TO DEVELOP FULL (100%) ALLOWABLE TENSION/SHEAR LOADS LISTED IN ICC REPORTS. DO NOT USE REDUCED SPACING AND EDGE DISTANCE UNLESS SPECIFICALLY NOTED OTHERWISE BY THE DETAILS.
5. ANCHORS SHALL BE INSTALLED ACCORDING TO THE ANCHORING SYSTEM'S SPECIFICATIONS. DO NOT DAMAGE REINFORCING STEEL OR OTHER EMBEDDED ITEMS. FILL UNUSED HOLES WITH NON-SHRINK GROUT.
6. DRILLED HOLE SHALL BE CLEANED WITH A BRUSH AND CLEAN COMPRESSED AIR IN COMPLIANCE WITH ICC ESR REQUIREMENTS.
7. CONTRACTOR SHALL DETERMINE LOCATION OF EXISTING REINFORCING STEEL PRIOR TO DRILLING FOR ANCHORS, AND DRILL THE ANCHOR HOLES TO CLEAR THE REINFORCING STEEL PER THESE NOTES. NO REINFORCING STEEL SHALL BE NICKED, CUT OR DAMAGED IN ANY WAY. DAMAGED REINFORCING WILL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST. IF THE LOCATION OF ANCHORS MUST BE MOVED SLIGHTLY TO ACCOMMODATE THE LOCATION OF EXISTING REINFORCING STEEL, THE CONTRACTOR SHALL PREPARED A SLIGHTLY MODIFIED DESIGN OF THE ITEM TO BE ANCHORED AND SUBMIT TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. THE MODIFIED DESIGN SUGGESTED BY THE CONTRACTOR SHALL INVOLVE THE ABSOLUTE MINIMUM RELOCATION OF ANCHORS TO MEET THE DETAILS AND REQUIREMENTS HEREIN, AND SHALL BE BASED ON A TEMPLATE BY THE CONTRACTOR WHICH ACCURATELY PORTRAYS THE POSITION OF THE ANCHORS.
8. WHILE ANCHORING STEEL MEMBERS AGAINST CONCRETE, PROVIDE LOCK-WASHER AND NUT AT EACH ANCHOR ROD.
9. EXPANSION BOLTS IN CRACKED (AND UNCRACKED CONCRETE)

ACCEPTABLE PRODUCTS	ICC-ES EVALUATION REPORT
HILTI - KWIK BOLT TZ2	ESR-4266
SIMPSON - STRONG-BOLT 2	ESR-3037
AN EQUIVALENT PRODUCT ACCEPTABLE TO ENGINEER	

HILTI KWIK BOLT TZ2

BOLT DIAMETER (DIA.)	EFFECTIVE MIN. DEPTH (U.N.O.)	INSTALLATION TORQUE - CARBON STEEL (FT-LB)	INSTALLATION TORQUE - STAINLESS STEEL (FT-LB)
3/8"	2"	30	30
1/2"	3 1/4"	50	40
5/8"	4"	40	60
3/4"	4 3/4"	110	125

ANCHORS MUST ATTAIN SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

SIMPSON STRONG-TIE STRONG-BOLT 2

BOLT DIAMETER (DIA.)	EFFECTIVE MIN. DEPTH (U.N.O.)	INSTALLATION TORQUE - CARBON STEEL (FT-LB)	INSTALLATION TORQUE - STAINLESS STEEL (FT-LB)
3/8"	2 1/2"	30	30
1/2"	3 3/8"	60	65
5/8"	4 1/2"	90	80
3/4"	5"	150	150

ANCHORS MUST ATTAIN SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT.

ADHESIVE ANCHOR SYSTEM

ACCEPTABLE PRODUCTS	ICC-ES EVALUATION REPORT
HILTI HIT-RE 500 V3	ESR-3814
HILTI HIT-HY 200 V3	ESR-4868
SIMPSON SET-3G	ESR-4057
AN EQUIVALENT PRODUCT ACCEPTABLE TO ENGINEER	

THREADED ROD DIAMETER (IN)	MIN. EMBEDMENT (IN)
3/8	3
1/2	4
5/8	5
3/4	6
7/8	7
1	8
1 1/4	10

REBAR SIZE	MIN. EMBEDMENT (IN)
#3	3
#4	4
#5	5
#6	6
#7	7
#8	8

10. CONCRETE SCREW ANCHORS MAY BE HILTI KH-EZ (ICC ESR-3027), SIMPSON TITEN HD SCREW ANCHORS (ICC ESR-2713), RED HEAD TAPCON+ SCREW ANCHOR (ICC ESR-3699), OR AN EQUIVALENT PRODUCT ACCEPTABLE TO ENGINEER WITH APPROVAL REPORT PER IR A-5.
11. ALL BOLTS AND ANCHORS (INCLUDING NUTS AND WASHERS) EXPOSED TO WEATHER SHALL BE STAINLESS STEEL.
12. THE EMBEDMENT DEPTH OF POST-INSTALLED ANCHORS SPECIFIED IN THE INDIVIDUAL DRAWING DETAILS SHALL GOVERN OVER THE MINIMUM EMBEDMENTS SHOWN IN THE TABLES ABOVE.
13. POST INSTALLED ANCHORS MUST BE TESTED IN ACCORDANCE TO THE FOLLOWING SECTIONS OF 2022 CBC :
    - TEST LOADS: SECTION 1910A.5.4, SEE NOTE 14
    - TEST FREQUENCY: SECTION 1910A.5.3
    - ACCEPTANCE CRITERIA: SECTION 1910A.5.5
    - TESTING PROCEDURE: SECTION 1910A.5.2
14. USE OF EPOXY ANCHORS AT ANY LOCATION NOT SHOWN ON THE DRAWINGS AND ANCHOR TENSION TEST LOADS SHALL BE SUBMITTED TO THE SEOR FOR REVIEW AND APPROVAL.

NON-SHRINK GROUT

1. PROVIDE NON-SHRINK, NON-METALLIC, NON-CORROSIVE PORTLAND CEMENT BASED MATERIAL CONFORMING WITH ALL PROPERTIES OF ASTM C1107 AND WITH A CURRENT CODE EVALUATION REPORT FROM ONE OF THE FOLLOWING MANUFACTURER'S:

   a. SIKA
   b. QUIKRETE
   c. BASF
   d. APPROVED EQUAL
2. GROUT SHALL COMPLY WITH THE FOLLOWING PERFORMANCE REQUIREMENTS:

   EXPANSION: 0.4 PERCENT MAXIMUM AT 28 DAYS. GROUT WILL EXHIBIT NO DISPLACEMENT WHEN TESTED IN ACCORDANCE WITH ASTM C157/C157M.

   SHRINKAGE: NONE (0.0 PERCENT SHRINKAGE AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C827 AND ASTM C 1090). THERE SHALL BE NO VOLUME SHRINKAGE OF GROUT IN THE PLASTIC OR HARDENED STAGE AT ANY TIME.

   COMPRESSIVE STRENGTH: 5,000 PSI MINIMUM AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C109/C109M.
3. SURFACE PREPARATION AND INSTALLATION SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
4. ADD THE MINIMUM AMOUNT OF WATER NECESSARY TO PRODUCE THE DESIRED FLOW CHARACTERISTICS. DO NOT EXCEED A FLOW OF 20 SECONDS PER ASTM C939.
5. SUBMIT MANUFACTURER'S PRODUCT LITERATURE, WRITTEN INSTALLATION INSTRUCTIONS, AND MATERIAL SAFETY DATA SHEETS (MSDS) FOR REVIEW. DO NOT USE ANY CONCRETE OR GROUT CONTAINING CHLORIDES. WATER USED IN MIX SHALL BE CLEAN AND POTABLE.
6. REPAIR UNUSED CORED OR DRILLED HOLES BY FILLING WITH NON-SHRINK GROUT AT CONCRETE AND MASONRY, FINISH SURFACE TO MATCH THE ADJACENT CONDITION.
7. FOR THICK GROUT LAYERS FOLLOW MANUFACTURER'S GUIDELINES TO ATTAIN THE REQUIRED STRENGTH, WHICH MAY INCLUDE THE ADDITION OF 3/8" AGGREGATE.

MASONRY:

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE LATEST ADOPTED EDITION OF TMS 402, TMS 602 AND PROJECT SPECIFICATIONS.
2. MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (ASSEMBLY OF MASONRY UNITS, MORTAR, AND GROUT) SHALL BE f'm = 2,000 PSI, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. TESTING SHALL BE PROVIDED IN ACCORDANCE WITH CBC 2105A.2.
4. MASONRY BLOCKS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90. USE DOUBLE OPEN END UNITS, AND BOND BEAM UNITS AT HORIZONTAL REINFORCING. WHEN BLOCKS ARE EXPOSED OBTAIN APPROVAL OF SUBMITTAL FROM ARCHITECT.
5. MORTAR SHALL BE TYPE S CONFORMING TO ASTM C270. MORTAR AGGREGATES SHALL CONFORM TO ASTM C144. MORTAR SHALL ATTAIN A COMPRESSIVE STRENGTH OF 2,000 PSI OR HIGHER AS REQUIRED TO MEET THE COMPRESSIVE STRENGTH OF MASONRY f'm SPECIFIED ON THE PLANS.
6. CEMENT SHALL BE LOW ALKALI, TYPE I OR II PORTLAND CEMENT CONFORMING WITH ASTM C-150, (MASONRY CEMENT AND PLASTIC CEMENT SHALL NOT BE USED.)
7. GROUT SHALL BE COARSE TYPE CONFORMING TO ASTM C476. GROUT AGGREGATES SHALL CONFORM TO ASTM C404. GROUT SHALL ATTAIN THE MASONRY COMPRESSIVE STRENGTH f'm OR 2,000 PSI AT 28 DAYS, WHICHEVER IS GREATER.
8. SOLID GROUT ALL CELLS UNLESS NOTED OTHERWISE. MECHANICALLY VIBRATE GROUT IN CELLS.
9. VERTICAL EXPANSION JOINTS SHALL BE PROVIDED AT SPACING NOT TO EXCEED 25'-0" O.C. UNLESS OTHERWISE NOTED ON PLANS. EXPANSION JOINT MATERIALS SHALL COMPLY WITH ASTM C90, D994, OR D1056 CLASS 2A1.
10. ALL BOLTS SHALL BE GROUTED IN PLACE WITH AT LEAST 1 INCH OF GROUT BETWEEN THE BOLT AND THE MASONRY.
11. THE CLEAR DISTANCE BETWEEN PARALLEL BARS SHALL NOT BE LESS THAN THE NOMINAL DIAMETER OF THE BARS, NOR LESS THAN 1 IN.
12. IN COLUMNS AND PILASTERS, THE CLEAR DISTANCE BETWEEN VERTICAL BARS SHALL NOT BE LESS THAN ONE AND ONE-HALF TIMES THE NOMINAL BAR DIAMETER, NOR LESS THAN 1 1/2 IN.
13. REINFORCEMENT EMBEDDED IN GROUT SHALL HAVE A THICKNESS OF GROUT BETWEEN THE REINFORCEMENT AND MASONRY UNITS NOT LESS THAN 1/4 IN. FOR FINE GROUT OR 1/2 IN. FOR COARSE GROUT AND SHALL BE AT LEAST 1 BAR DIAMETER.
14. REINFORCING BARS SHALL HAVE A MASONRY COVER NOT LESS THAN THE FOLLOWING:
    A. MASONRY FACE EXPOSED TO EARTH OR WEATHER: 2 IN. FOR BARS LARGER THAN #5; 1 1/2 IN. FOR #5 BARS OR SMALLER.
    B. MASONRY NOT EXPOSED TO EARTH OR WEATHER: 1 1/2 IN.
15. USE LOW-LIFT GROUTING METHOD PER CBC SECTION 2104A.1.3.6. HIGH-LIFT GROUTED CONSTRUCTION (WHEN APPROVED BY SEOR) SHALL COMPLY WITH DSA IR 21-2.13.
16. PIPES AND CONDUITS EMBEDDED IN MASONRY SHALL NOT REDUCE THE REQUIRED STRENGTH.
17. ELECTRICAL CONDUIT/PIPE MAY BE ROUTED IN CMU WALL AS FOLLOWS:
    A. MAXIMUM SIZE AND QUANTITY OF CONDUIT PER CELL SHALL BE (1) 1" DIAMETER OR (2) 3/4" DIAMETER (BUNDLED TOGETHER).
    B. CONDUIT SHALL NOT BE PLACED IN A MASONRY CELL CONTAINING REINFORCING.
    C. CONDUIT, PIPE AND SLEEVES SHALL NOT BE PLACED IN THE PILASTER OR COLUMNS.
    D. CONDUIT SHALL BE PLACED AT THE CENTERLINE OF THE WALL.
    E. CONDUIT, PIPE AND SLEEVES IN MASONRY SHALL BE NO CLOSER THAN 3 DIAMETERS ON CENTER.
18. SUPPORT AND FASTEN REINFORCEMENT TOGETHER TO PREVENT DISPLACEMENT BEYOND THE TOLERANCES ALLOWED BY CONSTRUCTION LOADS OR BY PLACEMENT OF GROUT OR MORTAR.

STRUCTURAL OBSERVATIONS:

1. THE OWNER SHALL EMPLOY THE ENGINEER OF RECORD REGISTERED/LICENSED IN THE STATE OF CALIFORNIA WHO IS RESPONSIBLE FOR THE STRUCUTRAL DESIGN, TO DO STRUCTURAL OBSERVATION.
2. THE STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCUTRAL SYSTEM IN ACCORDANCE WITH CBC SECTION 1704A.6. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCUTRAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETE STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE PROJECT INSPECTOR, DEPUTY INSPECTOR, SPECIAL INSPECTOR OR CITY INSPECTOR.
3. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE CONSTRUCTION THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITTE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER. CONSTRUCTION STAGES TO BE OBSERVED:
   A. FOUNDATIONS: AFTER PLACEMENT OF STEEL REINFORCEMENT PRIOR TO FINAL POUR
   B. BUILDINGS: AFTER ROOF STEEL ERECTION, PRIOR TO COVERING WITH FINISHES.
   C. CONCRETE BLEACHERS: AFTER PLACEMENT OF REINFORCEMENT FOR WALLS AND SEATING STRUCTURE, PRIOR TO FINAL POUR.
   D. PUNCH WALK: FINAL OBSERVATIONS OF COMPLETED STRUCTURE
4. STRUCTURAL OBSERVATION: ALL STRUCTURAL OBSERVATIONS SHALL BE DOCUMENTED USING THE OBSERVATION REPORT FORM, AND SHALL BE STAMPED AND SIGNED BY THE STRUCTURAL OBSERVER OF RECORD.
5. OBSERVED DEFENCIES: ANY OBSERVED DEFICIENCIES SHALL BE DESCRIBED ON THE FORM; THE OBSERVER SHALL ALSO INDICIATE WHETHER A REOBSERVATION IS REQUIRED TO VERIFY CORRECTIVE ACTIONS HAVE BEEN PROPERLY TAKEN OR THAT THE CORRECTIVE ACTIONS ARE DEEMED VERIFIABLE BY THE SPECIAL INSPECTOR OR CITY INSPECTOR PRIOR TO INSPECTION APPROVAL.

CAST-IN-PLACE CONCRETE:

1. ALL CONCRETE MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE ACI CODE AND PROJECT SPECIFICATIONS.
2. RETAIN AN APPROVED TESTING LABORATORY TO PREPARE CONCRETE MIX DESIGN ACCORDING TO GOVERNING CODE AND THE CONSTRUCTION DOCUMENTS. ALL CONCRETE MIXES SHALL BE STAMPED AND SIGNED BY A LICENSED CALIFORNIA CIVIL ENGINEER AND SUBMITTED TO THE SEOR FOR REVIEW AND APPROVAL PRIOR TO CONCRETE PLACEMENT.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'_c) OF 4,000 PSI AT 28 DAYS AS FOLLOWS, UNLESS OTHERWISE NOTED.
4. CONCRETE SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH ACI 318, LATEST EDITION, AND PROJECT SPECIFICATIONS.
5. PORTLAND CEMENT SHALL BE TYPE II UNLESS OTHERWISE NOTED.
6. FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618 CLASS N OR F MAY BE USED AS A PARTIAL SUBSTITUTION FOR PORTLAND CEMENT UP TO A MAXIMUM OF 15% TOTAL CEMENTITIOUS MATERIALS BY WEIGHT.
7. MAXIMUM RATIO OF WATER TO CEMENTITIOUS MATERIALS, BY WEIGHT, SHALL BE 0.45 UNLESS OTHERWISE NOTED. USE MINIMUM 6 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
8. SLUMP SHALL CONFORM TO ACI 301, CHAPTER 4.
9. ALL CONCRETE SHALL BE NORMAL WEIGHT (145 PCF) HARD ROCK TYPE UNLESS OTHERWISE NOTED AS LIGHTWEIGHT CONCRETE (115 PCF MAX.).
10. AGGREGATES IN NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33 (HARDROCK). AGGREGATES IN LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C-330.
11. MAXIMUM AGGREGATES SIZE SHALL CONFORM TO THE FOLLOWINGS.

A. FOOTING AND GRADE BEAMS	1"
B. SLAB ON GRADE	1"
C. ELEVATED SLAB, BEAMS, FRAMED COLUMNS	3/8"
D. REMAINDER	3/4"

12. ALL CONSTRUCTION JOINTS SHALL BE KEYED, ROUGHENED TO 1/4" AMPLITUDE, THOROUGHLY CLEANED, AND WETTED WITH NO STANDING WATER.
13. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATION OF ALL CONSTRUCTION JOINTS TO THE SEOR FOR REVIEW AT LEAST 14 DAYS PRIOR TO PLACING OF CONCRETE. JOINTS SHALL BE LOCATED TO MINIMIZE EFFECTS OF SHRINKAGE AS WELL AS PLACED AT POINTS OF LOW STRESS.
14. CONCRETE COVERAGE OF REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
* #6 THROUGH #18 REBAR	2"
* #5 REBAR, W31 OR D31 WIRE, AND SMALLER	1 1/2"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
* SLABS, WALLS AND JOISTS (#11 REBAR AND SMALLER)	3/4"
* BEAMS AND COLUMNS	1 1/2"
D. SLABS ON GRADE	MID-DEPTH

15. PROVIDE 3/4" CHAMFER AT EXPOSED CORNERS OF COLUMNS, BEAMS AND WALLS UNLESS OTHERWISE NOTED.
16. ALL NEW CONCRETE AND NON-SHRINK GROUT PLACED AGAINST HARDENED CONCRETE SHALL BE PREPARED PER THE FOLLOWING PROCEDURE:
    A. REOUGHEN HARDEND SURFACE TO AN AMPLITUDE OF 1/4" WITH BUSH HAMMER, SAND BLASTING, OR OTHER APPROVED METHOD.
    B. CLEAN SURFACES OF DUST AND DEBRIS USING CLEAN COMPRESSED AIR AND WATER.
    C. SURACE SHALL BE WETTED AND STANDING WATER REMOVED.
    D. REFER TO OTHER NOTES FOR DUST CONTROL DURING CONSTRUCTION
17. CURING COMPOUND USED ON CONCRETE SHALL BE REVIEWED BY THE SEOR.
18. BONDING AGENT SHALL BE CHEMREX CONCRESIVE LIQUID LPL OR SIKA ARMATEC 110 EPOCEM. OR APPROVED EQUAL AND SHALL BE APPLIED FOLLOWING THE MANUFACTURER'S RECOMMENDATIONS.
19. ALL CRACKS WIDER THAN 1/64" IN NEW CONCRETE APPEARING WITHIN 6 MONTHS OF CONCRETE PLACEMENT SHALL BE REPAIRED USING EPOXY ADHESIVE INJECTION BY THE CONTRACTOR AT NO COST TO THE OWNER.
20. PIPES, DUCTS OR CONDUITS SHALL NOT BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS. SLEEVES SHALL BE PROVIDED FOR ALL PIPES THROUGH CONCRETE WALLS AND FOOTINGS.
21. PRIOR TO POURING FOUNDATION CONCRETE, CONTRACTOR SHALL PERFORM AND SUBMIT FOR REVIEW A FINAL SURVEY OF ALL ANCHOR BOLTS FOR STRUCTURAL STEEL FRAMING TO DEMONSTRATE ANCHOR BOLTS HAVE BEEN PROPERLY PLACED AND NO COLUMN BASE PLATE MODIFICATIONS WILL BE REQUIRED.

REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE NEW DEFORMED STEEL BARS CONFORMING TO ASTM A615, GRADE 60 UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60.
2. WELDED WIRE FABRICS (W.W.F), DEFORMED WIRE STIRRUPS AND SPIRAL REINFORCING SHALL CONFORM TO ASTM A1064, FY=65 KSI.
3. BARS SHALL BE CLEAN OF RUST, MUD, OIL, GREASE OR OTHER COATING MATERIALS LIKELY TO REDUCE BOND CAPACITY.
4. REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE.
5. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING IN POSITION SHOWN ON THE DRAWINGS.
6. SHOP DRAWINGS OF REINFORCING STEEL PLACEMENT SHALL BE PREPARED BY THE CONTRACTOR IN ACCORDANCE WITH ACI 315. SHOP DRAWINGS SHALL INCLUDE BAR SIZES, QUANTITIES, SPACING, CLEARANCES, SPLICE LOCATIONS, LAP LENGTH, AND CONCRETE COVERAGE AND SUBMITTED TO SEOR FOR REVIEW.
7. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE.
8. ALL WELDING OF REINFORCING STEEL SHALL CONFORM TO AWS D1.4 AND SHALL BE PERFORMED BY CERTIFIED WELDERS USING AWS A5.5 E80XX LOW HYDROGEN MOISTURE RESISTANT ELECTRODES UNLESS OTHERWISE NOTED.
9. ALL REINFORCEMENT BENDING SHALL BE PERFORMED COLD. BARS CAN ONLY BENT ONCE.
10. MECHANICAL SPLICES (COUPLERS) AND MECHANICAL REINFORCING HEADED END ANCHORS (TERMINATORS) MAY BE USED AT CONTRACTOR'S OPTION. MECHANICAL DEVICES SHALL HAVE A CURRENT ICC REPORT AND SUBMITTED TO SEOR FOR APPROVAL. SPECIAL INSPECTIONS DURING CONSTRUCTION IS REQUIRED.
11. ALL REINFORCING STEEL INTERRUPTED BY STRUCTURAL STEEL SHALL TERMINATE WITHIN 1" OF STEEL SURFACE WITH A 90° STANDARD HOOK UNLESS OTHERWISE NOTED.

SOILS AND FOUNDATION:

1. GEOTECHNICAL INVESTIGATION REPORTS:
   A. PREPARED BY: JOHN R. BYERLY INCORPORATED
      ADDRESS: 2257 SOUTH LILAC AVE., BLOOMINGTON, CA 92316
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      GEOTECHNIC

0"
1"

ABBREVIATIONS:

A	
A.B.	ANCHOR BOLT
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFS	ABOVE FINISH SURFACE
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE
APPRX	APPROXIMATELY
ARCH	ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B	
BF	BACK FACE
BFB	BOTTOM OF FLANGE BRACE
BFF	BELOW FINISH FLOOR
BLE	BRACKET LEDGE ELEVATION
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAIL
BO	BOTTOM OF
BOA	BACK OF ANGLE
BOC	BOTTOM OF CONCRETE
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BASE PLATE
BRCG	BRACING
BRG	BEARING
BRKT	BRACKET
BLE	BRICK LEDGE ELEVATION
BTWN	BETWEEN
C	
C	CHANNEL
CANT	CANTILEVER
CBC	CALIFORNIA BUILDING CODE
CF	CUBIC FOOT
CGS	CENTROID OF TENDONS
CIP	CAST IN PLACE
CJ	CONTROL JOINT; CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSION
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COR	CORNER
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CY	CUBIC YARD
D	
d	PENNY NAIL
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM(S)	DIMENSION(S)
DL	DEAD LOAD
DN	DOWN
DO	DITTO (REPEAT)
DS	DOWNSPOUT
DT	DOUBLE TEE
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)
E	
EA	EACH
EAO	EDGE ANGLE OFFSET
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ENGR	ENGINEER
EOD	EDGE OF ROOF DECK
EOS	EDGE OF FLOOR SLAB
EQ	EQUAL
EQPT	EQUIPMENT
EQUIV	EQUIVALENT
EW	EACHWAY
EXP	EXPANSION
EXIST; (E)	EXISTING
EXT	EXTERIOR
F	
FABR	FABRICATOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISHED FLOOR
FL	FLOOR
FLG	FLANGE
FN	FIELD NAIL; FACE NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FULL PENETRATION; FIREPROOF
FRP	FIBER REINFORCED POLYMER
FS	FAR SIDE
FTG	FOOTING
G	
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GLB	GLU-LAM; GLUED LAMINATED BEAM
GR	GRADE
GYP	GYPSUM BOARD
H	
HD	HOLDOWN
HDR	HEADER
HGR	HANGER
HORIZ	HORIZONTAL
HS	HEADED STUD
HSA	HEADED STUD ANCHOR
HSB	HIGH STRENGTH BOLT
HT	HEIGHT
I	
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IN	INCHES
INFO	INFORMATION
INT	INTERIOR
INTERM	INTERMEDIATE
ISO	ISOLATION
IT	INVERTED TEE
J	
JBE	JOIST BEARING ELEVATION
JST	JOIST
JT	JOINT
K	
KIP; K	KIPS; 1000 POUNDS
KLF	KIP PER LINEAR FOOT
KP	KING POST
KSF	KIP PER SQUARE FOOT
KSI	KIP PER SQUARE INCH
L	
L	ANGLE OR LENGTH
LAT	LATERAL
L.A.S.T.	LOWEST ANTICIPATED SERVICE TEMPERATURE
LB	POUND
LF	LINEAL FOOT
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWC	LIGHT WEIGHT CONCRETE
M	
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MOMENT CONNECTION
MECH	MECHANICAL
MEP	MECHANICAL-ELECTRICAL-PLUMBING
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
MTR	MATERIAL
N	
(N)	NEW
NIC	NOT IN CONTRACT
NO OR #	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
O	
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORTHO	ORTHOGONAL
OWJ	OPEN WEB JOIST
P	
PC	PILE CAP
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCI	PRECAST AND PRESTRESSED CONCRETE INSTITUTE
PE	PROFESSIONAL ENGINEER
PEMB	PRE-ENGINEERED METAL BUILDING
PENTR	PENETRATION
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
PP	PARTIAL PENETRATION
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSIONING
Q	
QTY	QUANTITY
R	
R	RADIUS
RAF	RAISED ACCESS FLOOR
RBS	REDUCED BEAM SECTION
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
REV	REVERSE
RF	ROOF
RND	ROUND
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
S	
SAD	SEE ARCHITECTURAL DRAWINGS
SC	SLIP-CRITICAL
SCD	SEE CIVIL DRAWINGS
SCH	SCHEDULE(D)
SEP	SEPARATION
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SKW	SKEW(ED)
SOG	SLAB ON GRADE
SPA	SPACE
SPECS	SPECIFICATIONS
SPECD	SPECIFIED
SQ	SQUARE
ST	SNUG TIGHTENED
STAGG	STAGGER(ED)
STD	STANDARD
STIFF	STIFFENER
STIR	STIRRUPS
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SW	SIDEWALK
SYM	SYMMETRICAL
T	
T	TENSION
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TEMP	TEMPORARY
THK	THICKNESS
TN	TOE NAIL
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOP	TOP OF PIER ELEVATION
TOS	TOP OF STEEL
TOSC	TOP OF STRUCTURAL CONCRETE
TOW	TOP OF WALL
TRANS	TRANSVERSE
TSG	TAPERED STEEL GIRDER
TYP	TYPICAL
U	
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	
V	SHEAR
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	
W	WIDTH
W/	WITH
W/O	WITHOUT
WB	WIND BRACE
WD	WOOD
WL	WIND LOAD
WP	WORK POINT
WPFG	WATERPROOFING
WS	WATERSTOP
WT	WEIGHT
WWF	WELDED WIRE FABRIC
X-Y-Z	
X-STG	EXTRA STRONG
XX-STG	DOUBLE EXTRA STRONG

STRUCTURAL STEEL:

1. STRUCTURAL STEEL:
   PROVIDE STRUCTURAL STEEL COMPLYING WITH THE FOLLOWING ASTM STANDARD SPECIFICATIONS, UNLESS NOTED OTHERWISE:

A.	W AND WT	ASTM A992 (Fy=50ksi, Fu=65ksi)
B.	RECTANGULAR AND SQUARE HSS	ASTM A500, GRADE C (Fy=50ksi, Fu=62ksi)
C.	ROUND HSS	ASTM A500, GRADE C (Fy=46ksi, Fu=62ksi)
D.	PIPES	ASTM A53, GRADE B (Fy=35ksi, Fu=60ksi)
E.	ANGLES, CHANNELS, PLATES AND BARS	ASTM A36 (Fy=36ksi, Fu=58ksi)
F.	ANCHOR RODS	ASTM F1554, GRADE 36, U.N.O.
G.	HIGH STRENGTH BOLTS	ASTM A325N (SNUG-TIGHTENED)
H.	BOLTS AT OTHER APPLICATIONS	ASTM A307
I.	SHEAR STUDS	ASTM A29/A108, AWS D1.1
J.	THREADED RODS	ASTM A36
K.	NUTS	ASTM A563
L.	WASHERS	ASTM F436

2. HIGH STRENGTH BOLTS, NUTS AND WASHERS:
   A. TYPE: PROVIDE HIGH STRENGTH BOLTS, NUTS, AND WASHERS COMPLYING WITH ASTM F3125, GRADE A325, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS SHALL BE BEARING WITH THREADS INCLUDED IN SHEAR PLANE (A325-N), UNLESS NOTED OTHERWISE. PROVIDE SLIP-CRITICAL HIGH STRENGTH BOLTS (A325-SC) FOR ALL CONNECTIONS THAT ARE PART OF SEISMIC LOAD RESISTANCE SYSTEMS (SFRS).
   B. INSTALLATION: INSTALL HIGH-STRENGTH BOLTS COMPLYING WITH "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" AND CBC SECTION 2204A.2.
   C. TIGHTENING: TIGHTEN A325-N BOLTS TO A SNUG TIGHT CONDITION, TIGHTEN A325-SC BOLTS FOLLOWING THE TURN-OF-NUT, CALIBRATED WRENCH, OR DIRECT TENSION INDICATOR METHOD.
3. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STEEL TO SEOR FOR REVIEW PRIOR TO FABRICATION. ALL STEEL FABRICATION SHALL BE PERFORMED IN A SHOP APPROVED BY THE GOVERNING CODE AUTHORITIES AND CERTIFIED BY AISC.
4. THE CONTRACTOR SHALL ESTABLISH A MASTER SET OF TOP-OF-STEEL DRAWINGS FOR ALL AREAS OF THE BUILDING OR STRUCTURE FOR APPROVAL BY THE ARCHITECT BEFORE BEGINNING FABRICATION OF STRUCTURAL STEEL. THE CONTRACTOR'S MASTER SET OF TOP-OF-STEEL DRAWINGS SHALL BE SUBMITTED AT THE BEGINNING OF THE SHOP DRAWING SUBMITTAL PROCESS. THIS SET OF DRAWINGS SHALL SHOW ALL TOP-OF-STEEL ELEVATIONS, ALL EDGE OF STEEL INFORMATION FOR FLOOR AND ROOF LEVELS, AND ALL STEEL FRAMING DIMENSIONS AT FLOOR AND WALL OPENINGS.
5. DIAMETER OF BOLT HOLE SHALL BE 1/16" LARGER THAN THE BOLT'S DIAMETER, UNLESS NOTED OTHERWISE. WHERE OVERSIZED HOLES OCCUR, PROVIDE 3" SQUARE PLATE WASHERS UNDER NUTS UNLESS OTHERWISE NOTED. THICKNESS OF PLATE WASHER SHALL BE 0.375 TIMES THE DIAMETER OF ANCHOR BOLT.
6. PROVIDE BEVELED WASHERS ON SLOPING SURFACE OF CONNECTIONS FOR FULL BEARING.
7. ALL STEEL TO BE PAINTED SHALL BE PRIMED WITH ZINC OXIDE PRIMER EXCEPT WHERE ENCASED IN CONCRETE, MASONRY, OR SPRAYED-ON FIREPROOFING, UNLESS NOTED OTHERWISE ON THE DRAWINGS. PAINTING OF STRUCTURAL STEEL MEMBERS SHALL COMPLY WITH THE REQUIREMENTS CONTAINED IN AISC 360.
8. OPENINGS SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED. STEEL MEMBERS SHALL BE SHORED WHEN PERMISSIBLE HOLES ARE CUT WITH A TORCH AFTER STEEL IS ERECTED. THE SHORES SHALL REMAIN IN PLACE UNTIL THE STEEL TEMPERATURE HAS RETURNED TO AIR TEMPERATURE.
9. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING STEEL ON THE JOB SITE FROM CORROSION.
10. WHERE WELDING TO EXISTING BEAMS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE ADEQUATE SHORING OF EXISTING BEAMS FOR LOSS OF STRENGTH DUE TO HEAT DURING WELDING.
11. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL MEET THE MINIMUM SPECIFICATIONS IN THE AISC CODE OF STANDARD PRACTICE CHAPTER 10 UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS.
12. HOT-DIP GALVANIZE ALL STEEL EXPOSED TO WEATHER, UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL WELDING:

1. ALL WELDING SHALL COMPLY WITH AWS D1.1 AND AISC 360. ALL WELDING FOR THE SEISMIC FORCE RESISTING SYSTEM SHALL COMPLY WITH AWS D1.8 AND AISC 341.
2. WELDING SHALL BE DONE BY ELECTRIC ARC USING E70XX ELECTRODES UNLESS NOTED OTHERWISE. PROVIDE FILLER MATERIAL WITH CHARPY V-NOTCH TOUGHNESS OF 20 FT/LB AT -20 DEGREE FAHRENHEIT AT COMPLETE PENETRATION GROOVE WELD.
3. THE CONTRACTOR SHALL PROVIDE WELDING PROCEDURE SPECIFICATIONS AND DETAILED SEQUENCE OF WELDING FOR SEOR REVIEW PRIOR TO STARTING OF FABRICATION.
4. WELDS SHALL BE PRE-QUALIFIED IN COMPLIANCE WITH THE APPLICABLE WELDING STANDARD. WHERE NON PRE-QUALIFIED WELDS ARE SPECIFICALLY INDICATED, QUALIFICATION SHALL BE DONE BY TESTING AND QUALIFICATION PROCEDURE COMPLYING WITH THE APPLICABLE WELDING STANDARD.
5. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND APPROVED BY AN AWS AND DSA APPROVED CERTIFIED INSPECTOR. EACH WELDER AND INSPECTOR SHALL RETAIN A COPY OF WELDING PROCEDURE SPECIFICATIONS (WPS).
6. SPECIAL INSPECTIONS FOR ALL SHOP WELDING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP SHALL BE PERFORMED DURING FABRICATION.
7. USE MINIMUM SIZE OF WELDING COMPLYING WITH AISC 360 SECTION J2 AND TABLE J2.4 UNLESS A LARGER WELD IS INDICATED ON DRAWINGS.
8. WHERE LENGTH OF WELDING IS NOT SHOWN, IT SHALL BE FULL LENGTH OF JOINT. ALL BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS UNLESS OTHERWISE NOTED.
9. NO ATTEMPT IS MADE TO DIFFERENTIATE BETWEEN SHOP AND FIELD WELDED CONNECTIONS ON THE DRAWINGS.
10. ALL COMPLETE AND PARTIAL PENETRATION WELDS WHICH ARE EXPOSED TO VIEW SHALL BE GROUND SMOOTH AND FLUSH WITH FINISH SURFACE OF STEEL.
11. FINISH GROOVE PREPARATION THERMAL CUTS BY GRINDING.
12. DEMAND CRITICAL WELDS: WELDS DESIGNATED AS DEMAND CRITICAL SHALL BE MADE WITH FILLER METALS MEETING THE REQUIREMENTS SPECIFIED IN AWS D1.8 / D1.8M CLAUSE 6.3.

AWS D1.8 / D1.8M REQUIRES THAT ALL SEISMIC FORCE RESISTING SYSTEM WELDS TO BE MADE WITH FILLER METALS CLASSIFIED USING AWS AS STANDARDS THAT ACHIEVE THE FOLLOWING MECHANICAL PROPERTIES.

PROPERTY	CLASSIFICATION	
	70 KSI (480 MPa)	80 KSI (550 MPa)
YIELD STRENGTH, KSI (MPa)	58 (400) MIN.	68 (470) MIN.
TENSILE STRENGTH, KSI (MPa)	70 (480) MIN.	80 (550) MIN.
ELONGATION, %	22 MIN.	19 MIN.
CVN TOUGHNESS, ft-lb (J)	20 (27) MIN. @ 0°F (-18°C)a.	

a. FILLER METALS CLASSIFIED AS MEETING 20 ft-lb (27 J) MIN. AT A TEMPERATURE LOWER THAN 0°F (-18°C) ALSO MEET THIS REQUIREMENT.

IN ADDITION TO THE ABOVE REQUIREMENTS, AWS D1.8 / D1.8M REQUIRES, UNLESS OTHERWISE EXEMPTED FROM TESTING, THAT ALL DEMAND CRITICAL WELDS ARE TO BE MADE WITH FILLER METALS RECEIVING HEAT INPUT ENVELOPE TESTING THAT ACHIEVE THE FOLLOWING MECHANICAL PROPERTIES IN THE WELD METAL:

MECHANICAL PROPERTIES FOR DEMAND CRITICAL WELDS		
PROPERTY	CLASSIFICATION	
	70 KSI (480 MPa)	80 KSI (550 MPa)
YIELD STRENGTH, KSI (MPa)	58 (400) MIN.	68 (470) MIN.
TENSILE STRENGTH, KSI (MPa)	70 (480) MIN.	80 (550) MIN.
ELONGATION, %	22 MIN.	19 MIN.
CVN TOUGHNESS, ft-lb (J)	40 (54) MIN. @ 70°F (20°C)b.,c.	

b. FOR L.A.S.T. OF +50°F (+10°C). FOR L.A.S.T. LESS THAN =50°F (+10°C), SEE AWS D1.8 / D1.8M SUB-CLAUSE 6.3.6.

c. TESTS CONDUCTED IN ACCORDANCE WITH AWS D1.8 / D1.8M ANNEX A MEETING 40 ft-lb (54 J) MIN. AT A TEMPERATURE LOWER THAN +70°F (+20°C) ALSO MEET THIS REQUIREMENT.

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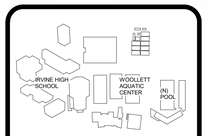
CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

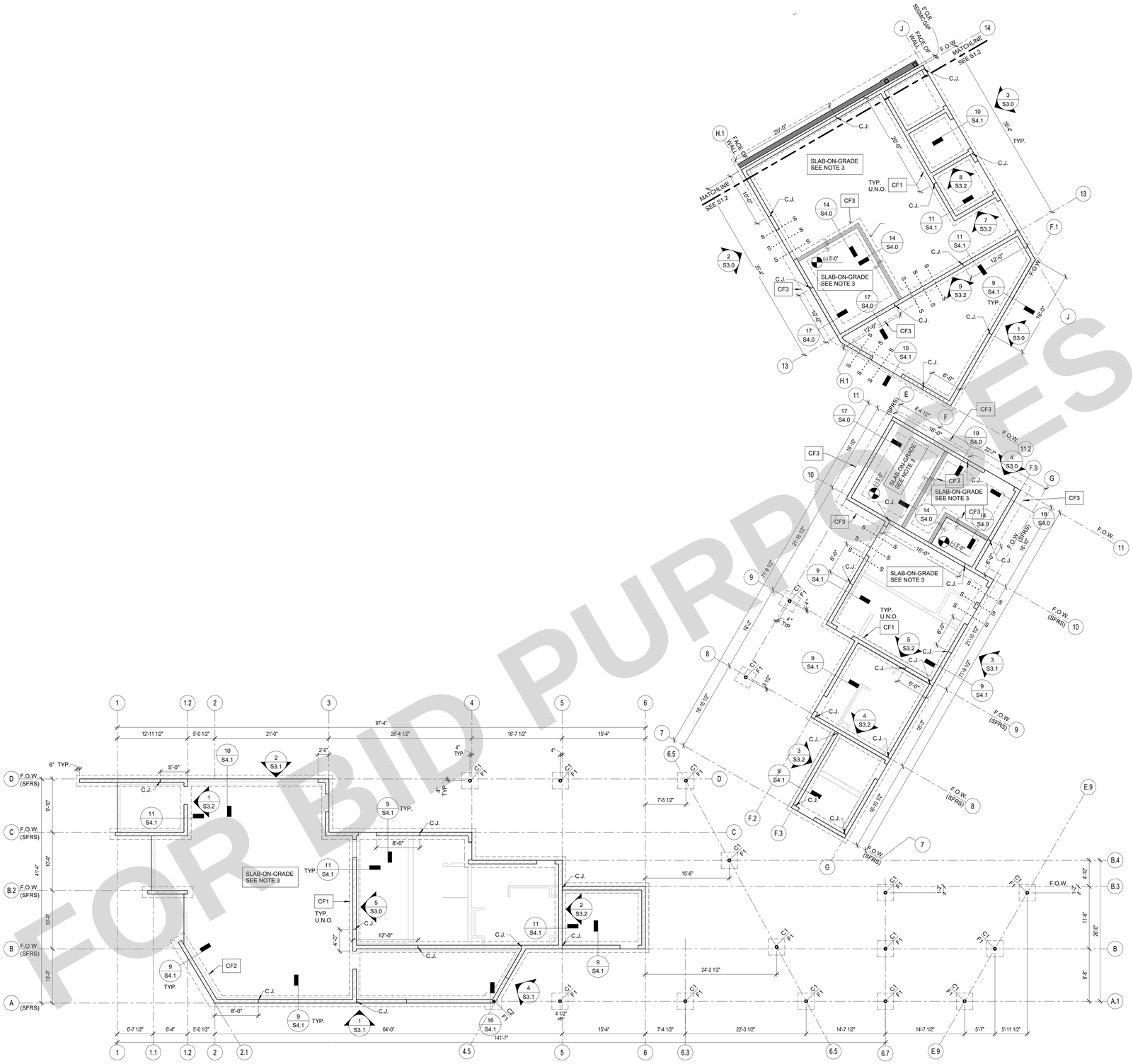
DESIGN DEVELOPMENT

BUILDING NUMBER

GENERAL NOTES

S0.2

FOR BID PURPOSES ONLY



1 BUILDING FOUNDATION PLAN
1/8" = 1'-0"

N

FOUNDATION PLAN NOTES

1. SEE SHEET S0.1 AND S0.2 FOR GENERAL NOTES.
2. CONTRACTOR SHALL VERIFY ALL FRAMING DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND NOTIFY THE ARCHITECT AND PROJECT ENGINEER OF ANY DISCREPANCIES BEFORE STARTING THE WORK.
3. SLAB ON GRADE SHALL COMPLY WITH THE FOLLOWINGS:
   A. SLAB ON GRADE SHALL BE 5" THICK WITH #4 @ 16" O.C. EA. WAY AT MID-DEPTH.
   B. REFER TO GEOTECHNICAL REPORT FOR SITE PREPARATION, SUBBASE, AND VAPOR BARRIER UNDER SLAB ON GRADE.
   C. REFER TO ARCHITECTURAL DRAWINGS FOR EDGE OF CONCRETE SLAB ON GRADE, TOP OF SLAB ELEVATIONS, CONTROL JOINTS, AND RECESS IN SLAB.
   D. PROVIDE CONTROL JOINTS IN SLAB ON GRADE AT SPACING NOT TO EXCEED 15'-0" PER DETAIL 2/ S4.0. CONTROL JOINTS LOCATION SHALL BE SUBMITTED TO PROJECT ARCHITECT FOR APPROVAL UNLESS OTHERWISE NOTED ON PLANS.
   E. SEE S4.0 FOR TYPICAL CONCRETE SLAB ON GRADE DETAILS.
4. REFER TO ARCHITECTURAL AND CIVIL DRAWINGS FOR CURBS, EXTERIOR SLABS, DRAINS, SUMPS, SWALES, RAILING, GUARDPOST, ETC.
5. AT THE RESTROOM AREAS, NO SLAB JOINTS ARE ALLOWED. COORDINATE CONSTRUCTION OF SLAB WITH THE ARCHITECT.
6. THE SOILS ENGINEER OF RECORD SHALL ISSUE A FINAL REPORT STATING THE COMPLETED PAD, FOUNDATION, FINISH GRADING, DRAINAGE AND ASSOCIATED SITE WORK CONFORMS TO THE APPROVED PLANS, SPECIFICATIONS AND GEOTECHNICAL REPORT.
7. SEE SHEET S4.3 FOR TYPICAL CMU WALL DETAILS.

LEGEND

- INDICATES CONCRETE FOOTING
- CF1 — INDICATES TYPE OF CONTINUOUS FOOTING, SEE SCHEDULE.
- F1 — INDICATES SPREAD FOOTING, SEE SCHEDULE.
- S ----- S — INDICATES STEPPED FOOTING, SEE 5/S4.1.
- (-) X'-X" — INDICATES TOP OF SLAB ELEVATION, VERIFY PER ARCH DWGS.
- INDICATES 8" THICK CMU WALL, SEE SCHEDULE
- INDICATES CONCRETE WALL
- C1, F1 — INDICATES TYPE OF STEEL COLUMN, SEE SCHEDULE
- INDICATES TYPE OF SPREAD FOOTING, SEE SCHEDULE
- INDICATES STEEL COLUMN, SEE SCHEDULE
- INDICATES CHANGE IN ELEVATION AT SLAB ON GRADE

CONTINUOUS FOOTING SCHEDULE

MARK	DESCRIPTION	REINFORCEMENT	TRANSV. REINF.
CF1	2'-0" WIDE x 1'-6" DEEP	(2) #5 T&B	#4 @ 12" O.C.
CF2	3'-0" WIDE x 1'-6" DEEP	(3) #5 T&B	#4 @ 12" O.C.
CF3	3'-6" WIDE x 1'-6" DEEP	(3) #5 T&B	#4 @ 4" O.C.

STEEL COLUMN SCHEDULE

MARK	COLUMN SIZE	FTG DETAIL	BASE PL. SCHED. & DETAILS
C1	HSS 6.000x0.280	6/S4.1	7/S4.1
C2	HSS3x3x1/2	16/S4.1	7/S4.1

SPREAD FOOTING SCHEDULE

MARK	DESCRIPTION	REINFORCEMENT	NOTE
F1	3'-0" x 3'-0" x 1'-6" DEEP	(4) #5 EACH WAY BOT.	T/FTG EL = (-) 1'-0" U.N.O.

CMU SCHEDULE

TYPE	THICKNESS	VERT. REINF.	HORIZ. REINF.	REFERENCE DETAIL
W1	8"	#5 @ 16" O.C.	#5 @ 16" O.C.	2/S4.3

NOTE: ALL WALLS ARE TYPE W1 UNLESS NOTED OTHERWISE ON PLAN.

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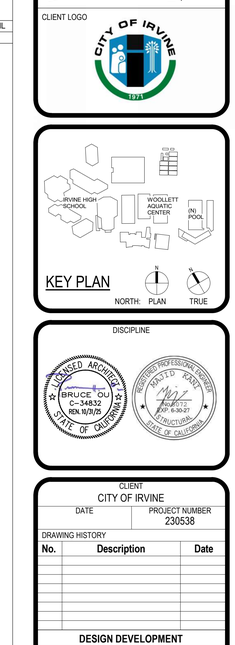

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

BUILDING FOUNDATION PLAN

S1.1

BUILDING FOUNDATION PLAN
S1.1
FOR BLUEBEAM LABELING/OCR:

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/ST23_230538-Woollett Aquatics_Central.rvt

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BLEACHERS FOUNDATION PLAN
S1.2
FOR BLUEBEAM LABELING/OCR:

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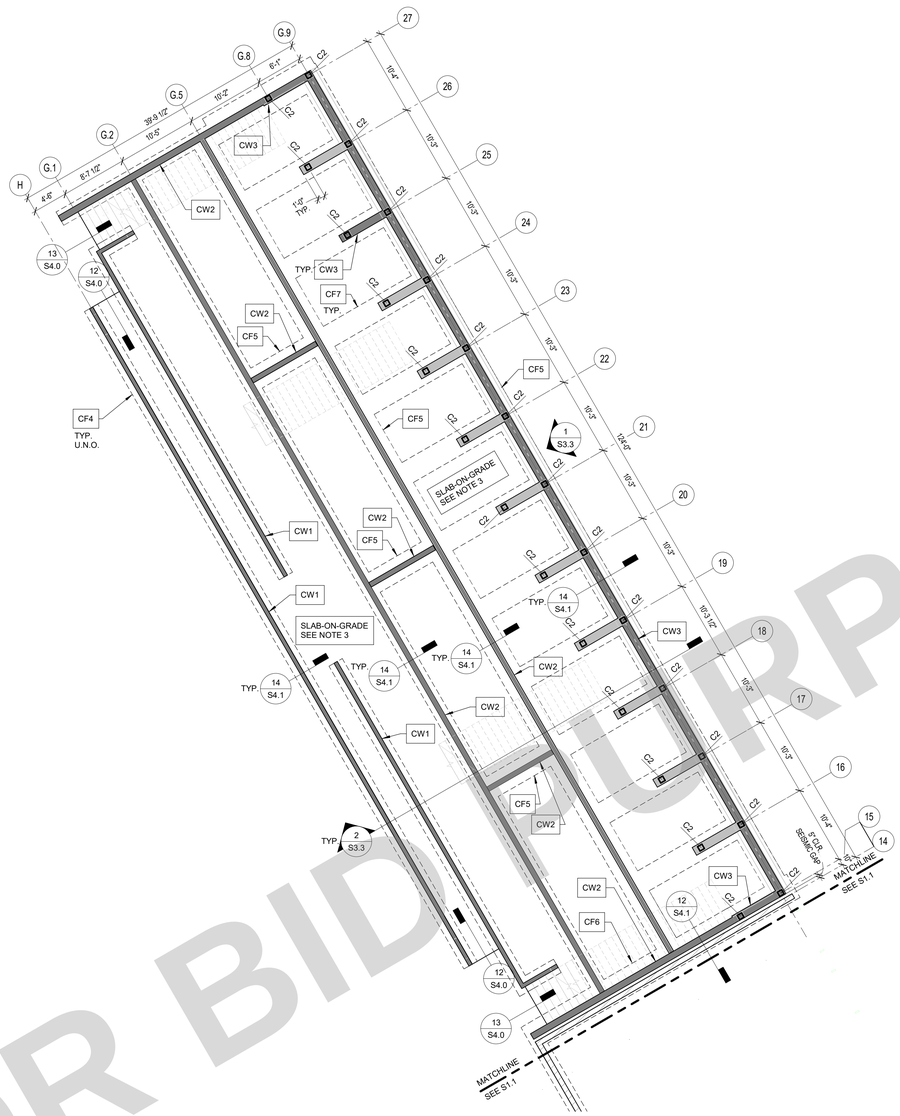

1 FOUNDATION PLAN - BLEACHERS
1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. SEE SHEET S0.1 AND S0.2 FOR GENERAL NOTES.
2. CONTRACTOR SHALL VERIFY ALL FRAMING DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND NOTIFY THE ARCHITECT AND PROJECT ENGINEER OF ANY DISCREPANCIES BEFORE STARTING THE WORK.
3. SLAB ON GRADE SHALL COMPLY WITH THE FOLLOWINGS:
   A. SLAB ON GRADE SHALL BE 5" THICK WITH #4 @ 16" O.C. EA. WAY AT MID-DEPTH.
   B. REFER TO GEOTECHNICAL REPORT FOR SITE PREPARATION, SUBBASE, AND VAPOR BARRIER UNDER SLAB ON GRADE.
   C. REFER TO ARCHITECTURAL DRAWINGS FOR EDGE OF CONCRETE SLAB ON GRADE, TOP OF SLAB ELEVATIONS, CONTROL JOINTS, AND RECESS IN SLAB.
   D. PROVIDE CONTROL JOINTS IN SLAB ON GRADE AT SPACING NOT TO EXCEED 15'-0" PER DETAIL 2/ S4.0. CONTROL JOINTS LOCATION SHALL BE SUBMITTED TO PROJECT ARCHITECT FOR APPROVAL UNLESS OTHERWISE NOTED ON PLANS.
   E. SEE S4.0 FOR TYPICAL CONCRETE SLAB ON GRADE DETAILS.
4. REFER TO ARCHITECTURAL AND CIVIL DRAWINGS FOR CURBS, EXTERIOR SLABS, DRAINS, SUMPS, SWALES, RAILING, GUARDPOST, ETC.
5. AT THE RESTROOM AREAS, NO SLAB JOINTS ARE ALLOWED. COORDINATE CONSTRUCTION OF SLAB WITH THE ARCHITECT.
6. THE SOILS ENGINEER OF RECORD SHALL ISSUE A FINAL REPORT STATING THE COMPLETED PAD, FOUNDATION, FINISH GRADING, DRAINAGE AND ASSOCIATED SITE WORK CONFORMS TO THE APPROVED PLANS, SPECIFICATIONS AND GEOTECHNICAL REPORT.
7. SEE SHEET S4.3 FOR TYPICAL CMU WALL DETAILS.

LEGEND

- INDICATES CONCRETE FOOTING
- CF1 — INDICATES TYPE OF CONTINUOUS FOOTING, SEE SCHEDULE.
- F1 — INDICATES SPREAD FOOTING, SEE SCHEDULE.
- S - - - - S — INDICATES STEPPED FOOTING, SEE 5/S4.1.
- (+) X'-X" — INDICATES TOP OF SLAB ELEVATION, VERIFY PER ARCH DWGS.
- INDICATES 8" THICK CMU WALL
- INDICATES CONCRETE WALL, SEE SCHEDULE
- C1 — INDICATES TYPE OF STEEL COLUMN, SEE SCHEDULE
- F1 — INDICATES TYPE OF SPREAD FOOTING, SEE SCHEDULE
- INDICATES STEEL COLUMN, SEE SCHEDULE

CONTINUOUS FOOTING SCHEDULE

MARK	DESCRIPTION	REINFORCEMENT	TRANSV. REINF.
CF4	2'-0" WIDE x 1'-6" DEEP	(4) #4 BOTTOM	#4 @ 12" O.C.
CF5	3'-0" WIDE x 1'-6" DEEP	(4) #5 BOTTOM	#4 @ 12" O.C.
CF6	4'-0" WIDE x 1'-6" DEEP	(4) #5 T & B	#4 @ 12" O.C.
CF7	3'-0" WIDE x 2'-0" DEEP	(5) #6 T & B	#4 @ 8" O.C.

STEEL COLUMN SCHEDULE

MARK	COLUMN SIZE	FTG DETAIL	BASE PL. SCHED. & DETAILS
C2	HSS 8x8x3/8	13/S4.1	12/S4.1

SPREAD FOOTING SCHEDULE

MARK	DESCRIPTION	REINFORCEMENT	NOTE
F1	3'-0" x 3'-0" x 1'-6" DEEP	(4) #5 EACH WAY BOT.	T/FTG EL = (-) 1'-0" U.N.O.

CONCRETE WALL SCHEDULE

TYPE	THICKNESS	VERT. REINF.	HORIZ. REINF.	REFERENCE DETAIL
CW1	6"	#5 @ 16" O.C.	#5 @ 16" O.C.	3A/S4.2
CW2	8"	#5 @ 16" O.C.	#5 @ 16" O.C.	3A/S4.2
CW3	12"	#5 @ 16" O.C. EA. FACE	#5 @ 16" O.C. EA. FACE	3B/S4.2

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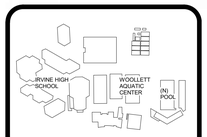

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN. 10/31/26
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
MARK D. KOST
No. 3277
EXP. 6-30-27
STRUCTURAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

BLEACHERS FOUNDATION PLAN

S1.2

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/ST23_230538-Woollett Aquatics_Central.rvt
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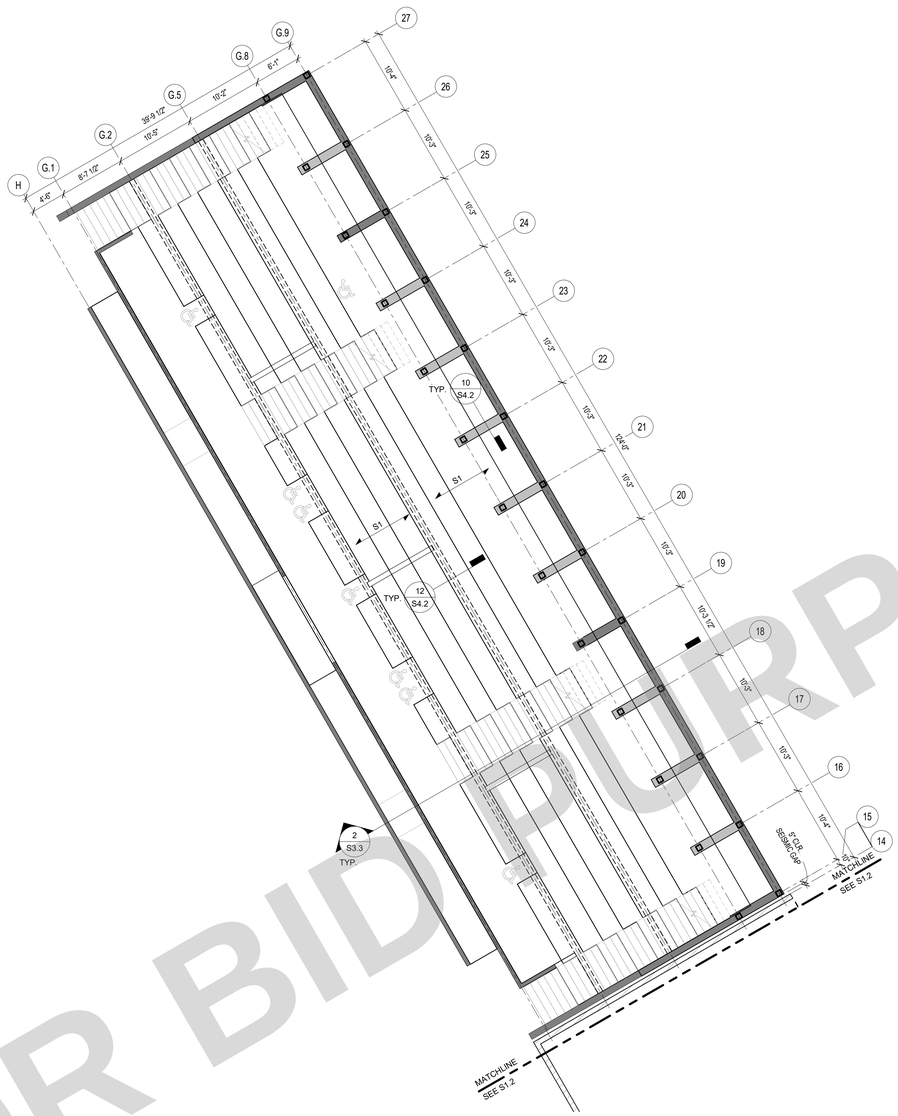
0"
1"

BLEACHERS FRAMING PLAN
S1.3
FOR BLUEBEAM LABELING/OCR:



1 FRAMING PLAN - BLEACHERS
1/8" = 1'-0"

FRAMING PLAN NOTES

1. SEE S0.1 AND S0.2 FOR GENERAL NOTES.
2. CONTRACTOR SHALL VERIFY ALL FRAMING DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND NOTIFY THE ARCHITECT AND PROJECT ENGINEER OF ANY DISCREPANCIES BEFORE STARTING THE WORK.
3. SEE SHEET S4.4 AND S4.5 FOR TYPICAL STEEL CONNECTION DETAILS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, HEIGHTS AND FINISHED ROOF ELEVATIONS.
5. VERIFY WEIGHT & LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS. ALL ROOF MOUNTED AND/OR SUSPENDED EQUIPMENT MUST BE ANCHORED TO ROOF FRAMING AS INDICATED ON THE DRAWINGS.
6. REFER TO FIRE PROTECTION DRAWINGS FOR ALL REQUIREMENTS OF SUPPLYING AND INSTALLING THE SPRINKLER LINES AND BRACING SYSTEMS.
7. UNLESS NOTED OTHERWISE ON STRUCTURAL AND ARCHITECTURAL DRAWINGS, ALL EXPOSED STRUCTURAL STEEL MEMBERS AND CONNECTORS SHALL BE HOT-DIP GALVANIZED (MINIMUM ASTM A123) OR PAINTED WITH ZINC-RICH PRIMER, UNDERCOAT, AND FINISH COAT, OR EQUIVALENT PAINT SYSTEM. ALL EXPOSED STEEL FASTENERS, INCLUDING CAST-IN-PLACE ANCHOR BOLTS/RODS, SHALL BE STAINLESS (TYPE 304 MINIMUM) OR HOT-DIP GALVANIZED (ASTM A513, CLASS D MINIMUM OR ASTM F2329).

LEGEND

INDICATES CONCRETE WALL, SEE SCHEDULE ON S1.2

INDICATES CONCRETE WALL BELOW, SEE SCHEDULE ON S1.2

S1 INDICATES CONCRETE BLEACHER SLAB, SEE 11/S4.2

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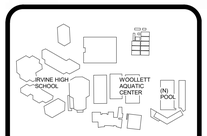

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN.10/31/26 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER MASTER JOANA No.85737 EXP. 6-30-27 STRUCTURAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

BLEACHERS FRAMING PLAN

S1.3

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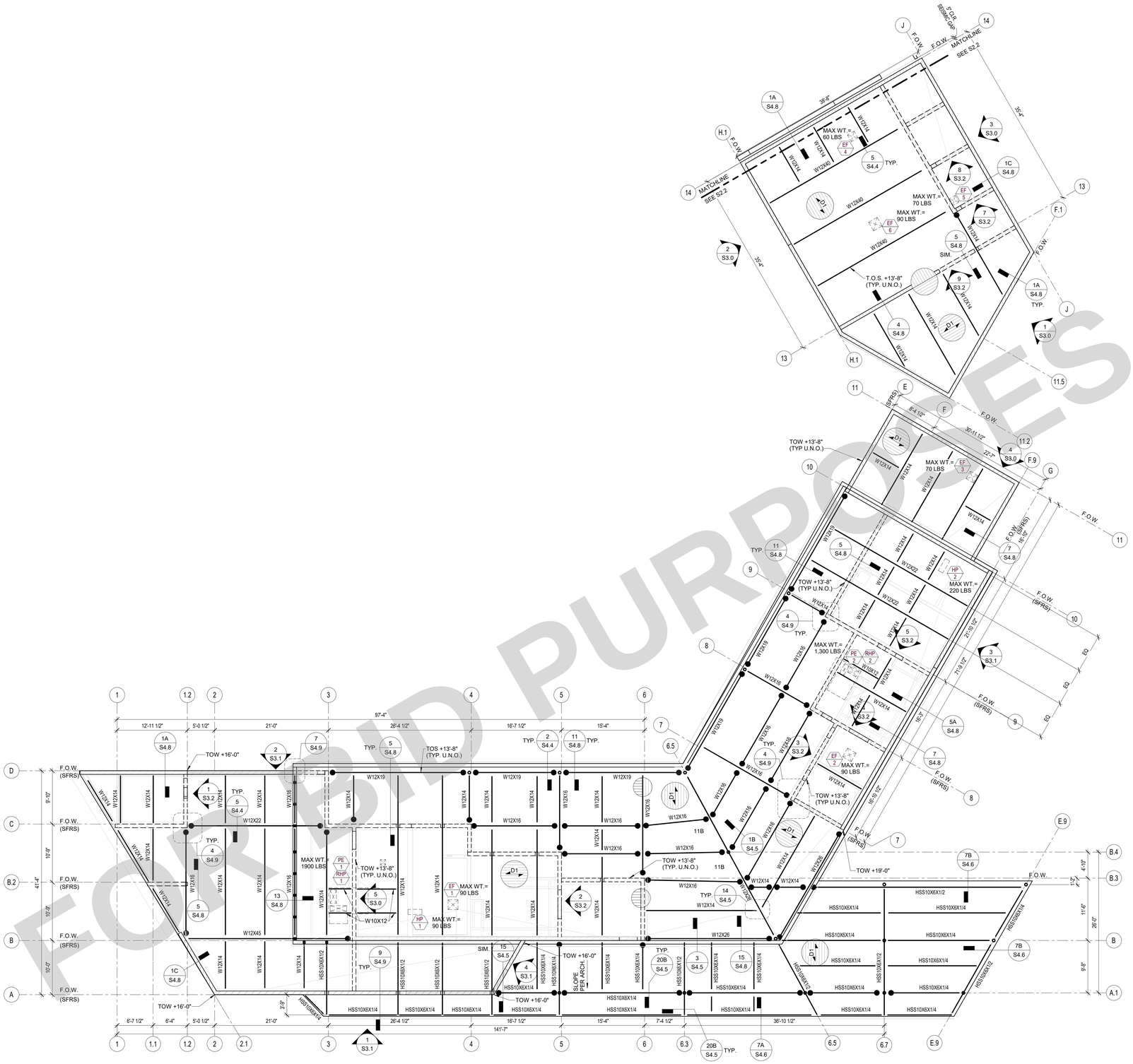
ROOF FRAMING PLAN
S2.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



ROOF PLAN NOTES

1. SEE S0.1 AND S0.2 FOR GENERAL NOTES.
2. CONTRACTOR SHALL VERIFY ALL FRAMING DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND NOTIFY THE ARCHITECT AND PROJECT ENGINEER OF ANY DISCREPANCIES BEFORE STARTING THE WORK.
3. SEE SHEET S4.4 AND S4.5 FOR TYPICAL STEEL CONNECTION DETAILS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, HEIGHTS AND FINISHED ROOF ELEVATIONS.
5. VERIFY WEIGHT & LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS. ALL ROOF MOUNTED AND/OR SUSPENDED EQUIPMENT MUST BE ANCHORED TO ROOF FRAMING AS INDICATED ON THE DRAWINGS.
6. UNLESS NOTED OTHERWISE ON STRUCTURAL AND ARCHITECTURAL DRAWINGS, ALL EXPOSED STRUCTURAL STEEL MEMBERS AND CONNECTORS SHALL BE HOT-DIP GALVANIZED (MINIMUM ASTM A123) OR PAINTED WITH ZINC-RICH PRIMER, UNDERCOAT, AND FINISH COAT, OR EQUIVALENT PAINT SYSTEM. ALL EXPOSED STEEL FASTENERS, INCLUDING CAST-IN-PLACE ANCHOR BOLTS/RODS, SHALL BE STAINLESS (TYPE 304 MINIMUM) OR HOT-DIP GALVANIZED (ASTM A513, CLASS D MINIMUM OR ASTM F2329).
7. TOP OF STEEL BEAMS AND GIRDERS ARE FLUSH AND OCCUR IMMEDIATELY BELOW METAL DECK UNLESS OTHERWISE NOTED.
8. BEAMS SHALL BE EQUALLY SPACED IN BAYS UNLESS OTHERWISE NOTED.

LEGEND

- INDICATES 8" THICK CMU WALL
- INDICATES 8" THICK CMU WALL BELOW
- INDICATES METAL STUD FRAMING, SEE REFERENCED DETAILS
- INDICATES STEEL HSS COLUMN BELOW
- INDICATES DRAG CONNECTION. SEE DETAIL 9/S4.4 & 1/S4.9
- D1 — INDICATES SPAN DIRECTION OF 1 1/2" DEEP x 18 GA. VERCO PLB-36 METAL DECK (IAPMO ER-2018) OR APPROVED EQUAL. SEE SHEET S4.6 FOR TYPICAL METAL DECK DETAILS AND CONNECTIONS. DECK SHEETS BE CONTINOUS OVER 2 SPANS MINIMUM.
- INDICATES DECK ORIENTATION CHANGES
- F.O.W. — INDICATES GRIDLINE ALIGNS WITH FACE OF CMU WALL

1 ROOF FRAMING PLAN - BUILDINGS
1/8" = 1'-0"

N

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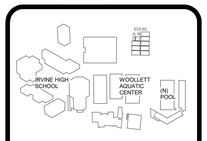
CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

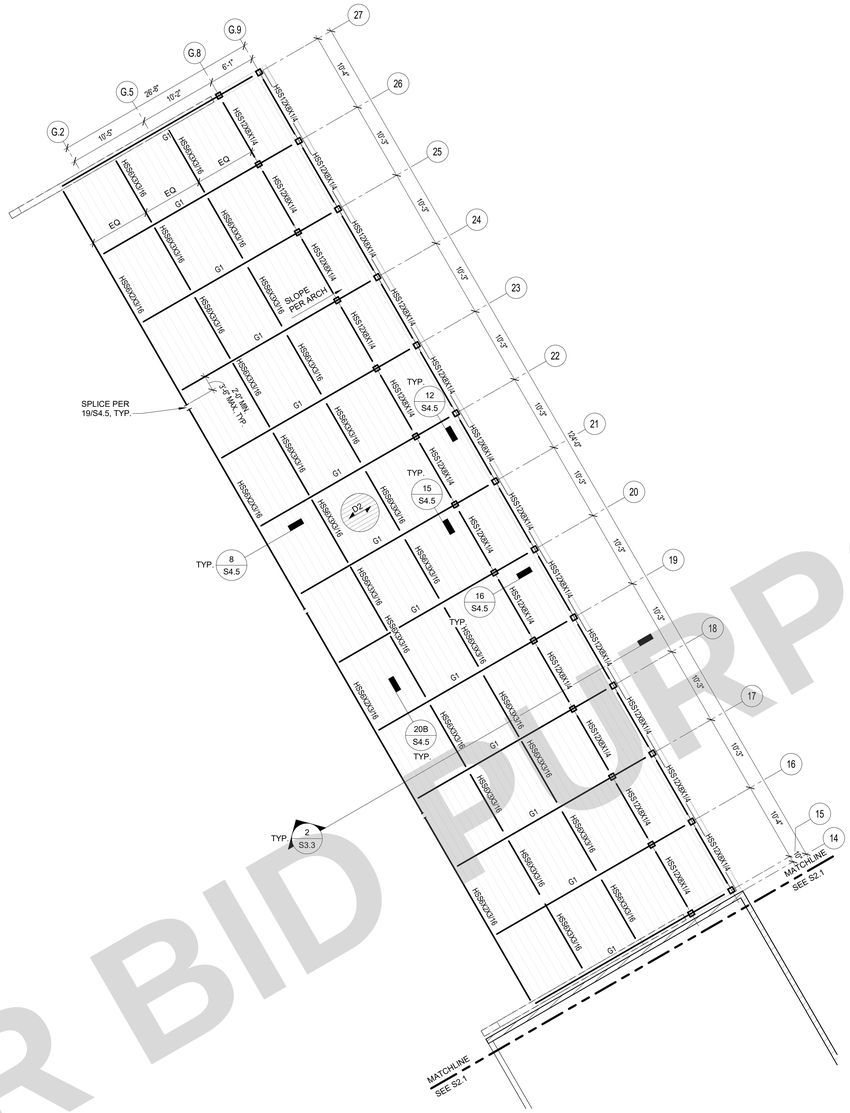
DESIGN DEVELOPMENT
BUILDING NUMBER

ROOF FRAMING PLAN

S2.1

0"
1"

ROOF FRAMING - BLEACHERS
S2.2
FOR BLUEBEAM LABELING/OCR:



1 ROOF FRAMING PLAN - BLEACHERS
1/8" = 1'-0"

ROOF PLAN NOTES

1. SEE S0.1 AND S0.2 FOR GENERAL NOTES.
2. CONTRACTOR SHALL VERIFY ALL FRAMING DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND NOTIFY THE ARCHITECT AND PROJECT ENGINEER OF ANY DISCREPANCIES BEFORE STARTING THE WORK.
3. SEE SHEET S4.4 AND S4.5 FOR TYPICAL STEEL CONNECTION DETAILS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, HEIGHTS AND FINISHED ROOF ELEVATIONS.
5. VERIFY WEIGHT & LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS. ALL ROOF MOUNTED AND/OR SUSPENDED EQUIPMENT MUST BE ANCHORED TO ROOF FRAMING AS INDICATED ON THE DRAWINGS.
6. REFER TO FIRE PROTECTION DRAWINGS FOR ALL REQUIREMENTS OF SUPPLYING AND INSTALLING THE SPRINKLER LINES AND BRACING SYSTEMS.
7. UNLESS NOTED OTHERWISE ON STRUCTURAL AND ARCHITECTURAL DRAWINGS, ALL EXPOSED STRUCTURAL STEEL MEMBERS AND CONNECTORS SHALL BE HOT-DIP GALVANIZED (MINIMUM ASTM A123) OR PAINTED WITH ZINC-RICH PRIMER, UNDERCOAT, AND FINISH COAT, OR EQUIVALENT PAINT SYSTEM. ALL EXPOSED STEEL FASTENERS, INCLUDING CAST-IN-PLACE ANCHOR BOLTS/RODS, SHALL BE STAINLESS (TYPE 304 MINIMUM) OR HOT-DIP GALVANIZED (ASTM A513, CLASS D MINIMUM OR ASTM F2329).
8. TOP OF STEEL BEAMS AND GIRDERS ARE FLUSH AND OCCUR IMMEDIATELY BELOW METAL DECK UNLESS OTHERWISE NOTED.
9. BEAMS SHALL BE EQUALLY SPACED IN BAYS UNLESS OTHERWISE NOTED.
10. REFER TO ARCHITECTURAL FOR SLOPE MAGNITUDE AND DIRECTION.

LEGEND

- INDICATES CONCRETE WALL BELOW
- INDICATES STEEL HSS COLUMN, SEE SCHEDULE ON S1.2
- D2 — INDICATES SPAN DIRECTION OF 1 1/2" DEEP x 18 GA. VERCO PLB-36 METAL DECK (IAPMO ER-2018) OR APPROVED EQUAL. SEE SHEETS S4.7 FOR TYPICAL METAL DECK DETAILS AND CONNECTIONS.
- G1 — INDCATES TAPERED HSS12x8x1/2 GIRDER, SEE 7/S4.5
- INDICATES SPLICE LOCATION

N

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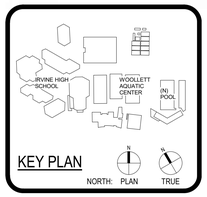
CLIENT LOGO



DISCIPLINE

LICENSED ARCHITECT BRUCE GU C-34832 REN.10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER MASUD KHAN No.85737 EXP. 6-30-27 STRUCTURAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER
230538
DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

ROOF FRAMING - BLEACHERS

S2.2

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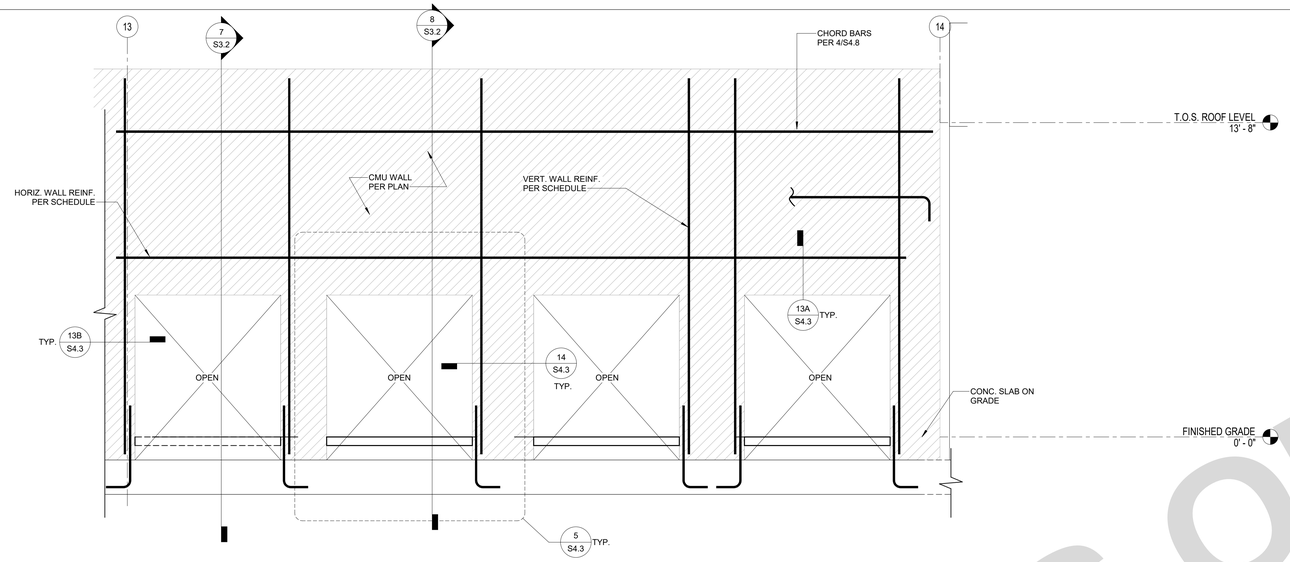
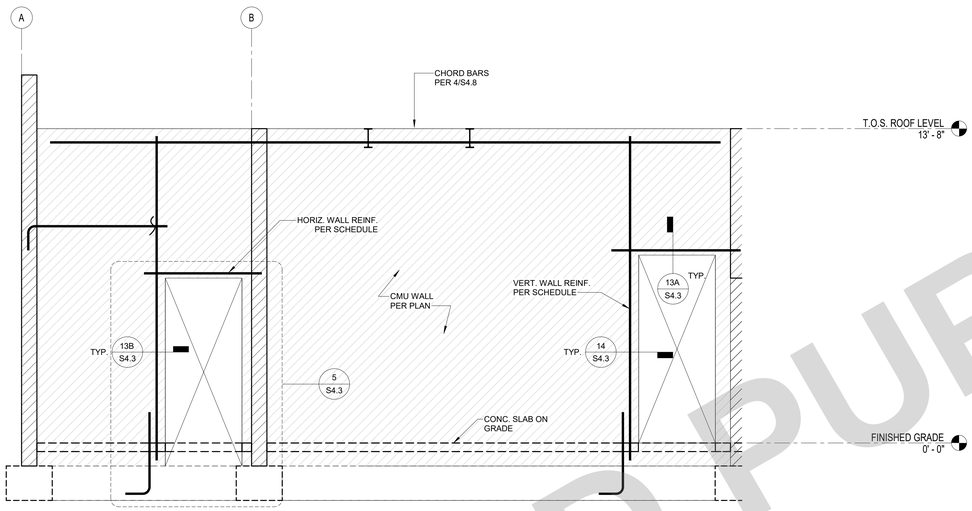
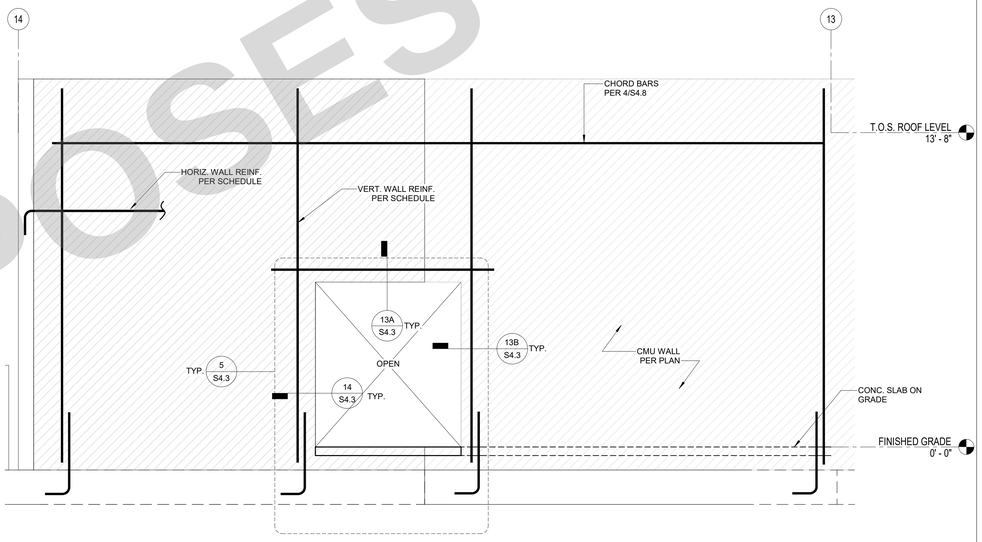


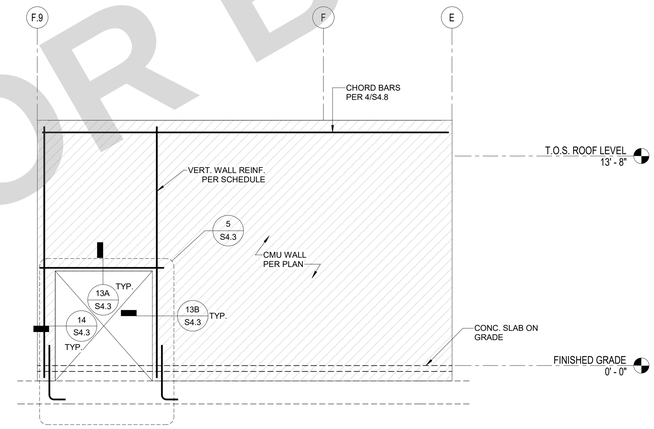
3 CMU WALL ELEVATION ALONG GRID J
3/8" = 1'-0"



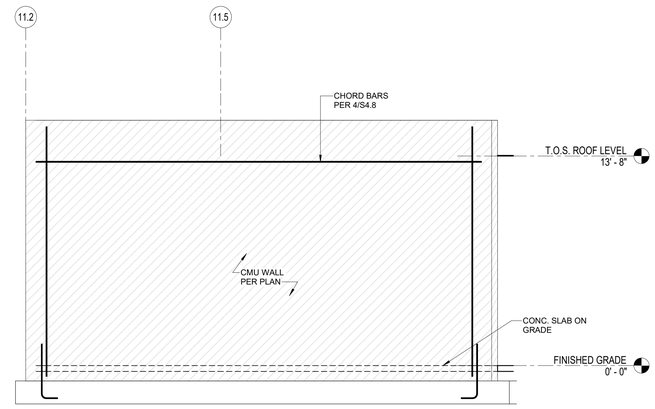
5 CMU WALL ELEVATION ALONG GRIDE 3
3/8" = 1'-0"



2 CMU WALL ELEVATION ALONG GRID H.1
3/8" = 1'-0"



4 CMU WALL ELEVATION ALONG GRID 11
1/4" = 1'-0"



1 CMU WALL ELEVATION ALONG GRID F.1
1/4" = 1'-0"

ELEVATIONS
S3.0
FOR BLUEBEAM LABELING/OCR:

0"
1"

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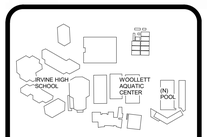
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER
230538

DRAWING HISTORY

No.	Description	Date

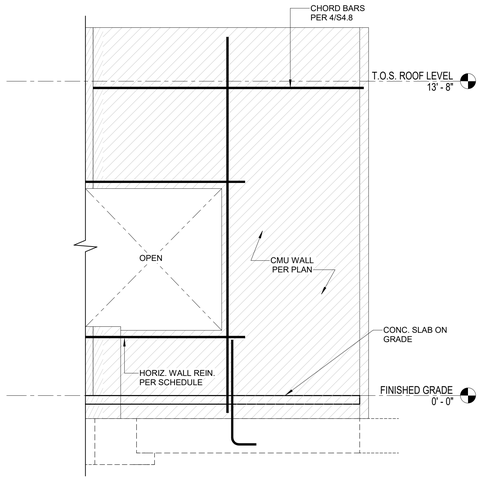
DESIGN DEVELOPMENT
BUILDING NUMBER

ELEVATIONS

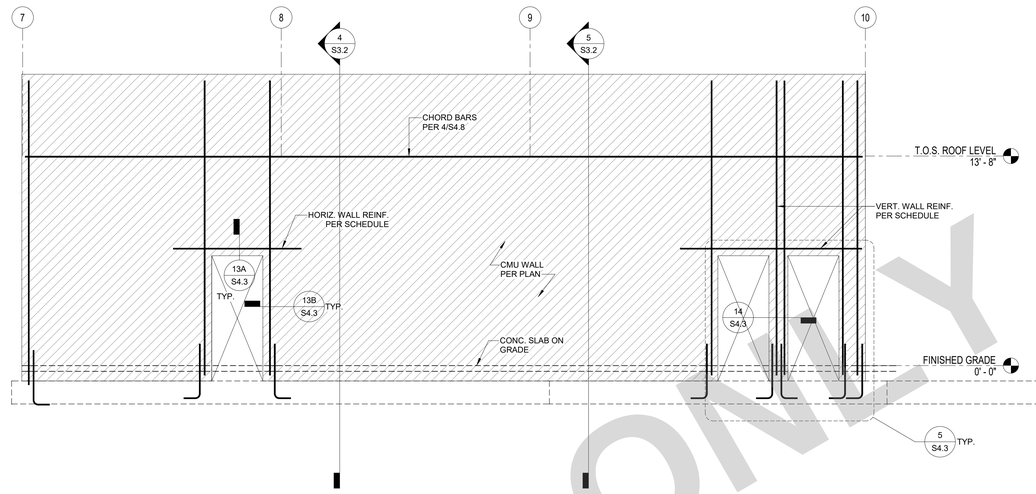
S3.0

ELEVATIONS
S3.1
FOR BLUEBEAM LABELING/OCR:

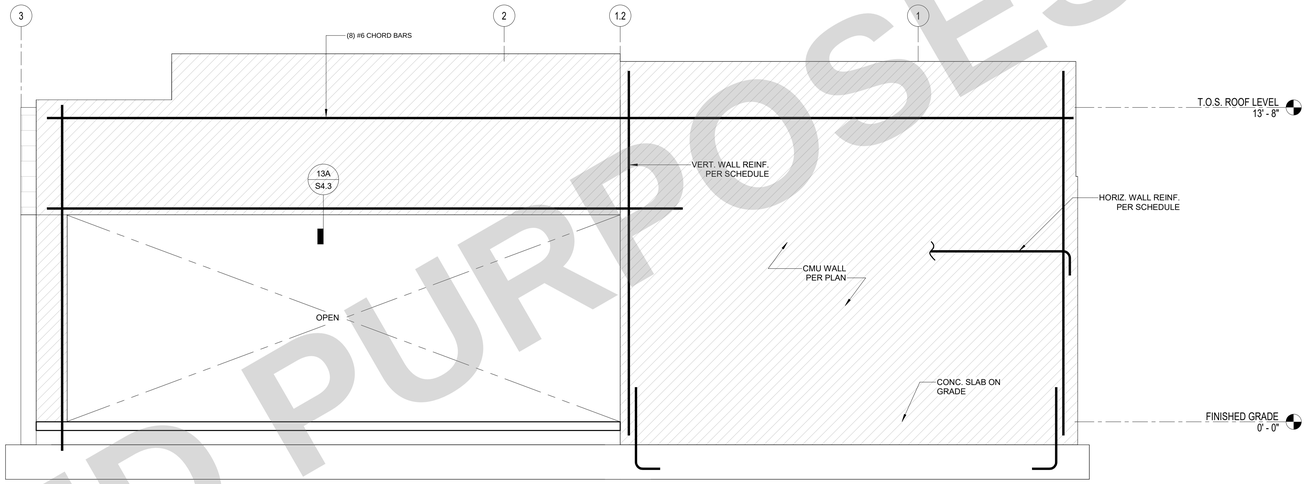
0"
1"



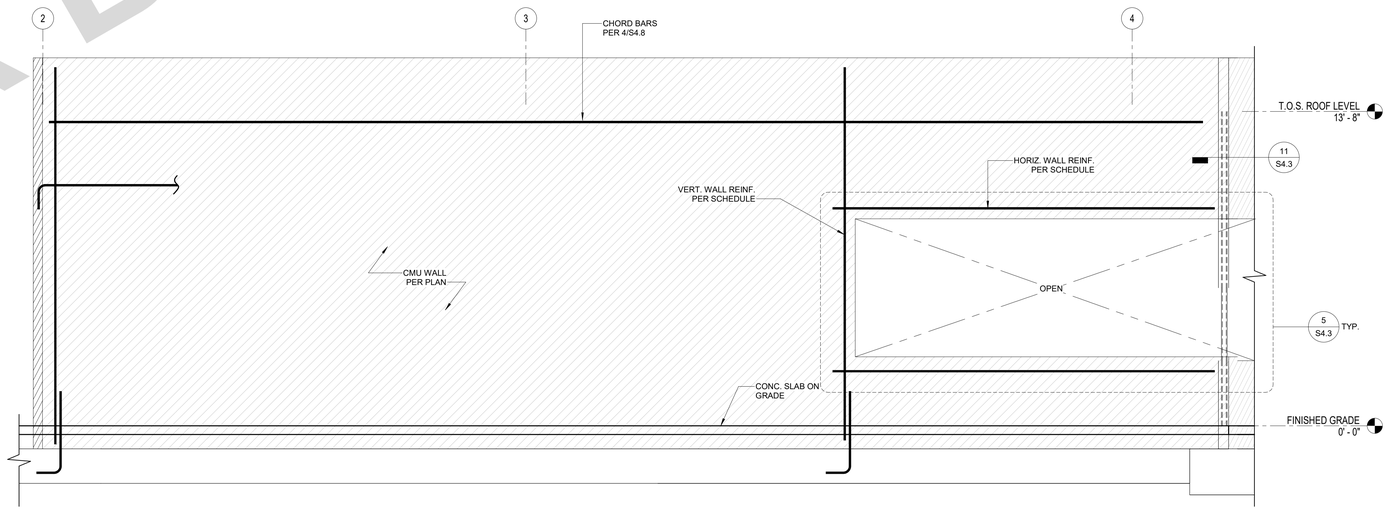
4 CMU WALL ELEVATION ALONG GRID 4.5
3/8" = 1'-0"



3 CMU WALL ELEVATION ALONG GRID G
1/4" = 1'-0"



2 CMU WALL ELEVATION ALONG GRID D
3/8" = 1'-0"



1 CMU WALL ELEVATION ALONG GRID A
3/8" = 1'-0"

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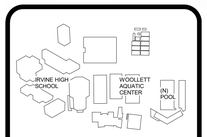

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

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DATE
PROJECT NUMBER
230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

ELEVATIONS

S3.1

ELEVATIONS
S3.2
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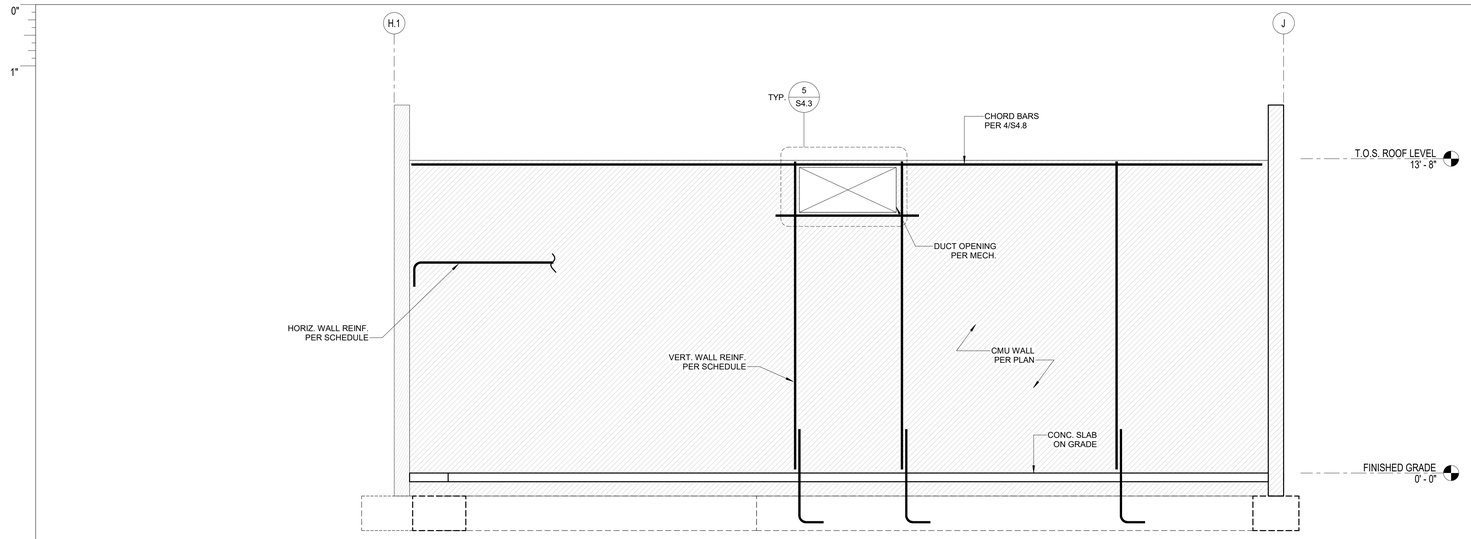
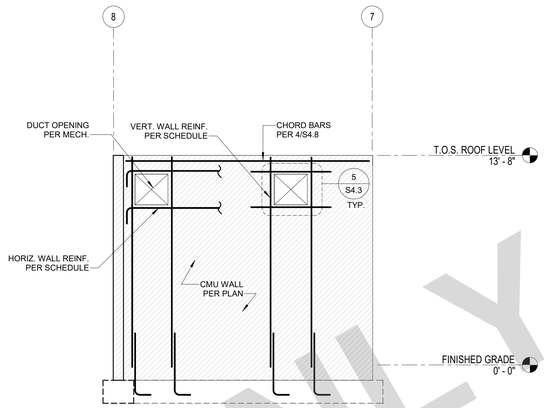


9 CMU WALL ELEVATION ALONG GRID 13
N.T.S.



3 CMU WALL ELEVATION ALONG GRID 4
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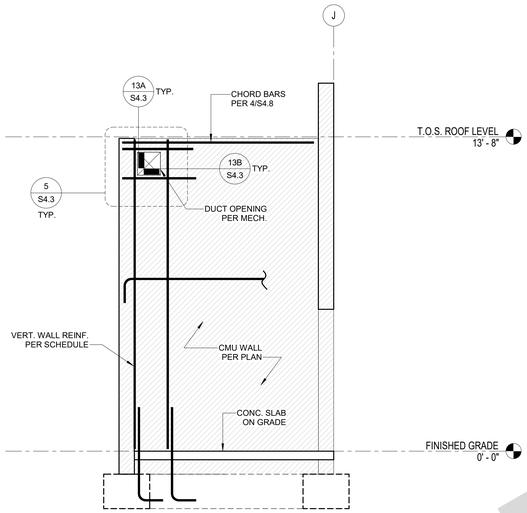
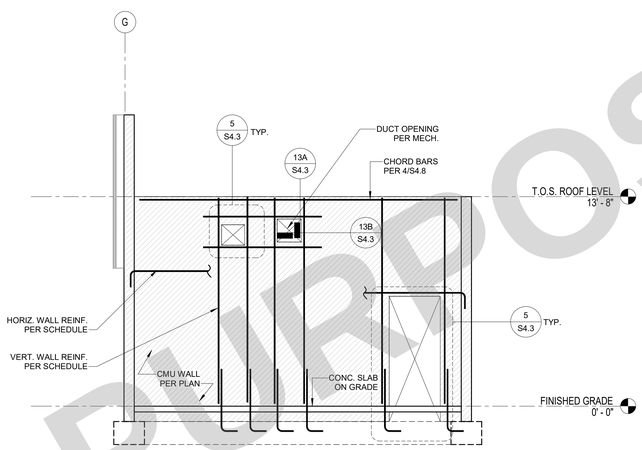
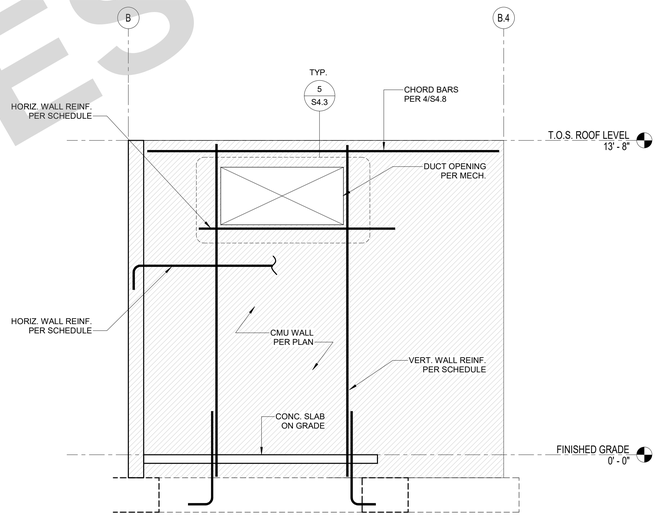


8 CMU WALL ELEVATION ALONG GRID J2
N.T.S.



5 CMU WALL ELEVATION ALONG GRID 1
N.T.S.



2 CMU WALL ELEVATION ALONG GRID 1
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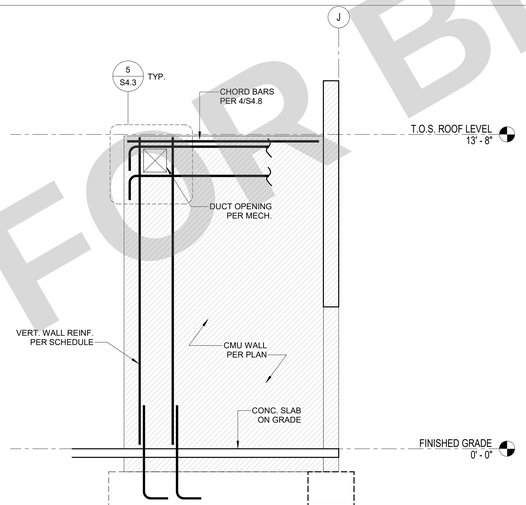
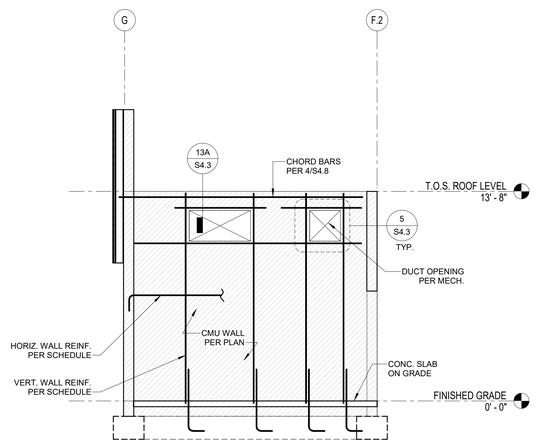


7 CMU WALL ELEVATION ALONG GRID J1
3/8" = 1'-0"



4 CMU WALL ELEVATION ALONG GRID 2
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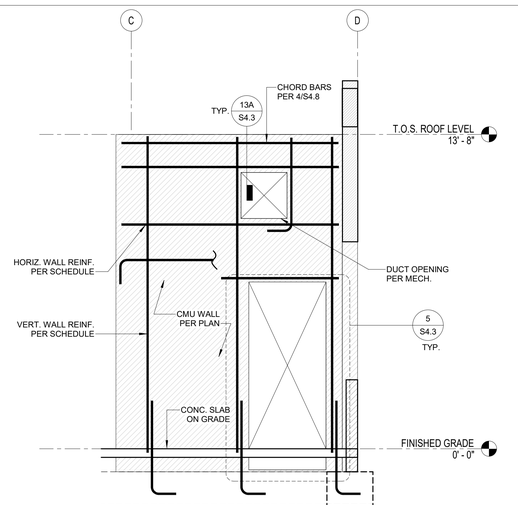

1 CMU WALL ELEVATION ALONG GRID 2
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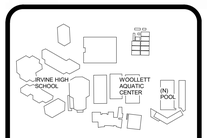

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN 10/31/26
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
MASUD KOSTY
No. S13727
EXP. 6-30-27
STRUCTURAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

ELEVATIONS

S3.2

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SECTIONS

S3.3

FOR BLUEBEAM LABELING/OCR:

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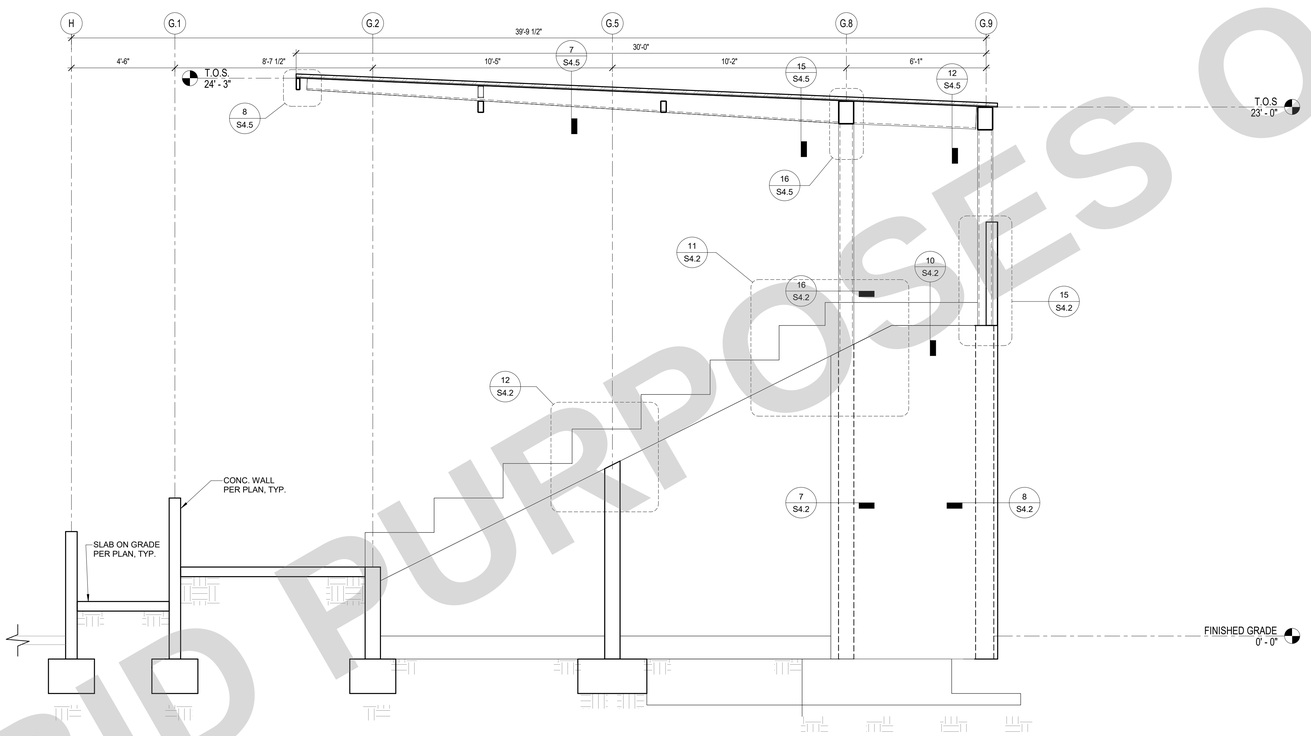
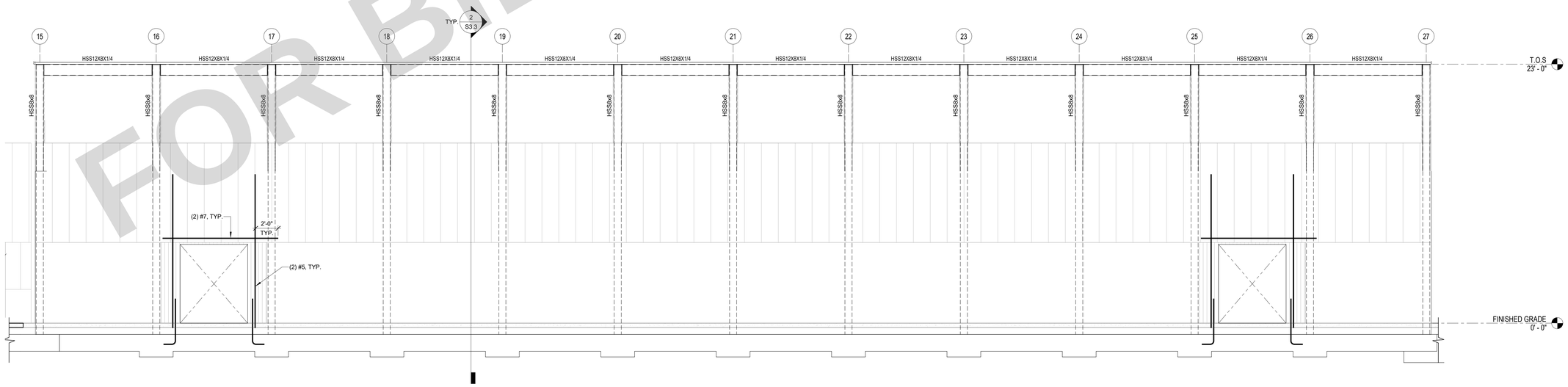
1"



2 Section

N.T.S.



1 WALL ELEVATION ALONG GRID G.9

N.T.S.

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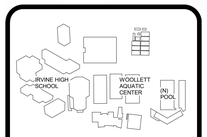


KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN 11/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
MATT TOOT
No. S-30121
STRUCTURAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

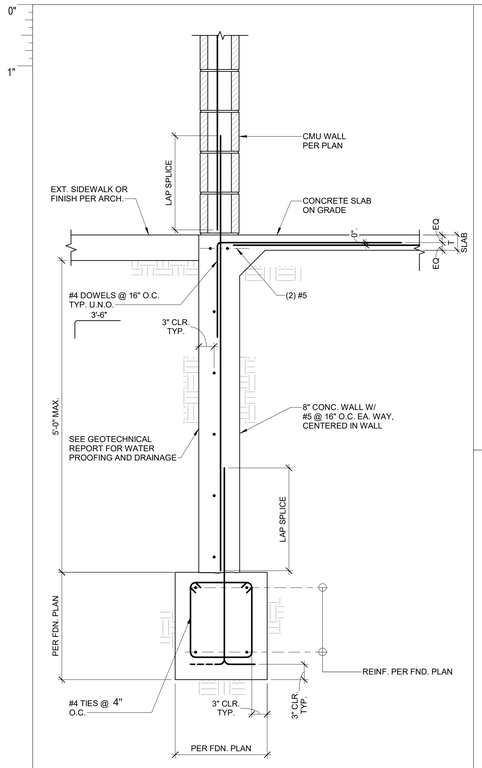
DESIGN DEVELOPMENT

BUILDING NUMBER

SECTIONS

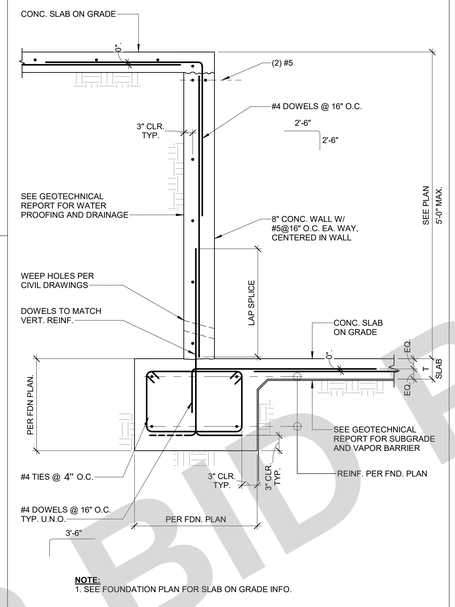
S3.3

TYPICAL DETAILS
S4.0
FOR BLUEBEAM LABELING/OCR:



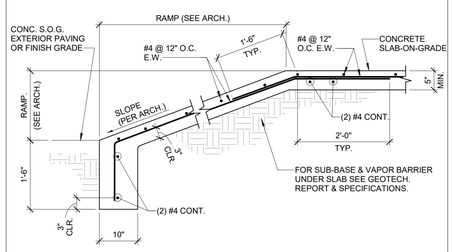
NOTE:
1. SEE FOUNDATION PLAN FOR SLAB ON GRADE INFO.

19 CONCRETE STEM WALL
N.T.S.

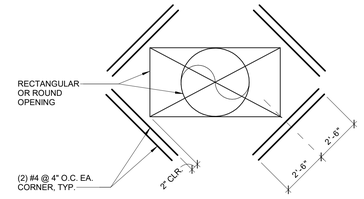


NOTE:
1. SEE FOUNDATION PLAN FOR SLAB ON GRADE INFO.

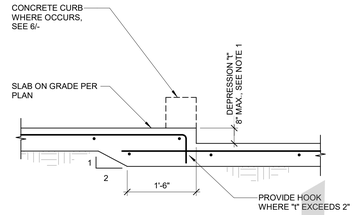
14 INTERIOR PUMP ROOM PIT WALL
N.T.S.



12 RAMP SECTION
N.T.S.

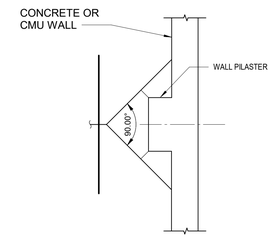


8 OPENING IN SLAB ON GRADE
N.T.S.

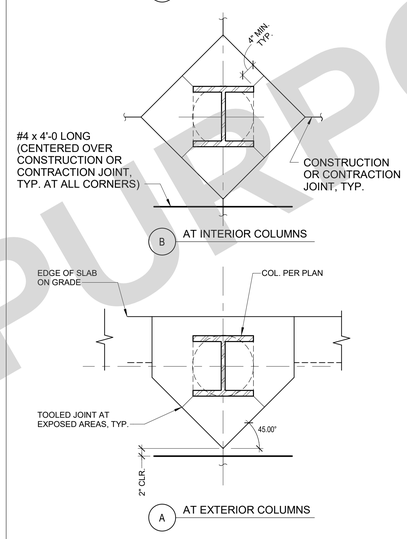


NOTES:
1. FOR LOCATION AND SIZE OF STEP, SEE PLAN OR ARCHITECTURAL DRAWINGS.

4 DEPRESSED SLAB ON GRADE
N.T.S.



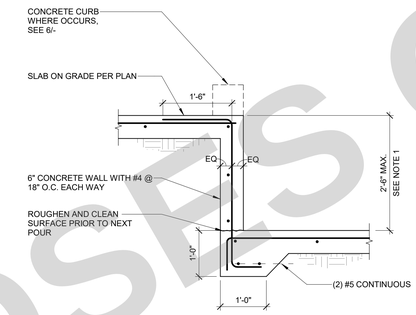
C AT WALL PILASTER



B AT INTERIOR COLUMNS

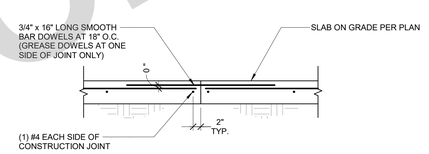
A AT EXTERIOR COLUMNS

10 COLUMN ISOLATION JOINT
N.T.S.

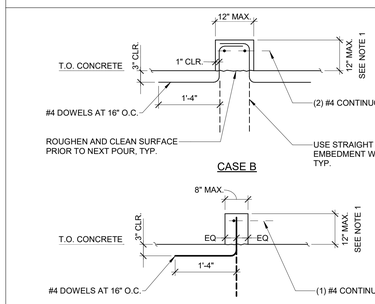


NOTES:
1. FOR LOCATION AND SIZE OF STEP, SEE PLAN OR ARCHITECTURAL DRAWINGS.

7 STEP IN SLAB ON GRADE
N.T.S.

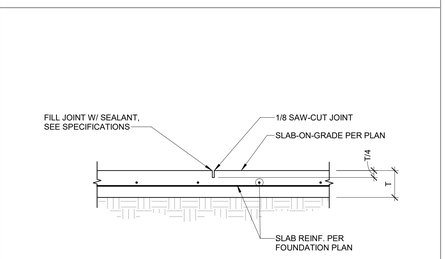


3 CONSTRUCTION JOIINT @ SLAB ON GRADE
N.T.S.



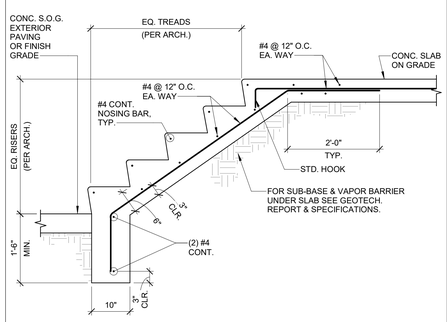
NOTES:
1. SIZE AND LOCATION OF CURBS AS REQUIRED PER ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. PROVIDE INSERTS IN CURBS AS REQUIRED PER ARCHITECTURAL AND MECHANICAL DRAWINGS.

6 CONCRETE CURB
N.T.S.

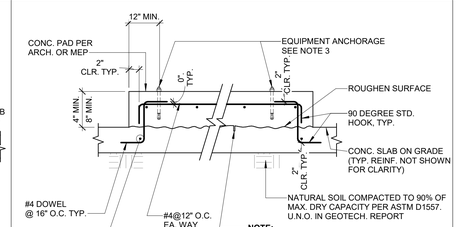


NOTES:
1. SLAB-CUTTING PERMITTED THE SAME DAY OF THE POUR.
2. SPACE JOINTS @ 16'-0" O.C. MAX. UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. CONTROL JOINTS LOCATION SHALL BE SUBMITTED AND APPROVED BY PROJECT ARCHITECT.

2 SLAB CONTROL JOINTS
N.T.S.

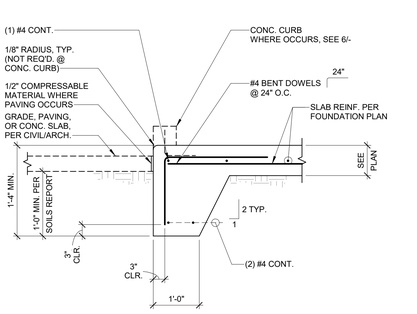


13 STAIR SECTION
N.T.S.

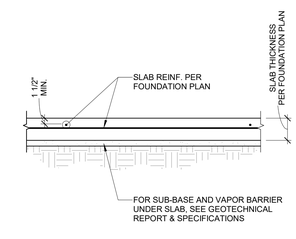


NOTES:
1. REFER TO MEP DRAWINGS FOR EQUIPMENT SPECIFICATIONS.
2. PRIOR TO ANY CONSTRUCTION, VERIFY CONCRETE PAD SIZE IS ADEQUATE FOR THE EQUIPMENT PER MFR. RECOMMENDATIONS
3. CONTRACTOR SHALL SUBMIT EQUIPENT ANCHORAGE INFORMATION DESIGN FOR REVIEW & APPROVAL. THE ANCHORAGE OF EQUIPMENT SHOULD INCLUDE AT LEAST (4) 1/2" DIA. HILTI KB-TZ2 W/ 4" NOM. EMBED. (ICC ESR-4266) PER UNIT, ONE AT EACH CORNER.

9 CONCRETE PAD @ SLAB-ON-GRADE
N.T.S.



5 EDGE OF EXTERIOR SLAB
N.T.S.



1 SLAB ON GRADE
N.T.S.

FOR BID PURPOSES ONLY

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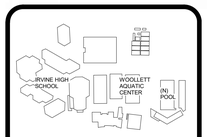


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN. 11/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER MATTHEW TONEY EXP. 6-30-27 STRUCTURAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER
230538

DRAWING HISTORY

No.	Description	Date

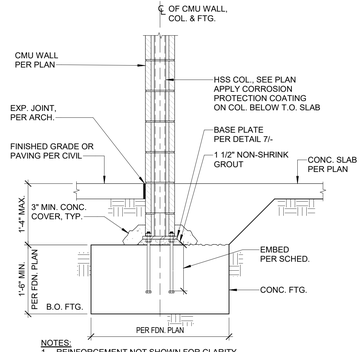
DESIGN DEVELOPMENT
BUILDING NUMBER

TYPICAL DETAILS

S4.0

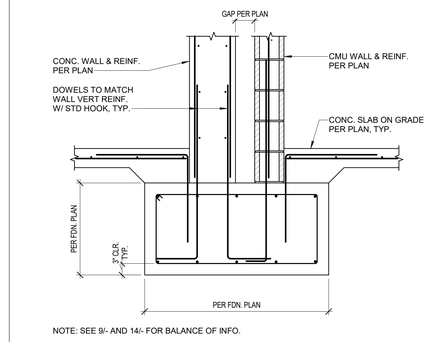
TYPICAL FOOTING DETAILS
S4.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



NOTES:
1. REINFORCEMENT NOT SHOWN FOR CLARITY.
2. FOR OTHER INFORMATION NOT SHOWN OR CALLED SEE 1/-.

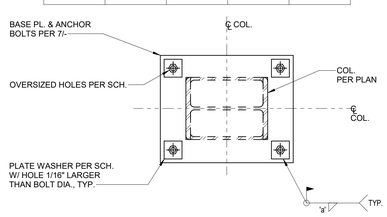
16 CMU WALL FTG. AT HSS COL.
N.T.S.



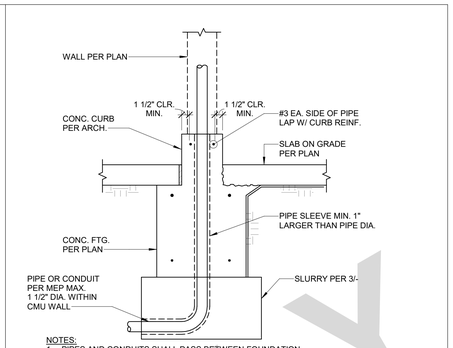
NOTE: SEE 9/- AND 14/- FOR BALANCE OF INFO.

12 COMBINED FOOTING SECTION
N.T.S.

ANCHOR ROD DIA. (IN.)	MAX. HOLE SIZE (IN.)	MIN. WASHER PL SIZE (IN.)	MIN. WASHER PL THK. (IN.)	WELD SIZE 'a' (IN.)
3/4	1 5/16	2	1/4	3/16
7/8	1 9/16	2 1/2	5/16	3/16
1	1 13/16	3	3/8	3/16
1 1/4	2 1/16	3	1/2	3/16
1 1/2	2 5/16	3 1/2	1/2	1/4

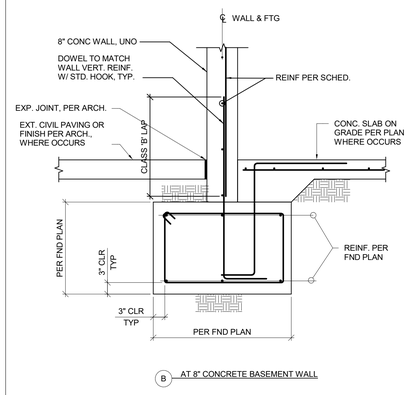


8 TYP. OVERSIZED HOLES IN BASE PL.
N.T.S.

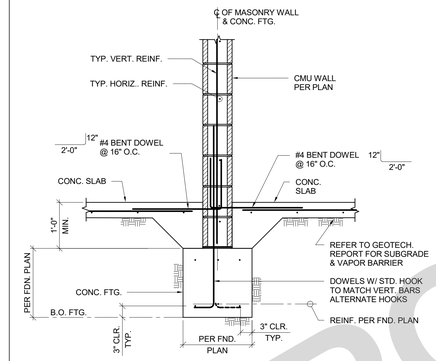


NOTES:
1. PIPES AND CONDUITS SHALL PASS BETWEEN FOUNDATION REINFORCING. DO NOT CUT REINFORCEMENT. SEE DETAIL 16/- FOR TYP. BLOCK-OUT DETAIL FOR LARGER UTILITIES.

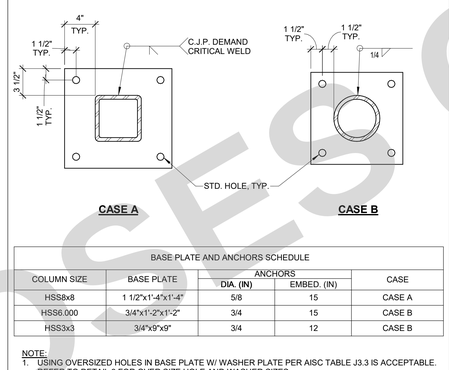
4 PIPES / CONDUIT THROUGH CURB
N.T.S.



B AT 8" CONCRETE BASEMENT WALL



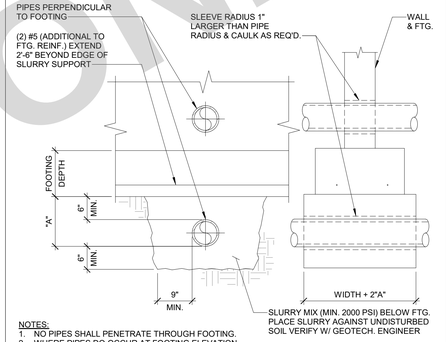
11 INTERIOR CMU WALL FTG
N.T.S.



BASE PLATE AND ANCHORS SCHEDULE				
COLUMN SIZE	BASE PLATE	ANCHORS		CASE
		DIA. (IN)	EMBED. (IN)	
HSS8x8	1 1/2"x1'-4"x1'-4"	5/8	15	CASE A
HSS6.000	3/4"x1'-2"x1'-2"	3/4	15	CASE B
HSS3x3	3/4"x9"x9"	3/4	12	CASE B

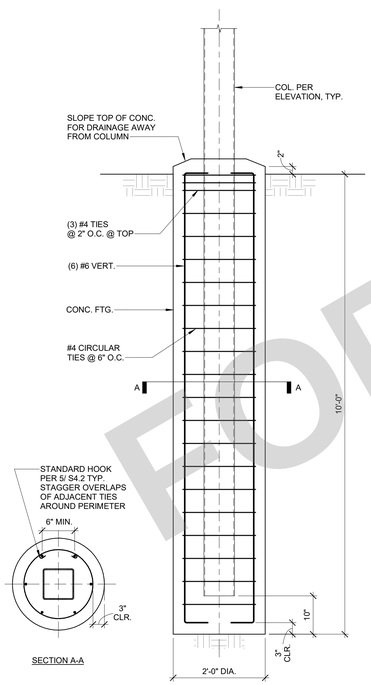
NOTE:
1. USING OVERSIZED HOLES IN BASE PLATE W/ WASHER PLATE PER AISC TABLE J3.3 IS ACCEPTABLE. REFER TO DETAIL 8 FOR OVER SIZE HOLE AND WASHER SIZES.

7 BASE PLATE AND ANCHORS
N.T.S.

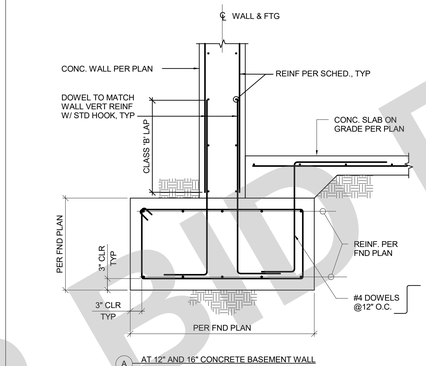


NOTES:
1. NO PIPES SHALL PENETRATE THROUGH FOOTING.
2. WHERE PIPES DO OCCUR AT FOOTING ELEVATION, STEP FOOTING DOWN AS REQUIRED TO AVOID PIPE PENETRATIONS THROUGH FOOTING.

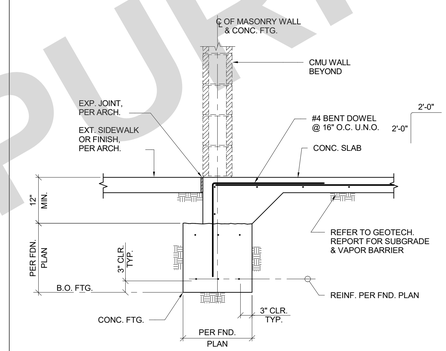
3 PIPES PERPENDICULAR TO FOOTING
N.T.S.



17 SCOREBOARD FOOTING
N.T.S.

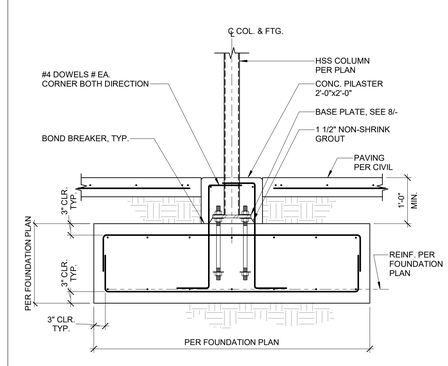


14 TYP. FOOTING AT CONCRETE WALL
N.T.S.

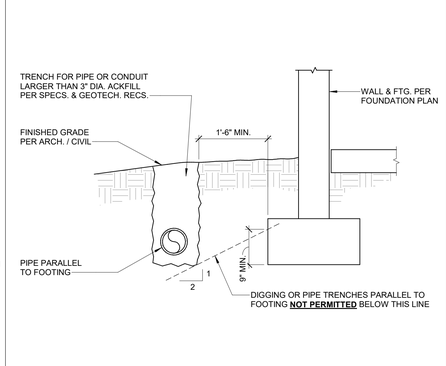


NOTE:
1. SEE ARCH. FOR TREATMENT AT DOORS AND WINDOWS.

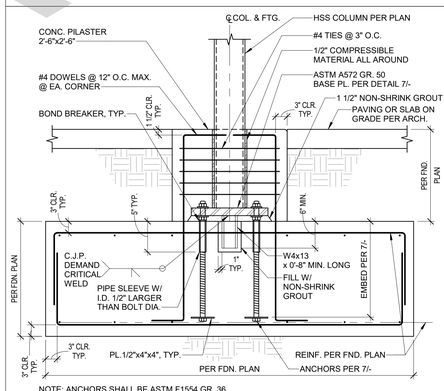
10 CMU WALL FOOTING AT OPENING
N.T.S.



6 TYP. EXTERIOR COLUMN FTG.
N.T.S.

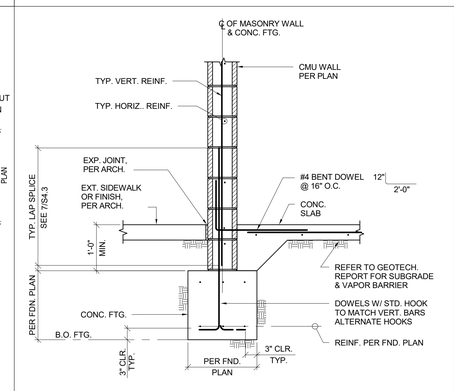


2 PIPE PARALLEL TO FOOTING
N.T.S.



NOTE: ANCHORS SHALL BE ASTM F1554 GR. 36

13 TYP. CANOPY COLUMN FOOTING
N.T.S.



9 CMU WALL FOOTING
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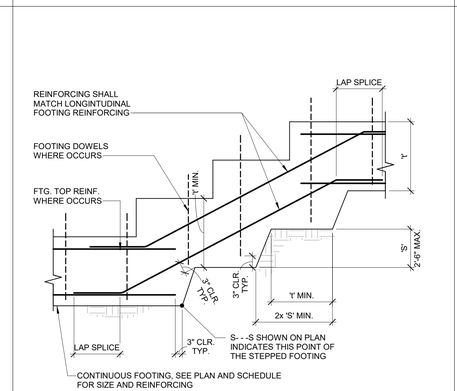
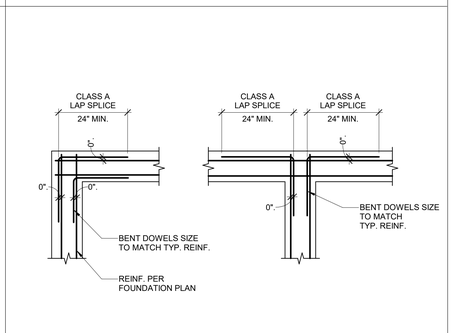


5 STEPPED FOOTING
N.T.S.



1 FTG. REINF. AT CORNERS & INTERSECTIONS
N.T.S.

FOR BID PURPOSES ONLY

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CITY OF IRVINE 1971

DISCIPLINE

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CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

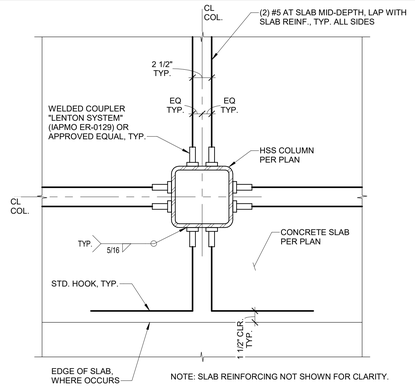
DRAWING HISTORY

No.	Description	Date

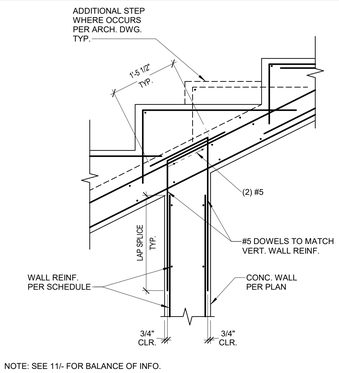
DESIGN DEVELOPMENT
BUILDING NUMBER

TYPICAL FOOTING DETAILS

S4.1

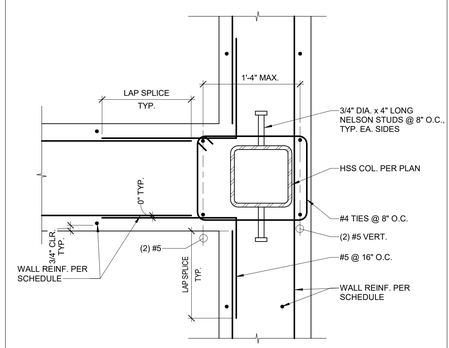


16 PLAN AT BLEACHER CANOPY COLUMN
N.T.S.

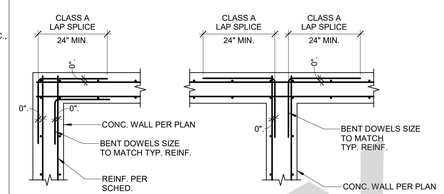


NOTE: SEE 11/- FOR BALANCE OF INFO.

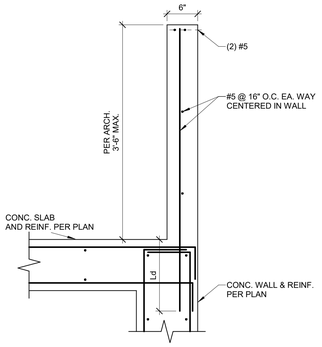
12 CONCRETE BLEACHER AT TOP OF WALL
N.T.S.



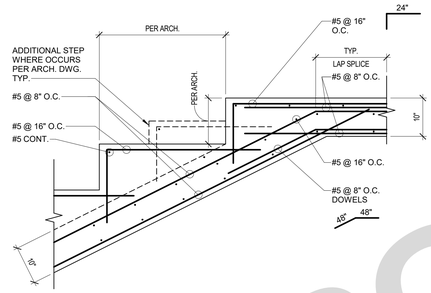
8 HSS EMBEDDED IN WALL AT INTERSECTION
N.T.S.



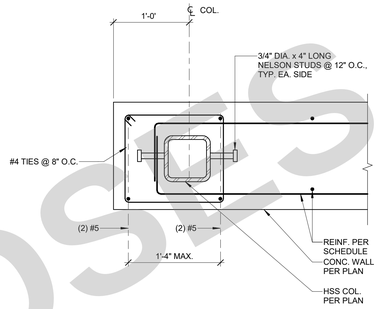
4 REINF. AT CONC. WALL CORNERS & INTER.
N.T.S.



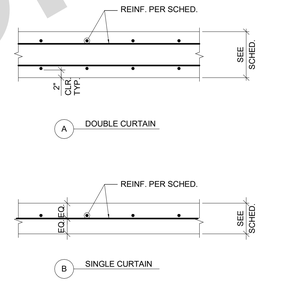
15 CONCRETE BLEACHER GUARDRAIL
N.T.S.



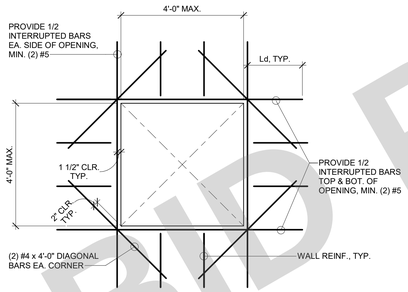
11 TYP. CONCRETE BLEACHER
N.T.S.



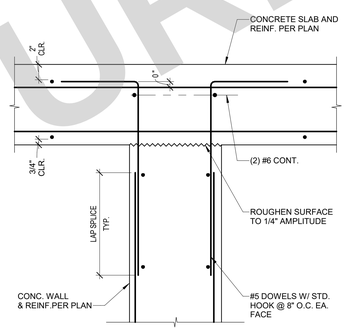
7 HSS EMBEDDED IN WALL
N.T.S.



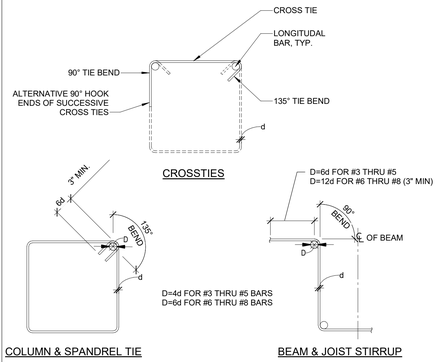
3 TYP. CONC. WALL REINF.
N.T.S.



14 TYP. SMALL OPENING IN CONCRETE WALL
N.T.S.



10 CONCRETE SLAB TO WALL CONNECTION
N.T.S.



9 TYP. BENDS FOR HOOKS, TIES, & CROSSTIES
N.T.S.

HOOKED BAR DEVELOPMENT LENGTH (Ldh), INCHES

BAR SIZE	Fy (ksi)	f'c=3000 PSI	f'c=4000 PSI	f'c=5000 PSI
#3	60	8	7	7
#4	60	12	11	11
#5	60	16	15	15
#6	60	21	20	19
#7	60	27	25	24
#8	60	32	30	29
#9	60	39	36	35
#10	60	46	43	42

BAR DEVELOPMENT LENGTH (Ld), INCHES

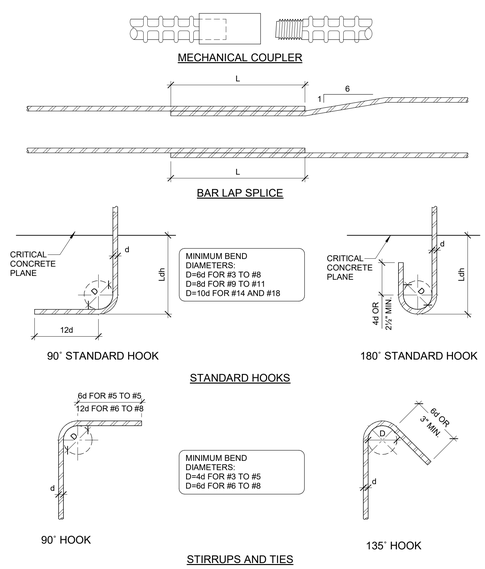
BAR SIZE	Fy (ksi)	f'c=3000 PSI		f'c=4000 PSI		f'c=5000 PSI	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	60	22	17	19	15	17	13
#4	60	29	22	25	19	23	17
#5	60	36	28	31	24	28	22
#6	60	43	33	37	29	34	26
#7	60	63	48	54	42	49	38
#8	60	72	55	62	48	56	43
#9	60	81	62	70	54	63	48
#10	60	91	70	79	61	70	54

BAR LAP SPLICE LENGTH (L), INCHES

BAR SIZE	Fy (ksi)	f'c=3000 PSI		f'c=4000 PSI		f'c=5000 PSI	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	60	28	22	24	19	22	17
#4	60	37	29	33	25	29	23
#5	60	47	36	41	31	36	28
#6	60	56	43	49	37	43	34
#7	60	81	63	71	54	63	49
#8	60	93	72	81	62	72	56
#9	60	105	81	91	70	81	63
#10	60	118	91	102	79	92	70

NOTES:

1. TABULATED VALUES ARE IN INCHES FOR NORMAL WEIGHT CONCRETE AND UNCOATED REINFORCING STEEL. FOR LIGHT WEIGHT CONCRETE INCREASE LENGTHS BY 30%. FOR EPOXY COATED BARS INCREASE LENGTHS BY 50%.
2. TABULATED LAP SPLICE LENGTHS ARE FOR CLASS B SPLICES AS DEFINED IN ACI 318. FOR CLASS A SPLICES REDUCE LENGTH BY 30%. CLASS A SPLICES MAY BE USED WHEN SPECIFICALLY CALLED ON DRAWINGS AND IF ONE HALF OR LESS OF THE TOTAL NUMBER OF BARS ARE SPLICED WITHIN THE REQUIRED LAP LENGTH.
3. BAR DEVELOPMENT LENGTHS AND SPLICE LENGTHS OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE INCREASED BY 20% FOR A 3-BAR BUNDLE AND 33% FOR A 4-BAR BUNDLE.
4. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
5. FOR COMPRESSION LAP SPLICE LENGTH (ONLY WHERE INDICATED ON DRAWINGS) USE 30 BAR DIAMETER, NOT LESS THAN 12".
6. CLEAR COVER OVER REINFORCING SHALL BE AT LEAST 1 BAR DIAMETER, AND SPACING BETWEEN BARS BEING LAPPED OR SPLICED SHALL BE AT LEAST 2 BAR DIAMETERS.
7. MECHANICAL SPLICES MAY BE USED AT CONTRACTOR'S OPTION. MECHANICAL SPLICES SHALL BE TYPE 2 AS DEFINED IN ACI 318 AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH (Fy) OF THE SPLICED BAR.
8. WHERE MECHANICAL SPLICES ARE USED, STAGGER ADJACENT SPLICES BY 24" OC.
9. THE SMALLER BAR SPLICE LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS.
10. THREADED MECHANICAL COUPLER SHALL BE ERICO, LENTON COUPLER (IAPMO ER-0129) UNLESS NOTED OTHERWISE. COUPLER SHALL DEVELOP 100% OF THE BAR TENSILE STRENGTH.



5 TYP. REINF. LAP SPLICE AND DEVELOPMENT LENGTH
N.T.S.

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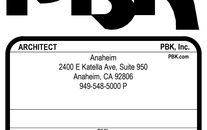
PROJECT ADDRESS

CLIENT LOGO
CITY OF IRVINE 1971



DISCIPLINE

CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

CONCRETE DETAILS

S4.2

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TYPICAL MASONRY DETAILS

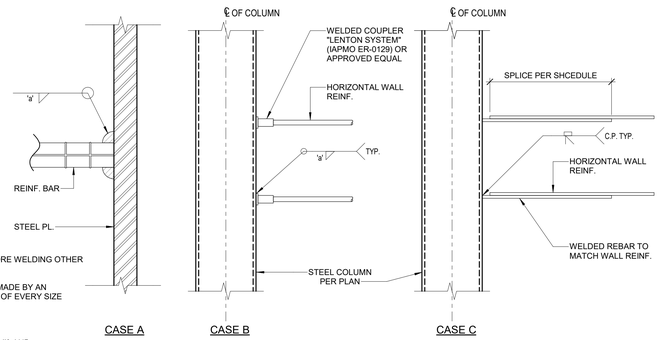
S4.3

FOR BLUEBEAM LABELING/OCR:

0"

1"

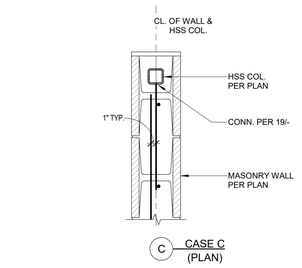
BAR SIZE	NOMINAL WELD SIZE "a" (in)	MIN. PLATE THICKNESS (in.)
#3	1/4	1/4
#4	5/16	1/4
#5	5/16	1/4
#6	3/8	1/4
#7	7/16	5/16
#8	1/2	5/16
#9	9/16	3/8
#10	5/8	7/16
#11	11/16	1/2

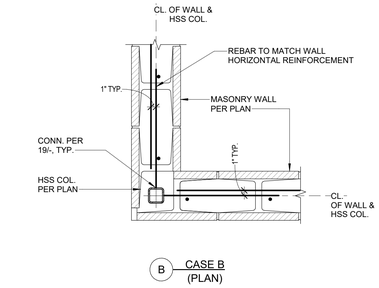


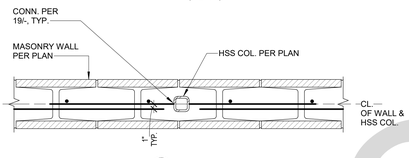
NOTES:

1. CHIP, GRIND, OR GAUGE TO SOUND METAL BEFORE WELDING OTHER SIDE OF CJP WELD.
2. A PRE-QUALIFICATION TENSION TEST SHALL BE MADE BY AN APPROVED TESTING LABORATORY ON SAMPLES OF EVERY SIZE BAR BEING WELDED.
3. USE E80 ELECTRODES.
4. BACKING NOT REQUIRED FOR #9 & LARGER BAR, #8 AND SMALLER BAR REQUIRE BACKING.

19 ATTACHMENT OF REINF. TO STEEL MEMBERS
N.T.S.

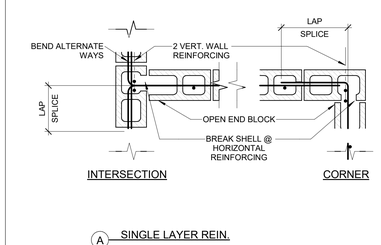


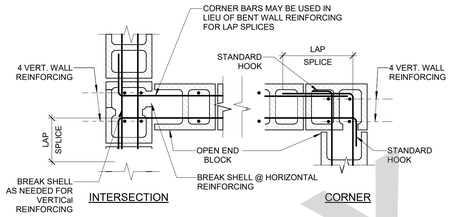




NOTE:
1. FOR ADDITIONAL INFORMATION, SEE 8/-.

11 TYP. HSS COL. @ MASONRY WALL
N.T.S.



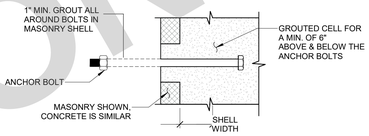


8 MASONRY WALL SECTIONS
N.T.S.

TENSION LAP SPLICE IN MASONRY (INCHES) FOR VERTICAL AND HORIZONTAL REINFORCING BARS			
BAR SIZE	f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
#3	21	18	18
#4	33	30	24
#5	45	45	36
#6	54	54	54
#7	63	63	63
#8	72	72	72
#9	81	81	81

NOTES:
1. THE BARS SPLICED BY NON-CONTACT LAP SPLICES SHALL NOT BE SPACED TRANSVERSELY FARTHER APART ONE-FIFTH THE REQUIRED LENGTH OF LAP NOR MORE THAN 8".
2. WHEN EPOXY-COATED BARS ARE USED THE LAP LENGTH PROVIDED IN THE TABLES SHALL BE INCREASED BY 50%.
3. MECHANICAL SPLICES MAY BE USED AT CONTRACTOR'S OPTION. MECHANICAL SPLICES SHALL BE TYPE 2 AS DEFINED IN ACI 318 AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH (Fy) OF THE SPLICED BAR.

7 TENSION LAP SPLICE IN MASONRY
N.T.S.

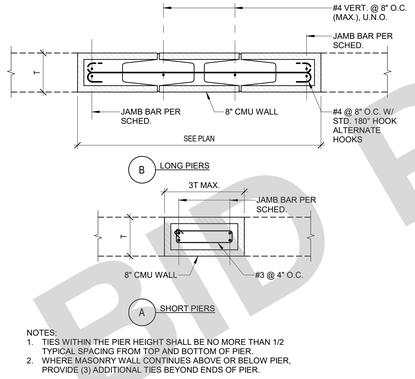


ANCHOR BOLT	
BOLT SIZE	EMBEDMENT
1/2"	4"
5/8"	5"
3/4"	6"
7/8"	6"

NOTES:

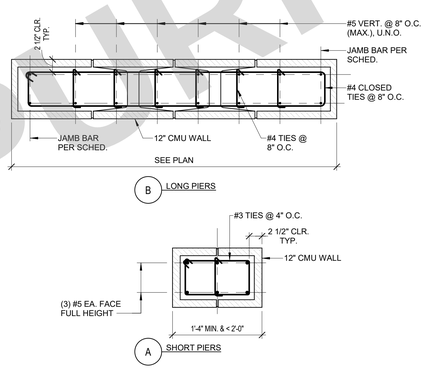
1. MINIMUM BOLT SPACING SHALL BE 12 BOLT DIAMETERS, WITH A MINIMUM EDGE DISTANCE OF 6 BOLT DIAMETERS.

3 ANCHOR BOLT EMBEDMENT
N.T.S.

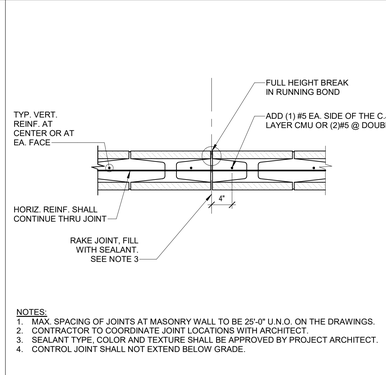


NOTES:
1. TIES WITHIN THE PIER HEIGHT SHALL BE NO MORE THAN 1/2 TYPICAL SPACING FROM TOP AND BOTTOM OF PIER.
2. WHERE MASONRY WALL CONTINUES ABOVE OR BELOW PIER, PROVIDE (3) ADDITIONAL TIES BEYOND ENDS OF PIER.

14 8" CMU PIER REINFORCEMENT
N.T.S.

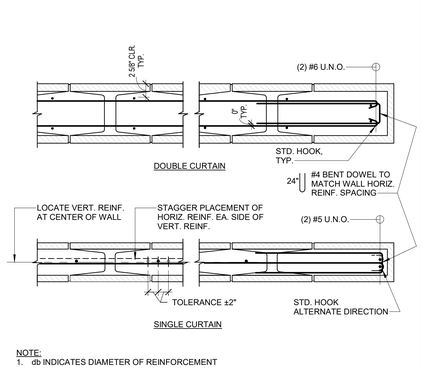


10 12" CMU PIER REINFORCEMENT
N.T.S.



NOTES:
1. MAX. SPACING OF JOINTS AT MASONRY WALL TO BE 25'-0" U.N.O. ON THE DRAWINGS.
2. CONTRACTOR TO COORDINATE JOINT LOCATIONS WITH ARCHITECT.
3. SEALANT TYPE, COLOR AND TEXTURE SHALL BE APPROVED BY PROJECT ARCHITECT.
4. CONTROL JOINT SHALL NOT EXTEND BELOW GRADE.

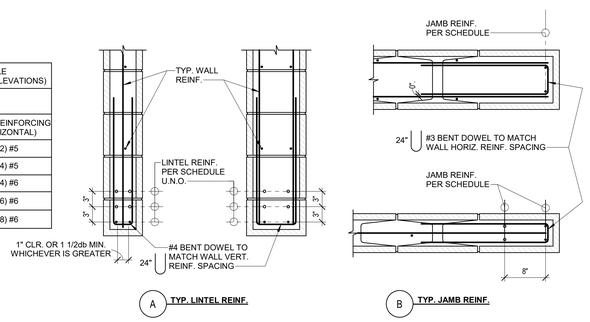
6 TYPICAL VERTICAL CONTROL JOINT
N.T.S.



NOTE:
1. db INDICATES DIAMETER OF REINFORCEMENT

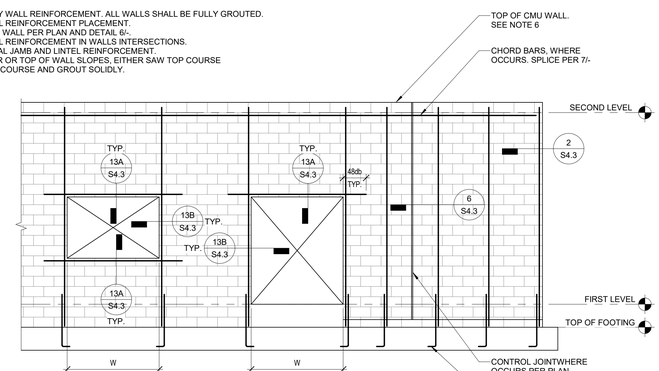
2 TYPICAL CMU WALL REINF. PLACEMENT
N.T.S.

JAMB AND LINTEL REINFORCING SCHEDULE (UNLESS NOTED OTHERWISE ON PLANS OR WALL ELEVATIONS)		
MAXIMUM OPENING WIDTH (W)	REINFORCING	
	JAMB REINFORCING (VERTICAL)	LINTEL REINFORCING (HORIZONTAL)
4'-0"	(2) #5	(2) #5
6'-8"	(2) #5	(4) #5
9'-4"	(2) #6	(4) #6
12'-0"	(4) #6	(6) #6
24'-0"	(6) #6	(8) #6



13 TYPICAL JAMB & LINTEL REINFORCEMENT
N.T.S.

NOTES:
1. SEE PLAN FOR TYPICAL MASONRY WALL REINFORCEMENT. ALL WALLS SHALL BE FULLY GROUTED.
2. REFER TO DETAIL 2/- FOR TYPICAL REINFORCEMENT PLACEMENT.
3. PROVIDE CONTROL JOINT IN CMU WALL PER PLAN AND DETAIL 6/-.
4. REFER TO DETAIL 8/- FOR TYPICAL REINFORCEMENT IN WALLS INTERSECTIONS.
5. REFER TO DETAIL 13/- FOR TYPICAL JAMB AND LINTEL REINFORCEMENT.
6. IF WALL HEIGHT IS NON-MODULAR OR TOP OF WALL SLOPES, EITHER SAW TOP COURSE OR (IF NOT EXPOSED) FORM TOP COURSE AND GROUT SOLIDLY.



5 TYPICAL MASONRY WALL ELEVATION AND REINFORCING SCHEDULES
N.T.S.

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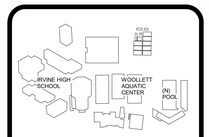


DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

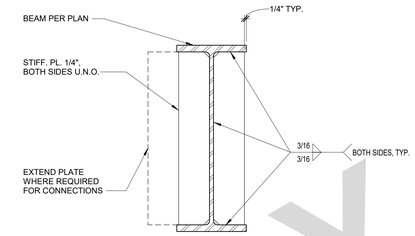
BUILDING NUMBER

TYPICAL MASONRY DETAILS

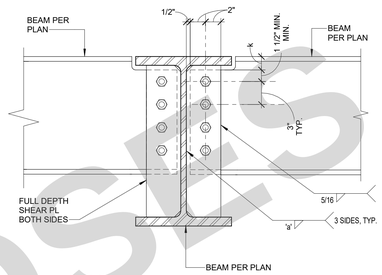
S4.3

0"
1"

STEEL DETAILS
S4.4
FOR BLUEBEAM LABELING/OCR:

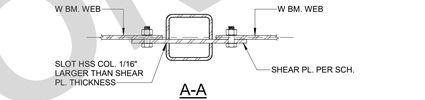


4 W BEAM STIFFENER PLATE
N.T.S.

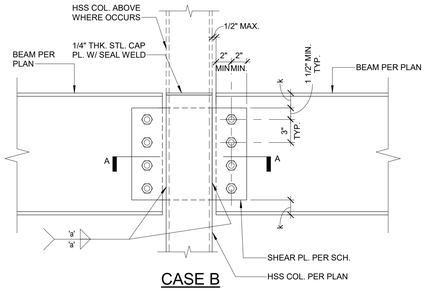


NOTE:
1. SEE BEAM CONNECTION SCHEDULE AT 1/- FOR BOLTS, WELDING, SHEAR PLATE AND SIZES.

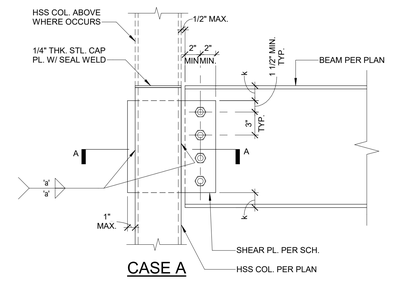
7 TYP. DRAG CONN. AT W BEAM TO W BEAM
N.T.S.



A-A



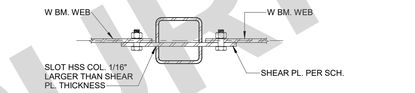
CASE B



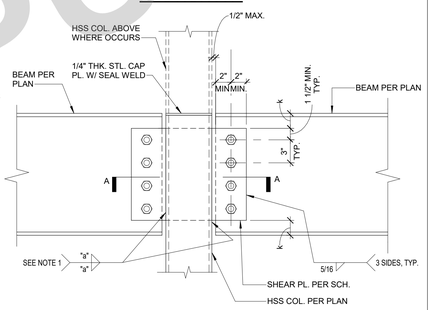
CASE A

NOTE:
1. SEE BEAM CONNECTION SCHEDULE AT 1/- FOR BOLTS, WELDING, SHEAR PLATE AND SIZES.

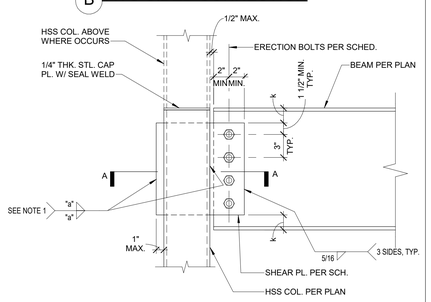
2 W BEAM TO HSS COLUMN BOLTED CONN.
N.T.S.



SECTION A-A



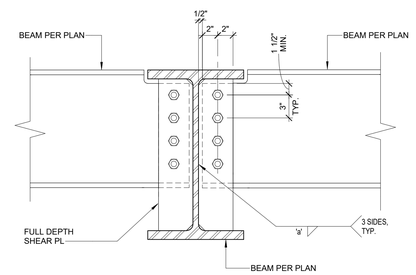
B TWO SIDED CONNECTION



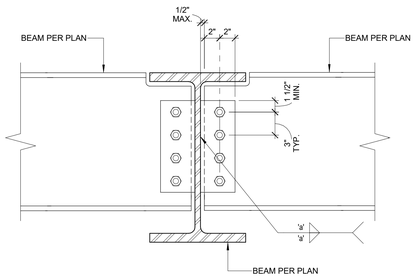
A ONE SIDED CONNECTION

NOTE:
1. SEE BEAM CONNECTION SCHEDULE AT 1/- FOR BOLTS, WELDING, SHEAR PLATE AND SIZES.
2. ALL WELDS SHALL COMPLY WITH AWS D1.8.

9 TYP. DRAG CONN. AT W BEAM & HSS COL. (SFRS)
N.T.S.



CASE B



CASE A

NOTE:
1. SEE BEAM CONNECTION SCHEDULE AT 1/- FOR BOLTS, WELDING, SHEAR PLATE AND SIZES.

5 W BEAM TO W BEAM BOLTED CONN.
N.T.S.

BEAM CONNECTION SCHEDULE			
BEAM SIZE	BOLTS: QUANTITY AND SIZE	SHEAR PLATE THICKNESS	SIZE OF FILLET WELD 'a'
C8, S8	(2) 3/4"	5/16"	1/4"
C12, MC12	(3) 3/4"	5/16"	1/4"
W8-W10	(2) 1"	3/8"	1/4"
W12-W14	(3) 1"	3/8"	1/4"
W16-W18	(4) 1"	3/8"	1/4"
W21-W24	(6) 1"	1/2"	5/16"
W27-W30	(7) 1"	1/2"	5/16"
W33-W36	(9) 1"	1/2"	5/16"
W40-W44	(11) 1"	1/2"	5/16"

NOTE:
1. BOLTS SHALL CONFORM TO ASTM DESIGNATION F3125 AND PLATES SHALL CONFORM TO ASTM DESIGNATION A36 U.O.N.

1 BEAM CONNECTION SCHEDULE
N.T.S.

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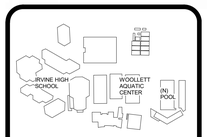
PROJECT ADDRESS

CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER
230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

STEEL DETAILS

S4.4

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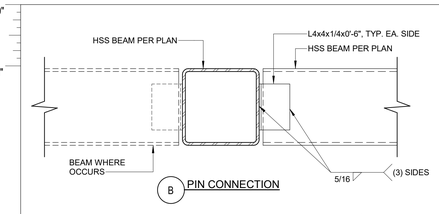
STEEL DETAILS

S4.5

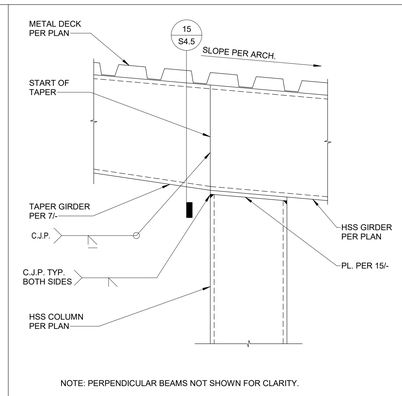
FOR BLUEBEAM LABELING/OCR:

0"

1"

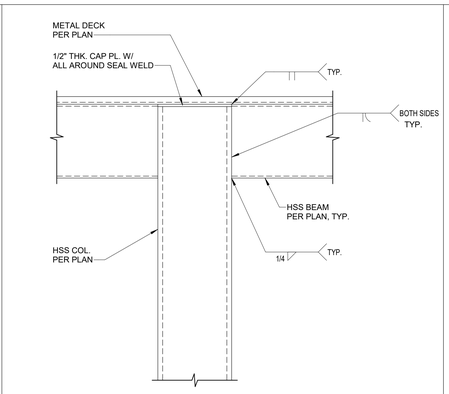


20 TYP. HSS BEAM TO HSS BEAM
N.T.S.

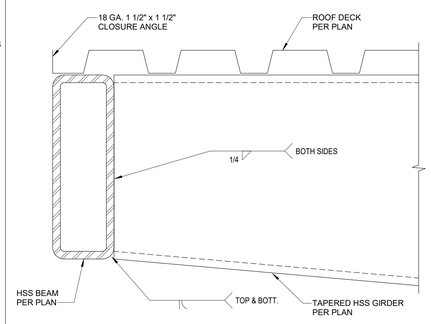


NOTE: PERPENDICULAR BEAMS NOT SHOWN FOR CLARITY.

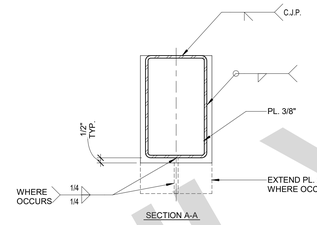
16 CANOPY HSS CONNECTION AT GIRDER
N.T.S.

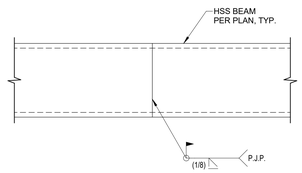


12 CANOPY HSS CONNECTION
N.T.S.

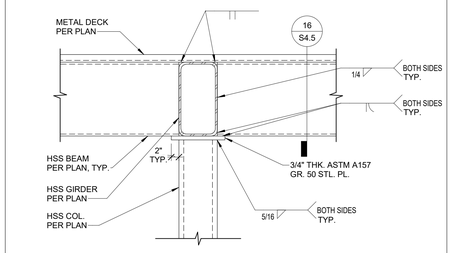


8 CANOPY EDGE CONNECTION
N.T.S.

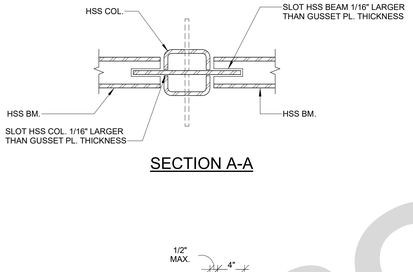




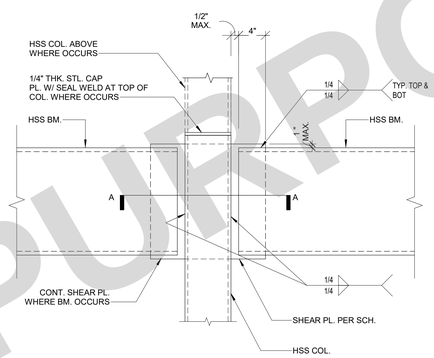
19 CANOPY EDGE BEAM SPLICE DETAIL
N.T.S.



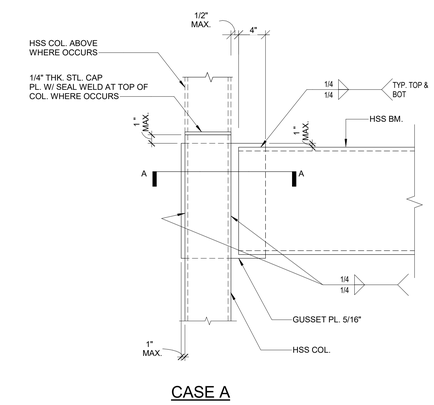
15 CANOPY HSS CONNECTION AT GIRDER
N.T.S.



SECTION A-A

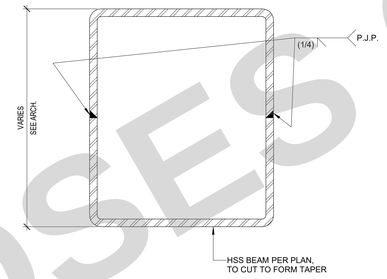


CASE B

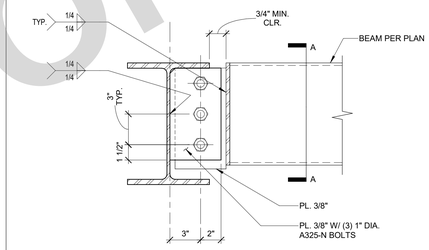


CASE A

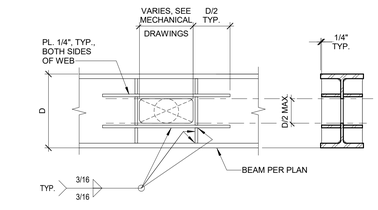
9 HSS BEAM TO HSS COLUMN WELDED CONN.
N.T.S.



7 TYP. BEAM TAPER
N.T.S.



3 HSS TO WIDE FLANGE BEAM CONNECTION
N.T.S.



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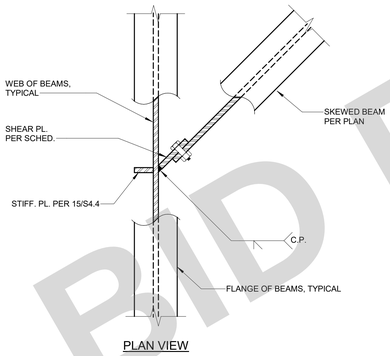
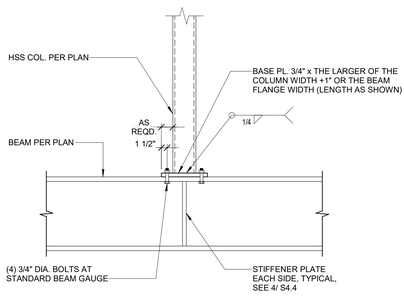
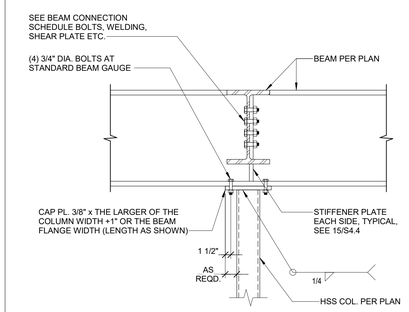


PLAN VIEW

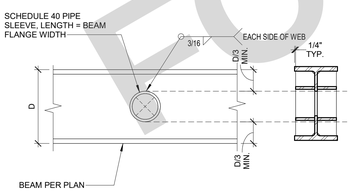
14 SKEWED W BEAM TO W BEAM CONN.
N.T.S.



6 HSS COLUMN OVER W BEAM CONNECTION
N.T.S.



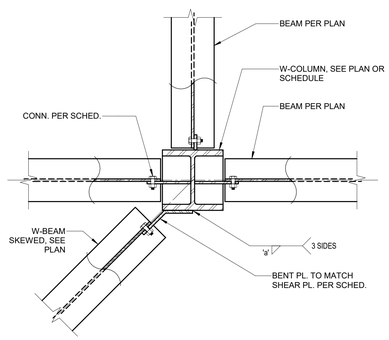
CASE B



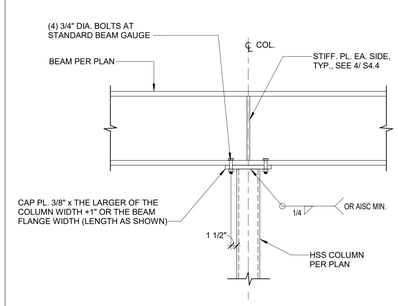
CASE A

NOTES:
1. WHERE OPENING DIAMETER IS D/3+1" OR LESS, THE REINFORCING PIPE SHOWN IS NOT REQUIRED.

17 HOLES IN W BEAM WEB
N.T.S.



13 SKEWED W BEAM TO W COLUMN CONN.
N.T.S.



CASE A

1 W BEAM OVER HSS COLUMN CONNECTION
N.T.S.

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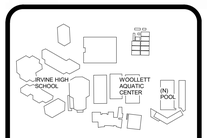
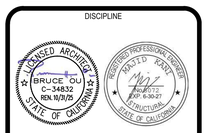


KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

STEEL DETAILS

S4.5

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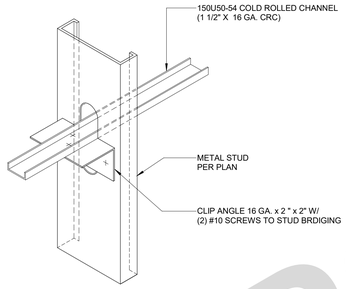
TYPICAL METAL DECK DETAILS

S4.6

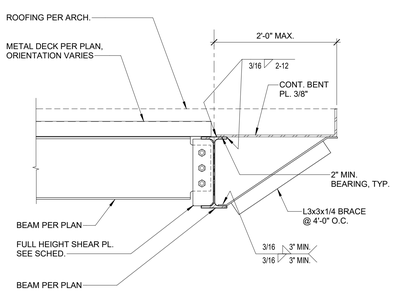
FOR BLUEBEAM LABELING/OCR:

0"

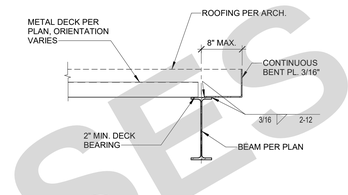
1"



11 TYP. BRIDGING DETAIL
N.T.S.

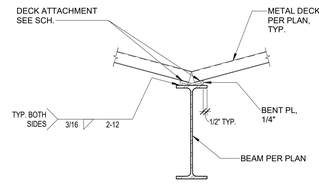


CASE B

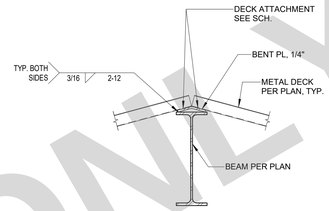


CASE A

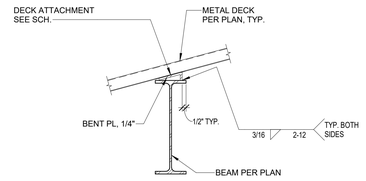
7 EDGE OF ROOF METAL DECK
N.T.S.



C METAL DECK AT VALLEY



B METAL DECK AT RIDGE

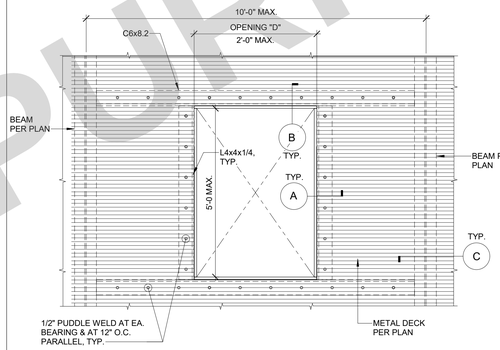


A SLOPING METAL DECK

4 TYP. ATTACHMENT OF SLOPING METAL DECK
N.T.S.

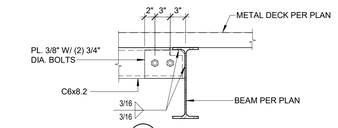
NOTE:
1. ALL DECK SHALL BE SUPPORTED AROUND COLUMNS OR AS REQUIRED BY DECK MANUFACTURER.

13 METAL DECK SUPPORT AT HSS COLUMN
N.T.S.

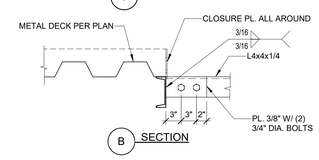


NOTE:
1. DETAILS ARE SIMILAR WHERE OTHER STEEL SIZES AND SHAPES MAY BE SHOWN ON THE PLANS.

10 OPENING IN METAL DECK
N.T.S.



C SECTION



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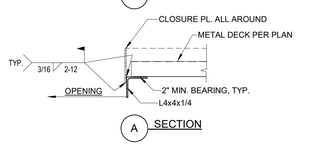
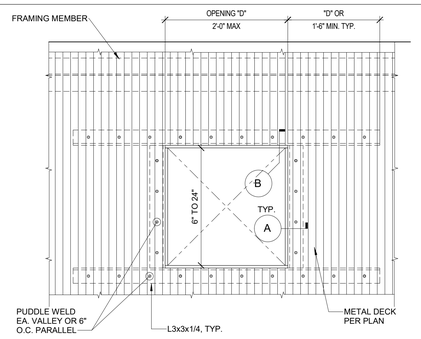
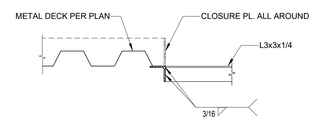


A SECTION



NOTES:
1. FRAMING SHOWN IS NOT REQUIRED IF "D" IS LESS THAN 6". SIZE OF OPENING IS LIMITED TO 24"x24". FOR CURBS, SEE ARCH. AND MECH. DRAWINGS, AND FOR LARGER OPENINGS AND CLOSURE, SEE 10/-.

9 SMALL OPENING IN METAL DECK
N.T.S.



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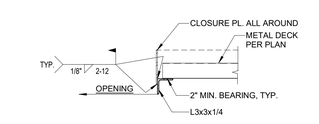
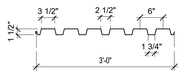


A SECTION

METAL DECK CONNECTION SCHEDULE						
METAL DECK TYPE	EACH LOW CORRUGATION PERP. TO SUPPORT		ALL SUPPORTS PARALLEL TO CORRUGATION		SIDE LAP	
	SIZE AND TYPE	LOCATION	SIZE AND TYPE	SPACING	SIZE AND TYPE	SPACING
PLB-36	3/4" VISIBLE DIA.	EACH BOTTOM FLUTE	3/4" VISIBLE DIA.	12"	VSC2 (PUNCHLOK)	24"

VERCO PLB 36

18 GA.
I (IN.⁴/FT.) = 0.300
+S (IN.³/FT.) = 0.314
-S (IN.³/FT.) = 0.331



NOTES:

1. METAL DECK SHALL BE GALVANIZED G60 AND COMPLY WITH ASTM A653 DESIGNATION SS GRADE 50 OR ASTM A924.
2. SEE SCHEDULE FOR TYPICAL METAL DECK CONNECTIONS.
3. MINIMUM BEARING OF METAL DECK SHALL BE 2" UNLESS NOTED OTHERWISE.
4. METAL DECK PANELS SHALL BE AT LEAST THREE-SPAN CONTINUOUS WHERE POSSIBLE.
5. SUPPORTS SHALL BE PROVIDED AT ALL EDGES OF OPENINGS IN METAL DECK.
6. SHEAR STUD CONNECTORS, IN COMPOSITE DECK WHERE OCCURS, MAY BE SUBSTITUTED FOR WELDS ON A ONE TO ONE BASIS.

1 METAL DECK PROPERTIES & CONNECTIONS
N.T.S.

FOR BID PURPOSES ONLY

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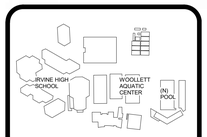
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN 11/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
MATT TONEY
EXP. 6-30-27
STRUCTURAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

TYPICAL METAL DECK DETAILS

S4.6

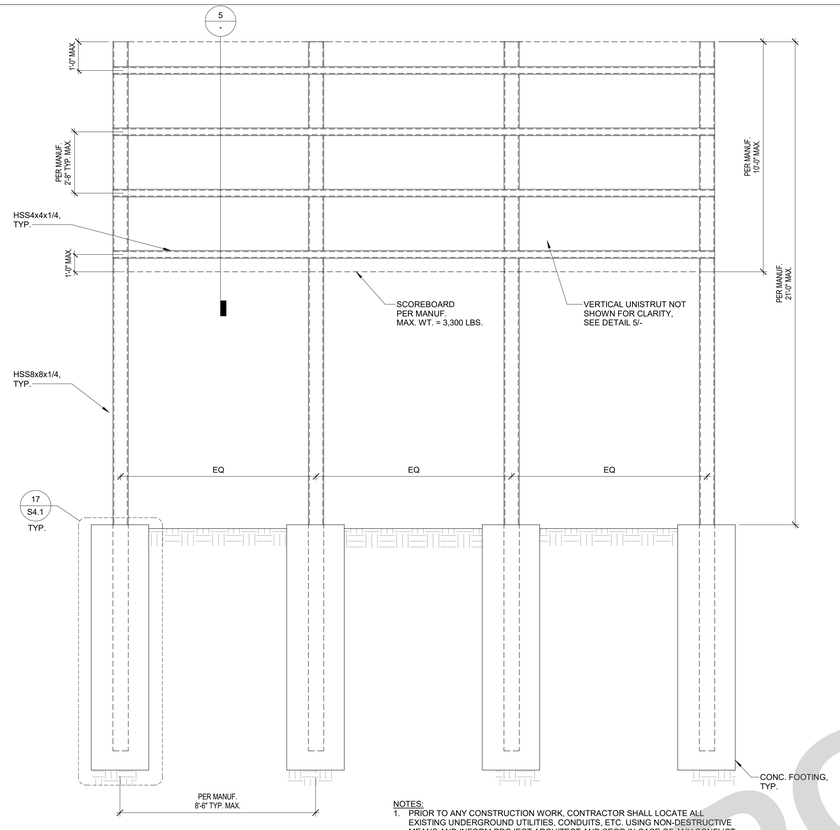
TYPICAL ROOFTOP UNIT SUPPORT AND SCOREBOARD DETAILS

S4.7

FOR BLUEBEAM LABELING/OCR:

0"

1"

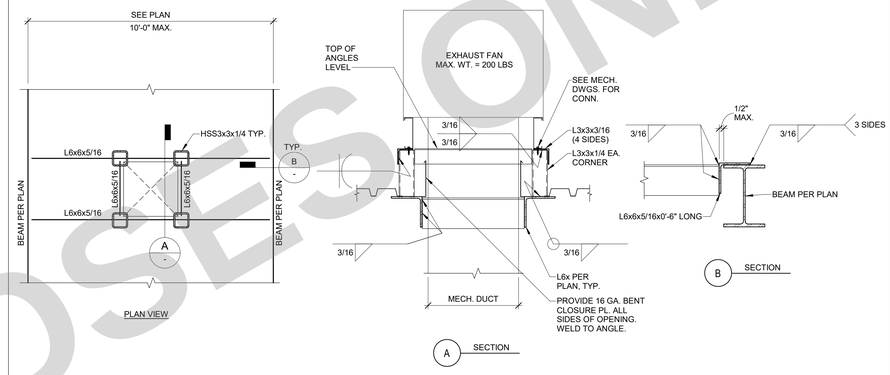


NOTES:

1. PRIOR TO ANY CONSTRUCTION WORK, CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES, CONDUITS, ETC. USING NON-DESTRUCTIVE MEANS AND INFORM PROJECT ARCHITECT AND SEOR IN CASE OF ANY CONFLICT.
2. ALL STEEL MEMBERS, CONNECTORS AND BOLTS MUST BE HOT DIP GALVANIZED, MINIMUM ASTM A123 OR A153 CLASS D, AS APPLICABLE.

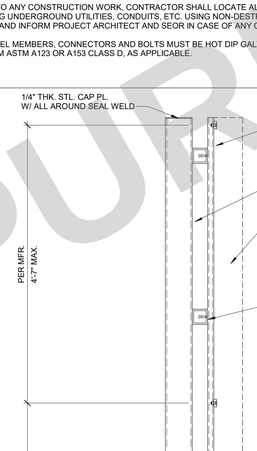
6 SCOREBOARD ELEVATION

N.T.S.



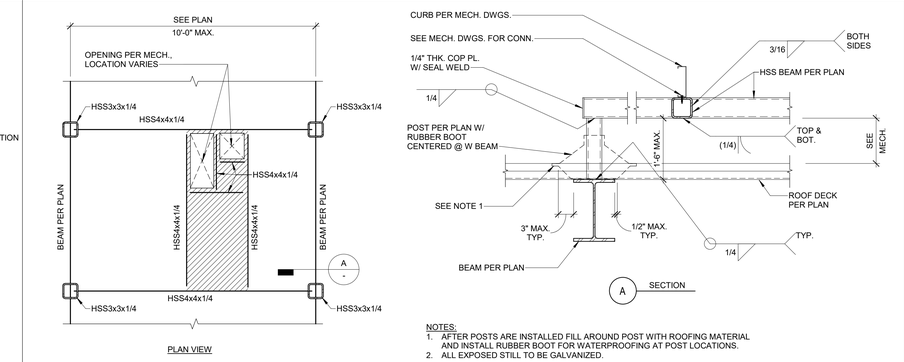
3 TYPICAL EXHAUST FAN SUPPORT

N.T.S.



5 SCOREBOARD SECTION

N.T.S.

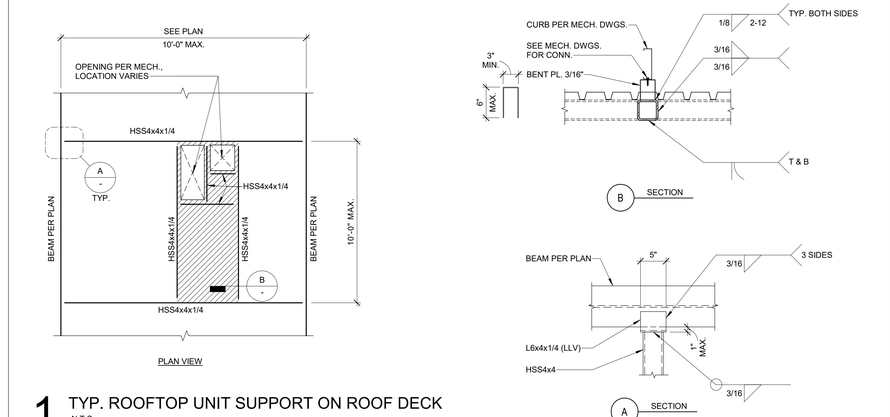


NOTES:

1. AFTER POSTS ARE INSTALLED FILL AROUND POST WITH ROOFING MATERIAL AND INSTALL RUBBER BOOT FOR WATERPROOFING AT POST LOCATIONS.
2. ALL EXPOSED STILL TO BE GALVANIZED.

2 TYP. ROOFTOP UNIT SUPPORT ON PEDESTAL

N.T.S.



1 TYP. ROOFTOP UNIT SUPPORT ON ROOF DECK

N.T.S.

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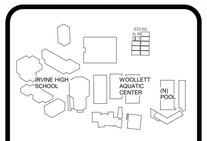
PROJECT ADDRESS

CLIENT LOGO

CITY OF IRVINE 1971



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DATE	PROJECT NUMBER
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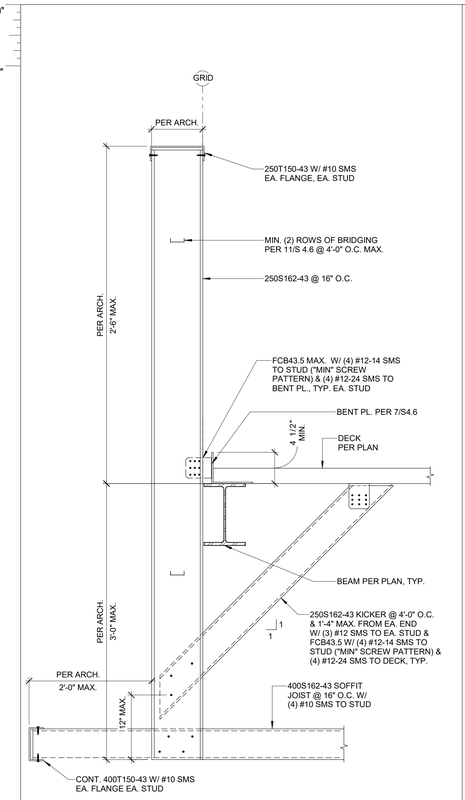
DESIGN DEVELOPMENT

BUILDING NUMBER

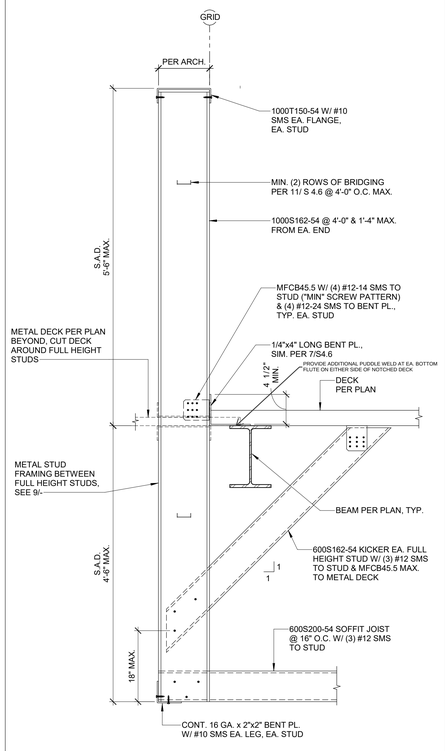
TYPICAL ROOFTOP UNIT SUPPORT AND SCOREBOARD DETAILS

S4.7

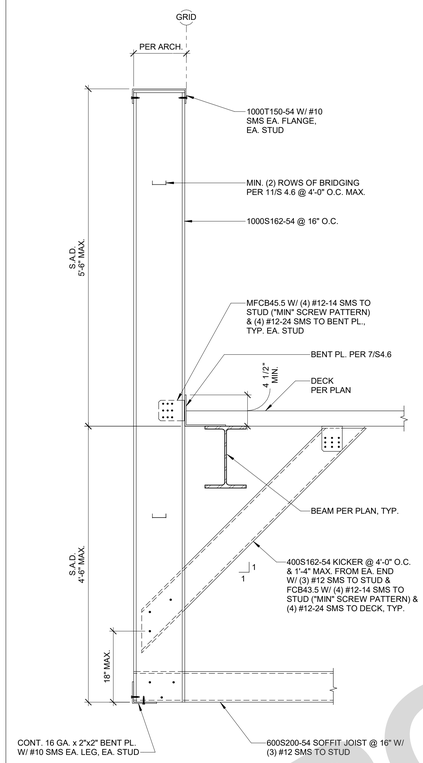
ROOF FRAMING DETAILS
S4.8
FOR BLUEBEAM LABELING/OCR:



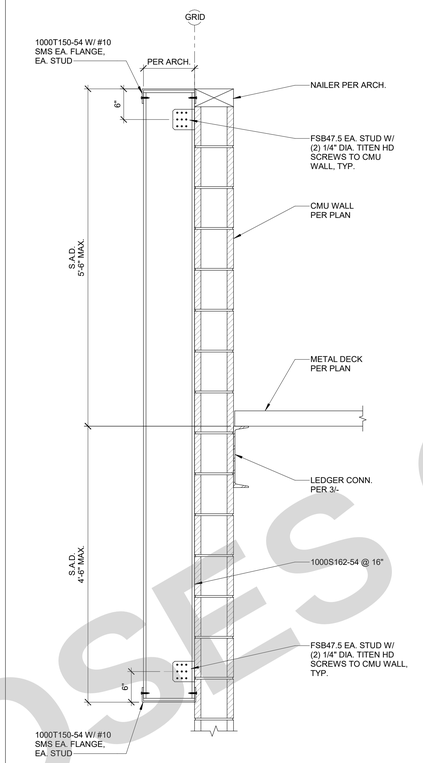
19 PARAPET DETAIL
N.T.S.



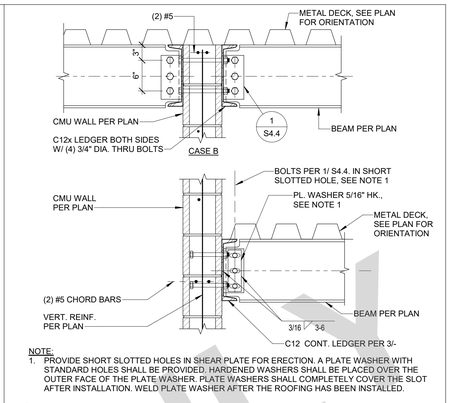
15 PARAPET CONNECTION AT FRONT CANOPY
N.T.S.



11 PARAPET CONNECTION AT STEEL BEAM
N.T.S.

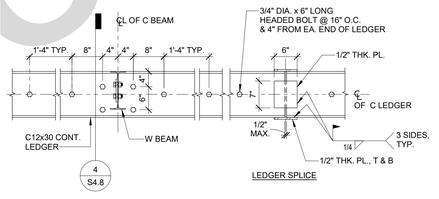


7 PARAPET CONNECTION @ CMU WALL
N.T.S.



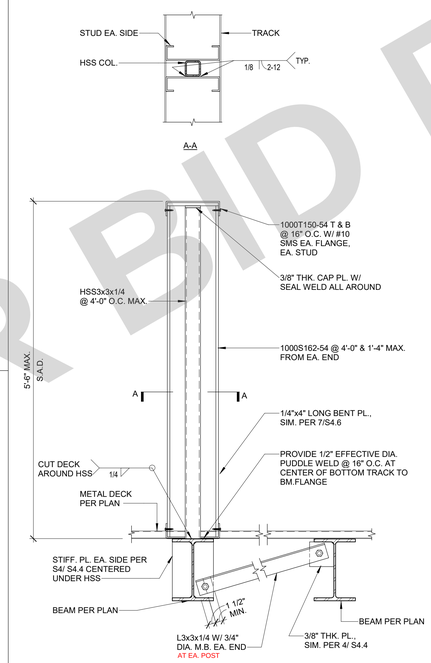
NOTE:
1. PROVIDE SHORT SLOTTED HOLES IN SHEAR PLATE FOR ERECTION. A PLATE WASHER WITH STANDARD HOLES SHALL BE PROVIDED. HARDENED WASHERS SHALL BE PLACED OVER THE OUTER FACE OF THE PLATE WASHER. PLATE WASHERS SHALL COMPLETELY COVER THE SLOT AFTER INSTALLATION. WELD PLATE WASHER AFTER THE ROOFING HAS BEEN INSTALLED.

4 TYPICAL STEEL BEAM TO CMU WALL CONN.
N.T.S.

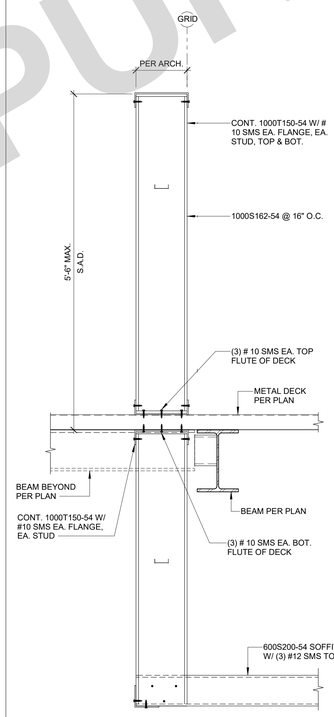


NOTE:
1. LOCATE LEDGER SPLICES 1'-4" MIN. AND 2'-0" MAX. FROM W BEAM CONNECTION.

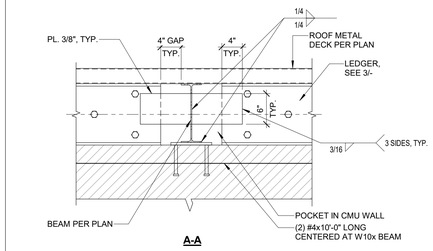
3 TYPICAL LEDGER CONNECTIONS
N.T.S.

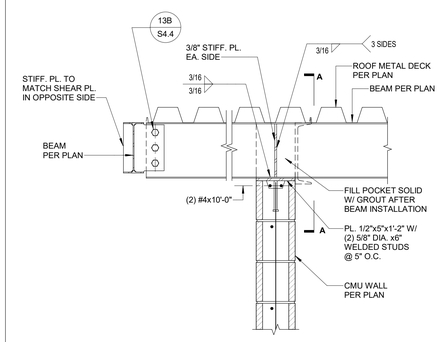


13 PARAPET OVER ROOF FRAMING
N.T.S.

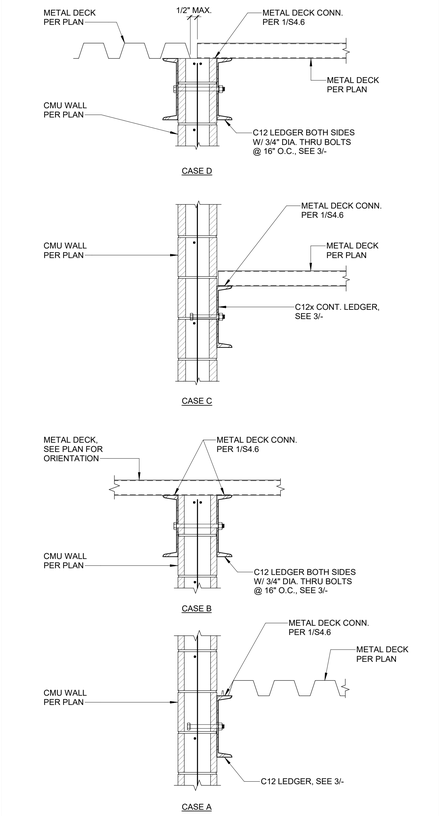


9 PARAPET FRAMING BTWN. FULL HEIGHT STUDS
N.T.S.





5 TYP. BEAM ON CMU WALL POCKET
N.T.S.



1 TYPICAL METAL DECK TO CMU WALL CONN.
N.T.S.

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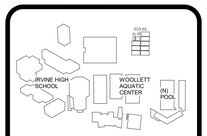
PROJECT ADDRESS

CLIENT LOGO
CITY OF IRVINE 1971



DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

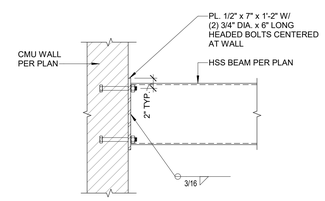
No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

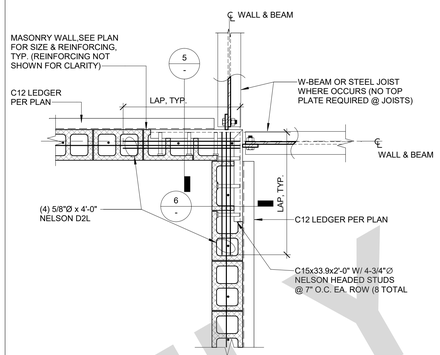
ROOF FRAMING DETAILS

S4.8

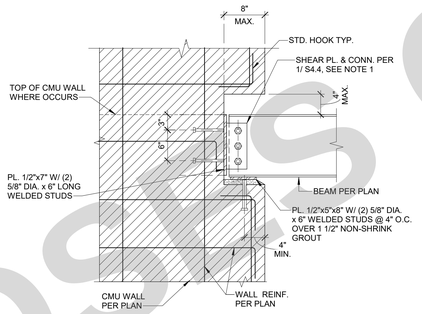
0"
1"



8 HSS BEAM TO CMU WALL CONN.
N.T.S.

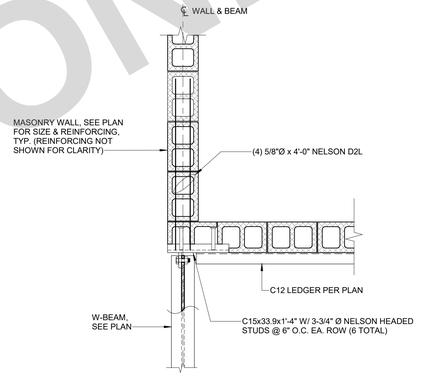


4 TWO BEAMS CONN. TO CMU CORNER OF WALL (SFRS)
N.T.S.

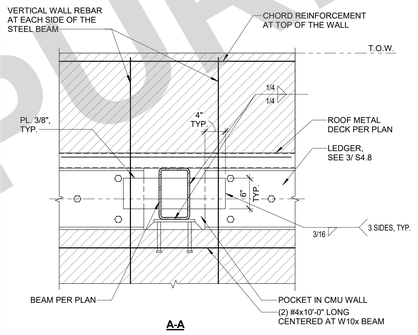


NOTE:
1. BOLTS SHALL BE PLACED IN STANDARD HOLES, ALTERNATIVELY USING OVERSIZED HOLES IS SHEAR PLATE WITH WASHER PER AISC TABLE J3.3 IS ACCEPTABLE.

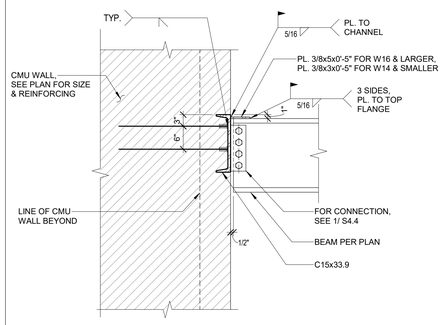
7 TYP. STL. BEAM PARALLEL TO CMU WALL (SFRS)
N.T.S.



3 BEAM TO CMU CORNER WALL (SFRS)
N.T.S.

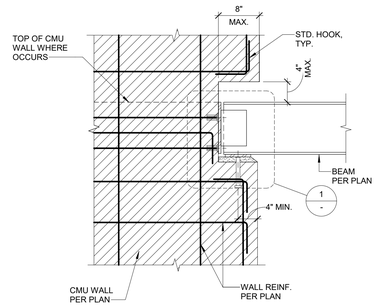


A-A

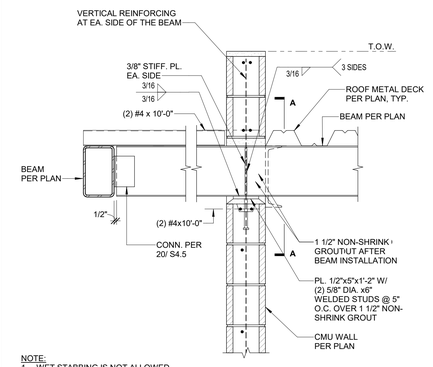


NOTE:
1. FOR CONNECTION DRAG BAR INFORMATION, SEE 4/- .

6 BEAM TO END OF CMU WALL
N.T.S.

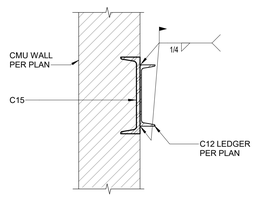


2 TYP. DRAG CONN. W/ WALL ABOVE (SFRS)
N.T.S.

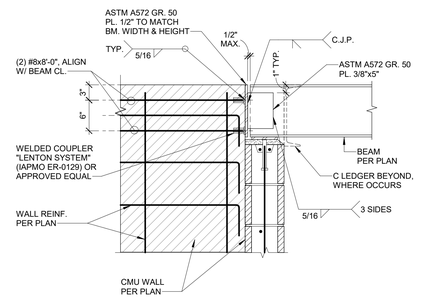


NOTE:
1. WET STABBING IS NOT ALLOWED.

9 TYP. BEAM ON CMU WALL POCKET AT PARAPET
N.T.S.



5 LEDGER TO CMU WALL
N.T.S.



1 TYP. DRAG CONN. AT WALL INTERSECTION (SFRS)
N.T.S.

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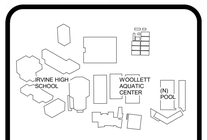

DISCIPLINE

CLIENT
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	230538

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BUILDING NUMBER

MASONRY DETAILS

S4.9

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MECHANICAL SYMBOLS, LEGENDS & GENERAL NOTES
M0.0
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0"
1"

TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

1. EQUIPMENT SHALL MEET EFFICIENTY REQUIREMENTS OF TABLES 110.2-A THROUGH 110.2-K.
2. ALL AIR-COOLED, UNITARY, DX UNITS (PACKAGED, SPLIT-SYSTEM, HEAT PUMPS AND VRF) WITH ECONOMIZERS SHALL BE EQUIPPED WITH FAULT DETECTION AND DIAGNOSTICS SYSTEMS.
3. PIPE INSULATION FOR SPACE CONDITIONING AND SERVICE WATER-HEATING WITH FLUID TEMPERATURES LISTED IN TABLE 120.3-A SHALL HAVE INSULATION LEVELS AS SPECIFIED IN SUBSECTION (A) AND (B).
4. MECHANICAL HEATING AND COOLING EQUIPMENT SHALL BE THE SMALLEST SIZE, WITHIN THE AVAILABLE OPTIONS OF THE DESIRED EQUIPMENT LINE, NECESSARY TO MEET THE DESIGN HEATING AND COOLING LOADS OF THE BUILDING, AS CALCULATED ACCORDING TO THE REQUIREMENTS OF SECTION 140.4(B).
5. HVAC MOTORS FOR FANS THAT ARE LESS THAN 1 HP AND 1/12 HP OR GREATER SHALL BE ECM OR HAVE A MINIMUM MOTOR EFFICIENCY OF 70%, MOTORS SHALL ALSO HAVE MEANS TO ADJUST MOTOR SPEED FOR BALANCING OR REMOTE CONTROL.
6. ELECTRIC RESISTANCE HEATING SYSTEMS ARE NOT PROVIDED FOR SPACE HEATING.
7. IN DRIER CLIMATES AND WHEN LARGE OUTDOOR AIR FRACTIONS ARE REQUIRED, EVAPORATIVE PRE-COOLING PACKAGES WERE EVALUATED TO PRE-COOL OUTSIDE AIR AND COOL THE AIR FLOWING OVER THE DX CONDENSING UNIT.
8. ZONE EACH AIR HANDLER TO SERVE ONLY AREAS WITH COMMON LOADS TO ALLOW MORE AGGRESSIVE CONTROL STRATEGIES AND IMPROVE COMFORT. HAVE DIFFERENT AHU'S SERVING CORE VS. PERIMETER AREAS.
9. THE DESIGN ACCOMMODATES PARTIAL OCCUPANCY ENERGY SAVINGS WHEN THE OWNER'S REQUIREMENTS OR NARRATIVE DESCRIBE ANY POSSIBILITY OF PARTIAL OCCUPANCY. BY ZONING AIR HANDLERS BY FLOOR OR BY PART OF A FLOOR, OR BY INCORPORATING CONTROLLED FLOOR DAMPERS, OR VAV AIR TERMINALS GOING TOTALLY SHUT WHEN NOT OCCUPIED, ETC.
10. EACH ZONE IS CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL. CONTROLS SHALL BE CAPABLE OF SETTING TEMPERATURES TO 55 DEG F FOR HEATING AND 85 DEG F FOR COOLING AND PROVIDE A TEMPERATURE DEADBAND OF AT LEAST 5 DEG F IF CONTROLLING BOTH HEATING AND COOLING.
11. EACH SPACE CONDITIONING SYSTEM SHALL BE EQUIPPED WITH CONTROLS TO SHUT THE SYSTEM OFF DURING PERIODS OF NON-USE AND WILL TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN SETBACK AND SETUP TEMPERATURES WHILE KEEPING VENTILATION DAMPERS CLOSED.
12. SYSTEMS SERVING MULTIPURPOSE ROOMS LESS THAN 100 SF AND CLASSROOMS, CONFERENCE, AUDITORIUM OR MEETING CENTER ROOMS GREATER THAN 750 SF SHALL HAVE OCCUPANCY SENSORS THAT INTERFACE WITH HVAC CONTROLS TO AUTOMATICALLY SETUP THE COOLING SETPOINT BY 2F OR MORE AND AUTOMATICALLY RESET THE MINIMUM REQUIRED VENTILATION RATE. THESE OCCUPANT SENSOR VENTILATION CONTROL DEVICES MUST MEET THE REQUIREMENTS OF SECTION 120.1(C)5.
13. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON EF FAN SHUTDOWN.
14. HVAC SYSTEMS WITH DDC TO THE ZONE LEVEL SHALL BE PROGRAMMED TO ALLOW CENTRALIZED DEMAND SHED FOR NON-CRITICAL ZONES.
15. ZONE CONTROLS PREVENT REHEATING, RECOOLING AND SIMULTANEOUS PROVISIONS OF HEATING AND COOLING TO THE SAME ZONE.
16. EACH WALL MOUNTED THERMOSTAT SHALL BE LOCATED AWAY FROM POTENTIAL SOURCES THAT WOULD ADVERSELY AFFECT THE READING (CLOSE TO COPIERS, DIRECT SUNLIGHT, BELOW OR ABOVE A SUPPLY AIR DIFFUSER OR CONVECTOR, ETC.). ANY THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL BE INSTALLED IN SEALED AND INSULATED JUNCTION BOXES.
17. CORNER OFFICE SHALL ALWAYS HAVE THEIR OWN THERMOSTATS, AIR TERMINAL BOXES OR FIN-TUBE RADIATORS.
18. CONTROL SEQUENCES SHALL BE LISTED FOR EQUIPMENT OPERATED BY STAND-ALONE PACKAGED CONTROLS. UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
19. CONTROL SEQUENCES SHALL BE PROVIDED FOR EACH PIECE OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE THAT IS MONITORED OR CONTROLLED BY THE BUILDING AUTOMATION SYSTEM (BAS). UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
20. OUTSIDE AIR TEMPERATURE SENSORS SHALL BE IN A COMMERCIALLY DESIGNED SOLAR SHIELD LOCATED ON A NORTH WALL OR SOME OTHER LOCATION OUT OF DIRECT SUNLIGHT AND AWAY FROM BUILDING EXHAUST OR HEAT REJECTION EQUIPMENT.
21. THE OUTDOOR AIR-VENTILATION RATE AND AIR-DISTRIBUTION ASSUMPTIONS MADE IN THE DESIGN OF THE VENTILATING SYSTEM ARE CLEARLY IDENTIFIED ON THE PLANS.
22. EACH SPACE IS DESIGNED TO HAVE NATURAL VENTILATION OR MECHANICAL VENTILATION THAT IS NO LESS THAN THE LARGER OF CONDITIONED FLOOR AREA TIMES THE REQUIREMENTS IN TABLE 120.1-A OR 15 CFM TIMES THE EXPECTED NUMBER OF OCCUPANTS.
23. THE MINIMUM AND MAXIMUM OUTDOOR AIR RATES FOR EACH AIR HANDLER ARE LISTED ON THE EQUIPMENT SCHEDULES.
24. THE OUTDOOR AIR-VENTILATION RATES ARE BASED ON PLANNED OWNER OCCUPANCY AS DEFINED IN OWNER'S DESIGN INTENT AND ARE NOT BASED ON MAXIMUM EGRESS OCCUPANCY RATES.
25. HVAC SYSTEMS THAT HAVE AN ECONOMIZER, SERVE A SPACE WITH A DESIGN OCCUPANT DENSITY GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SF, AND ARE EITHER A SINGLE ZONE SYSTEM WITH ANY CONTROLS OR MULTIPLE ZONE SYSTEM WITH DDC CONTROLS TO THE ZONE LEVEL MUST HAVE DEMAND CONTROL VENTILATION CONTROLS. THE FOLLOWING MUST BE MET:
    A. CO2 SENSORS INSTALLED IN EACH ROOM SERVED BY SYSTEMS WITH DCV CONTROLS. CO2 SENSORS SHALL BE INSTALLED IN A TAMPERPROOF MANNER.
    B. CO2 SENSORS ARE LOCATED BETWEEN 3 FT AND 6 FT ABOVE THE FLOOR AND AT LEAST FIVE FEET AWAY FROM DOORS AND OPERABLE WINDOWS, AND INDICATE A HARD WIRED OR PLUG-IN CONNECTION TO A POWER SOURCE. ADDITIONALLY, PLANS SHALL SPECIFY THE MAKE AND MODEL NUMBER OF THE DEVICE THAT MEETS THE PERFORMANCE REQUIREMENTS OF PUC 1625.
    C. CO2 CONCENTRATIONS MAINTAINED AT LESS THAN OR EQUAL TO 600 PPM PLUS OUTDOOR PPM.
    D. DURING HOURS OF EXPECTED OCCUPANCY, CONTROLS MAINTAIN THE SYSTEM VENTILATION RATE.
26. EACH COOLING FAN SYSTEM THAT HAS A DESIGN MECHANICAL COOLING CAPACITY OVER 54,000 BTU/H SHALL HAVE AN AIR ECONOMIZER OR A WATER ECONOMIZER. AIR ECONOMIZERS MUST COMPLY WITH THE HIGH LIMIT SHUTOFF CONTROLS SHOWN IN TABLE 140.4-B.
27. INTEGRATED ECONOMIZER CONTROLS SHALL BE SET UP SUCH THAT PARTIAL COOLING IS PROVIDED BY THE ECONOMIZER EVEN WHEN ADDITIONAL MECHANICAL COOLING ID REQUIRED.
28. ECONOMIZER DAMPERS SHALL BE DRIVEN BY DIRECT DRIVE ACTUATORS RATHER THAN ROD LINKAGES, WHICH CAN BE A MAJOR CAUSE OF ECONOMIZER MALFUNCTION.
29. BAROMETRIC RELIEF IS USED, IF POSSIBLE. IF NOT, RELIEF FANS (RATHER THAN RETURN FANS) SHALL BE USED IN MOST CASES.
30. OUTDOOR AND RETURN AIR SENSORS SHALL BE PROPERLY SELECTED, PROPERLY LOCATED TO PROVIDE ACCURATE AND REPEATABLE MEASUREMENTS FOR CONTROLLING ECONOMIZER OPERATION. AVERAGING SENSORS COVER THE ENTIRE DUCT OR COIL FACE AREAS.
31. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS MUST BE INSTALLED, SEALED AND INSULATED AS REQUIRED BY 120.4(A).
32. DUCT SEALING LEAKAGE RATES SHALL BE NO MORE THAN 6% OF AIR FLOW FOR NEW DUCT SYSTEMS AND NO MORE THAN 15% OF AIR FLOW FOR ALTERED EXISTING DUCT SYSTEMS.
33. DUCT SHALL UTILIZE LOW STATIC PRESSURE DESIGN. IDENTIFY THE MOST RESTRICTIVE BRANCH FROM THE FAN TO THE LAST AIR TERMINAL UNIT. IDENTIFY POSSIBLE MEANS OF SIGNIFICANTLY REDUCING THE PRESSURE DROP. BRANCH DUCT SYSTEMS SHALL DESIGNED FOR EQUAL PRESSURE DROP, WHEN POSSIBLE.
34. DUCT BRANCHES WITH SIGNIFICANTLY DIFFERING STATIC PRESSURE REQUIREMENTS SHALL HAVE VOLUME CONTROL STRATEGICALLY PLACED TO AID IN TAB WORK.
35. FAN SHALL DISCHARGE INTO DUCT SECTIONS THAT REMAIN STRAIGHT FOR AS LONG AS POSSIBLE (IDEALLY 10 DUCT DIAMETERS) TO REDUCE FAN INEFFICIENCIES FROM SYSTEM EFFECTS.
36. DUCT VELOCITIES SHALL GENERALLY BE BELOW 2,000 FPM FOR DUCTS IN CEILING PLENUMS, 1500 FPM FOR EXPOSED DUCTS AND 3500 FPM IN MECHANICAL ROOMS AND NON-NOISE SENSITIVE SHAFTS AND DO NOT REDUCE ANY DUCT SIZES LISTED ON PLANS.
37. DUCT FRICTION RATES SHALL GENERALLY BE LESS THAN 0.25" WC PER 100 LINEAL FEET NEARER THE FAN, 0.15 TO 0.20" IN THE MAIN DUCTS AND 0.08 TO 0.12" WC/100' NEARER THE END OF THE SYSTEM. DESIGNS OVER THESE RATES SHALL BE QUESTIONED. VERY ENERGY EFFICIENT DESIGN CAN LOWER THESE VALUES BY UP TO 40%.
38. CONTRACTOR SHOP DRAWINGS SHALL BE SUFFICIENTLY DETAILED TO ENSURE THAT DISTRIBUTION SYSTEM DESIGN INTENT IS ADEQUATELY CONVEYED TO MATCH PLANS. IF SUFFICIENT DETAIL IS NOT INCLUDED IN DRAWINGS, INSTALLATIONS MAY RESULT IN SIGNIFICANTLY HIGHER PRESSURE DROPS AND HENCE HIGHER ENERGY CONSUMPTION AND OTHER OPERATING ISSUES.
39. ACCEPTANCE REQUIREMENTS ARE CLEARLY IDENTIFIED IN CONSTRUCTION DOCUMENTS.
40. COMMISSIONING MEASURES OR REQUIREMENTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
41. REQUIREMENTS FOR FUNCTIONAL PERFORMANCE TESTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
42. COOLING SYSTEMS IDENTIFIED IN TABLE 140.4-D SHALL HAVE FAN CONTROLS TO VARY THE INDOOR FAN AIRFLOW AS A FUNCTION OF LOAD:
    A. DX AND CHILLED WATER COOLING SYSTEMS THAT CONTROL CAPACITY BASED ON OCCUPIED SPACE TEMPERATURE SHALL HAVE A MINIMUM OF 2 STAGES OF CONTROL.
    B. SYSTEMS THAT CONTROL SPACE TEMPERATURE BY MODULATING AIRFLOW TO THE SPACE SHALL HAVE PROPORTIONAL FAN CONTROL.
    C. SYSTEMS WITH AIR SIDE ECONOMIZER SHALL HAVE A MINIMUM OF 2 SPEEDS OF FAN CONTROL DURING ECONOMIZER OPERATION.
43. FAN CABINET ENCLOSURE AND INTERNAL COMPONENTS SHALL BE ELECTED TO MINIMIZE PRESSURE DROP, E.G. FACE VELOCITY IS LESS THAN 500 FPM, LOW PRESSURE DROP COILS, FILTERS, ETC.
44. FAN WHEEL SHALL BE SELECTED FOR EFFICIENT OPERATION, E.G. LARGER DIAMETER ROTATING AT LOWER SPEED.
45. SYSTEMS THAT SERVE MULTIPLE ZONES SHALL HAVE CONTROLS THAT AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE. ZONES WITH HIGH INTERNAL LOADS WITH NEAR CONSTANT AIRFLOW SHALL BE DESIGNED FOR THE ELEVATED RESET SUPPLY AIR TEMPERATURE. RESET CONTROLS SHALL BE IN RESPONSE TO BUILDING LOADS OR TO OUTDOOR AIT TEMPERATURE AND SHALL BE AT LEAST 25% OF THE DIFFERENCE BETWEEN SUPPLY AIR AND DESIGN ROOM AIR TEMPERATURE. CONTROL SEQUENCES ARE IDENTIFIED IN CONSTRUCTION DOCUMENTS.
46. SAT RESET TO BE ESTABLISHED W/ AN AGGRESSIVE RESET SCHEDULE OF 10F, E.G. 55F DURING WARM WEATHER AND 65F DURING COOL WEATHER.

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH CURRENT CALIFORNIA CODE OF REGULATIONS TITLE 24, ALL OTHER APPLICABLE CODES AND REGULATIONS, AND LOCAL CODES.
2. ALL HVAC EQUIPMENT SHALL BE COMPLIANT WITH EFFICIENCY STANDARDS PER TITLE-24, PART 6.
3. ALL FRESH AIR INTAKES SHALL BE AT LEAST 10 FEET IN A HORIZONTAL DIRECTION FROM ALL EXHAUST, FLUE, FUEL BURNING APPLIANCE AND PLUMBING VENT OUTLETS. FOR GAS/ELECTRIC AIR CONDITIONING UNITS WHERE THE CODE REQUIRED CLEARANCES ARE NOT MET, A FACTORY FLUE GAS DEFLECTOR AND EXTENSION SHALL BE USED TO MINIMIZE THESE CLEARANCES. CONTRACTOR SHALL DETERMINE LOCATIONS WHERE REQUIRED PRIOR TO BID. THIS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
4. AIR FILTERS SHALL BE STATE FIRE MARSHAL APPROVED AND LISTED. PREFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE PER TITLE-24 PART 6 AND APPLICABLE ASHRAE REQUIREMENTS. FILTERS SHALL BE ACCESSIBLE
5. REVIEW THESE PLANS AND SPECIFICATIONS PRIOR TO BID. REVIEW PLANS AND SPECIFICATIONS OF OTHER RELATED TRADES INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND FIRE PROTECTION.
6. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AS THESE ARE PART OF THE CONTRACT DOCUMENTS. WHERE A CONFLICT OCCURS BETWEEN THIS SPECIFICATION AND OTHER SPECIFICATIONS ISSUED AS A PART OF THE CONTRACT DOCUMENTS, THE MORE STRINGENT REQUIREMENT SUPERCEDES.
7. THESE DWGS ARE DIAGRAMMATIC ONLY AND NOT INTENDED TO INDICATE ALL REQ. OFFSETS, BENDS, ELBOWS, TRANSITIONS, FITTINGS AS REQ. TO CONFORM TO THE BUILDING STRUCTURE, CLEARANCE INSIDE CEILINGS, AVOIDANCE OF OBSTRUCTIONS, AND MAINTAINING HEAD CLEARANCE.
8. COORDINATE INSTALLATION WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF EQUIPMENT OR MATERIALS, INCLUDING BUT NOT LIMITED TO, STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND PLUMBING.
9. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLANS, ELECTRICAL LIGHTING LAYOUT, AND ARCHITECTURAL ROOM ELEVATIONS. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS PRIOR TO FABRICATION AND INSTALLATION.
10. COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATIONS OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL WEIGHTS FOR PLATFORM AND CURB SIZES, FOR ROOF AND WALL PENETRATION DETAILS AND REQUIREMENTS, SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS. REQUIRED PLATFORMS AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS, UNLESS NOTED OTHERWISE.
11. HIRE A TEST AND BALANCE AGENCY TO PERFORM THE TESTING PROCEDURES, REQUIRED BY THE MECH-2A THROUGH MECH-11A CERTIFICATE OF ACCEPTANCE FORMS, AS APPLICABLE FOR ALL NEWLY INSTALLED HEATING AND COOLING SYSTEMS. THE CONTRACTOR AND TEST AND BALANCE AGENCY ARE RESPONSIBLE FOR OBTAINING THE CERTIFICATE OF ACCEPTANCE FORMS REQUIRED BY THE IOR. THE TEST AND BALANCE AGENCY SHALL BE WELL VERSED WITH ALL THE REQUIREMENTS OF THESE CERTIFICATE OF ACCEPTANCE FORMS, AND SHALL COORDINATE AND WORK WITH THE EQUIPMENT AND CONTROLS INSTALLERS TO COMPLY WITH THESE REQUIREMENTS IN A TIMELY MANNER WITHIN THE PROJECT SCHEDULE. THE AIR BALANCE CONTRACTOR SHALL BE A MEMBER OF AABC (ASSOCIATED AIR BALANCE COUNCIL).
12. PAINT ALL EXPOSED DUCTWORK, DUCT SUPPORTS, ACCESSORIES, REGISTERS, GRILLES, DIFFUSERS, AND APPURTENANCES, WHETHER OR NOT COLORS ARE DESIGNATED IN SCHEDULES, EXCEPT WHERE A SURFACE OR MATERIAL IS SPECIFICALLY INDICATED NOT TO BE PAINTED OR IS TO REMAIN NATURAL. WHERE AN ITEM OR SURFACE IS NOT SPECIFICALLY MENTIONED, PAINT THE SAME AS SIMILAR ADJACENT MATERIALS OR SURFACES. IF COLOR OR FINISH IS NOT DESIGNATED, THE ARCHITECT WILL SELECT FROM STANDARD COLORS OR FINISHES AVAILABLE. PAINTING INCLUDES FIELD PAINTING EXPOSED BARE AND COVERED PIPES AND DUCTS (INCLUDING COLOR CODING), HANGERS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF MECHANICAL EQUIPMENT.
13. PROVIDE ALL LABOR, MATERIAL, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, AND OTHER WORK AS REQUIRED. FOR A COMPLETE AND PROPERLY OPERATING MECHANICAL SYSTEM.
14. ALL MATERIALS SHALL BE NEW AND OF THE SAME MANUFACTURER FOR EACH CLASS OR GROUP OF EQUIPMENT. EQUIPMENT SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES, AND SHALL BEAR THE INSPECTION LABEL WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH THE APPROVAL OF THE GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY THE LATEST EDITION OF CMC, CBC U.L., SMACNA AND ASHRAE GUIDELINES. INSTALL PER MANUFACTURERS' RECOMMENDATIONS, AND INSTALLATION INSTRUCTIONS.
15. OBTAIN AND PAY FOR ALL NECESSARY BUILDING PERMITS AND VARIANCES. COORDINATE TEMPORARY CONSTRUCTION REQUIREMENTS WITH ALL TRADES PRIOR TO CONSTRUCTION. INCLUDE ALL COSTS IN THE BID.
16. IF THE CONTRACTOR PROPOSES ALTERNATE EQUIPMENT OR MATERIAL, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL DSA APPROVALS, PAY ALL RELATED FEES AND OBTAIN APPROVAL FROM OWNER & ENGINEER OF RECORD. PROVIDE TITLE-24 COMPLIANCE CERTIFICATION AND ALL ASSOCIATED FEES REQUIRED. COORDINATE SUBMITTED EQUIPMENT WITH OTHER TRADES. INCLUDE IN THE SHOP DRAWINGS THE EQUIPMENT SUBMITTED FOR APPROVAL WITH A DIFFERENT PHYSICAL SIZE OR ARRANGEMENT FROM THAT SHOWN.
17. PROVIDE SHOP DRAWINGS PER PROJECT SCHEDULE, SEE 23 00 00 SPECIFICATIONS FOR REQUIREMENTS. IF SHOP DRAWINGS ARE NOT PROVIDED TO THE ENGINEER FOR REVIEW, AND ANY CONFLICTS OCCUR BETWEEN TRADES, DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY TO RESOLVE THE CONFLICT AND BEAR ALL COSTS INCURRED FOR ALL REVISIONS, AT NO ADDITIONAL COST TO THE DISTRICT. THE DISTRICT AND ENGINEER HALL BE NOTIFIED IMMEDIATELY PRIOR TO FABRICATION AND INSTALLATION OF ALL WORK THAT CAUSES CONFLICTS BETWEEN TRADES.
18. PROVIDE ALL MANUFACTURER'S PRODUCT DATA CLEARLY INDICATING MODEL NUMBERS, CAPACITIES, CONSTRUCTION, ELECTRICAL INFORMATION, AND OPTIONAL ACCESSORIES, PER PROJECT SCHEDULE AND PRIOR TO THE START OF WORK. THESE SHALL BE REVIEWED BY THE MECHANICAL ENGINEER PRIOR TO PURCHASING.
19. SUBMIT TO THE OWNER ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, AS-BUILTS, ETC. AT THE COMPLETION OF THE JOB. PROVIDE THE OWNER WITH COMPLETE MECHANICAL "AS-BUILTS" INDICATING FINAL EQUIPMENT LOCATIONS, DUCTWORK AND PIPE ROUTING, ETC.
20. OBTAIN APPROVAL FROM THE OWNER ON ALL ADDENDA AND CONSTRUCTION CHANGE DOCUMENT (CCD) PRIOR TO DOING THE WORK.
21. INSTALL ALL EQUIPMENT, ACCESSORIES, AND MATERIAL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
22. PROVIDE FIRESTOPPING FOR PIPE AND DUCT PENETRATIONS THROUGH RATED WALLS. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
23. ANY MATERIAL EXPOSED WITHIN A PLENUM OR DUCT MUST HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25, AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50, AND A MOLD/HUMIDITY RESISTANCE PER U.L. 181.
24. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
25. LOCATE ALL EQUIPMENT SUCH THAT CODE REQUIRED ACCESS IS MAINTAINED, INCLUDING N.E.C. REQUIREMENTS. ACCESS PANELS WHERE REQUIRED, SHALL BE COORDINATED WITH ARCHITECT, AND PROVIDED BY FACTORY OR BE FIELD-PROVIDED. FOR ATTIC EQUIPMENT, G.C. TO PROVIDE A CATWALK & LIGHT PER CMC FOR ATTIC EQUIPMENT.
26. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING WHERE THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:
    A. HAND ACCESS: 12"x12" MIN.
    B. BODY ACCESS: 30"x30" MIN.
27. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTIONS.
28. LABEL ALL EQUIPMENT AS TO THE SPACE IT SERVES. SEE SPECIFICATIONS FOR IDENTIFICATION STANDARDS. LABEL DUCT SMOKE DETECTOR LOCATIONS (AT CEILING) AS TO THE EQUIPMENT IT SERVES.
29. A/C UNITS PROVIDED WITH ECONOMIZER CYCLE DAMPERS SHALL HAVE OSA DAMPERS SET UP TO CLOSE AUTOMATICALLY ON FAN SHUT DOWN.
30. PROVIDE MANUAL VOLUME DAMPERS AND BACKDRAFT DAMPERS FOR FRESH AIR INTAKES ON ALL AIR HANDLING EQUIPMENT AND EXHAUST FANS SERVING CONDITIONED SPACES. EXCEPTION: EQUIPMENT WITH FACTORY-ECONOMIZERS.
31. DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID DATE.
32. OWNER RETAINS SALVAGE RIGHTS. PROVIDE A MINIMUM OF 72 HOURS NOTICE PRIOR TO REMOVAL OF ROOF TOP UNITS AND EXHAUST FANS.
33. PATCH AND SEAL ALL SLAB, ROOF AND WALL OPENINGS WITH LIKE MATERIAL WHERE MECHANICAL EQUIPMENT ONCE PENETRATED.
34. REMOVE EXISTING AND PROVIDE ALL NEW DUCT AND PIPE HANGER SUPPORTS WHERE DUCT AND PIPE IS BEING REPLACED.
35. PROVIDE ALL NEW PIPE SUPPORTS WHERE PIPING IS SCHEDULED TO BE REPLACED.
36. OUTDOOR REFRIGERANT PIPING TO BE INSULATED AND ALUMINUM WRAPPED.
37. CONTRACTOR IS RESPONSIBLE FOR COMPLETE AND OPERABLE SYSTEM.
38. ALL MECHANICAL EQUIPMENTS, PIPES AND DUCTS SHALL BE SUPPORTED AND BRACED PER THE CURRENT CALIFORNIA BUILDING CODE. ALL MECHANICAL COMPONENTS SHALL BE ABLE TO RESIST THE EFFECTS OF SEISMIC FORCES.
39. MECHANICAL WORK SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
40. CONTRACTOR SHALL PROTECT EXISTING BUILDING INFRASTRUCTURE DURING CONSTRUCTION FROM OUTDOOR ELEMENT. IF DAMAGED, CONTRACTOR SHALL REPLACE DAMAGED BUILDING COMPONENTS WITH NEW AT NO ADDITIONAL COST TO THE OWNER.
41. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.
42. DUCT JOINTS SHALL BE MADE WITH MASTIC SEALANT, SHEET METAL SCREWS AND TAPED AIR TIGHT WITH HARDCAST OR EQUIV., MIN. 2-1/2" WIDTH
43. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND DSA FIELD ENGINEER.
44. A COPY OF THE GUIDELINES APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.
45. CONTRACTOR SHALL COORDINATE ALL DUCTWORK ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSET AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, TRUSSES, ETC.
46. COORDINATE ALL EQUIPMENT VOLTAGES WITH ELECTRICAL PRIOR TO ORDERING ANY EQUIPMENT.

MECHANICAL LEGEND

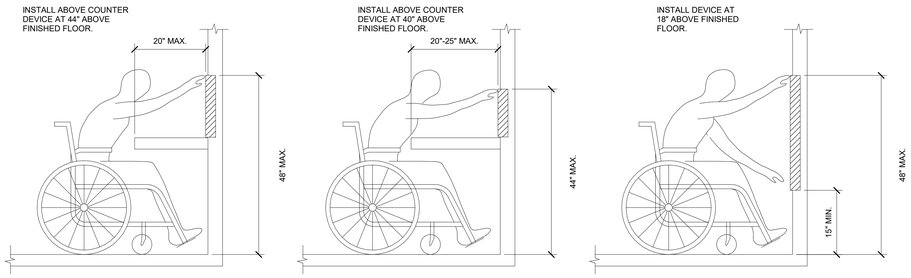
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	KEY NOTES	D / X	DX COOLING COIL
	DEMOLITION KEY NOTES		
01 / M-2	DETAIL DESIGNATION / DETAIL NUMBER / SHEET NO. WHERE SHOWN	H / C	HEATING COIL
AC / 1	EQUIPMENT DESIGNATION / UNIT ABBREVIATION / NUMBER		DAMPER, OPPOSED BLADE
10X10-3 / 120 F/S	GRILLE DESIGNATION / NECK SIZE & BLOW / FIRE/SMOKE DAMPER WHERE REQ'D / CFM		DAMPER, PARALLEL BLADE
	SECTION CALLOUT		FILTER
	POINT OF CONNECTION		
	POINT OF DISCONNECTION		HUMIDIFIER
	NEW LINEWORK		LOUVER
	EXISTING LINEWORK	AD	ACCESS DOOR OR ACCESS PANEL (AP) IN DUCTWORK
	DEMOLITION LINEWORK	1"|2"	STATIC PRESSURE CHANGE TAG
16"x12"	SHEET METAL DUCT	2"	STATIC PRESSURE TAG
16"x12"	HIDDEN SHEET METAL DUCT		TURNING VANES (RECTANGULAR)
16"x12"	INTERNALLY INSULATED SHEET METAL DUCT		DRAIN, FUNNEL
	DIRECTION OF FLOW		CENTRIFUGAL FAN
	STANDARD BRANCH FOR SUPPLY AND RETURN		ANALOG SIGNAL
	ROUND ELBOW DOWN		DIGITAL SIGNAL
	ROUND ELBOW UP		ELECTRIC LEAD
	RECTANGULAR TO ROUND TRANSITION		INSTRUMENT CAPILLARY TUBING
8" / FC	FLEXIBLE DUCT / FLEX CONNECTION		ELECTRONIC 3-WAY VALVE
BDD	BACK DRAFT DAMPER		ELECTRONIC 2-WAY VALVE
FD	FIRE DAMPER		DDC INPUT
F/S	COMBINATION FIRE AND SMOKE DAMPER		DDC OUTPUT
M	MOTORIZED DAMPER		LOCALLY MOUNTED INSTRUMENT
	SUPPLY DIFFUSER: 2-WAY/3-WAY/4-WAY	C02	CARBON DIOXIDE SENSOR
	GRILLE: RETURN/EXHAUST	DPS	DIFFERENTIAL PRESSURE SENSOR
	1'x2' RETURN AIR GRILLE	FM	FLOW METER
	2'x2' RETURN AIR GRILLE	FS	AIRFLOW SENSOR
UP DN	SUPPLY AIR DUCT SECTION	HS	RELATIVE HUMIDITY SENSOR
UP DN	RETURN AIR DUCT SECTION	TS	TEMPERATURE SENSOR
UP DN	EXHAUST AIR DUCT SECTION	TS	AVERAGING TEMPERATURE SENSOR
	POWER OR GRAVITY ROOF VENTILATOR - EXHAUST		METAL DUCT
	POWER OR GRAVITY ROOF VENTILATOR - SUPPLY	R	EMS CO2 SENSOR
UC	UNDERCUT DOOR	T	THERMOSTAT
TG	TRANSFER GRILLE OR LOUVER	PS	PRESSURE SWITCH
DG	DOOR GRILLE OR LOUVER	SD	SMOKE DETECTOR
		SP	STATIC PRESSURE SENSOR
		RS	REFRIGERANT SENSOR
		D	DEW POINT SENSOR
		H	SPACE HUMIDITY SENSOR
		S	SWITCH
		▲	FIRE WALL PENETRATION
		(E)	EXISTING
		(N)	NEW

MEP COMPONENT ANCHORAGE NOTE

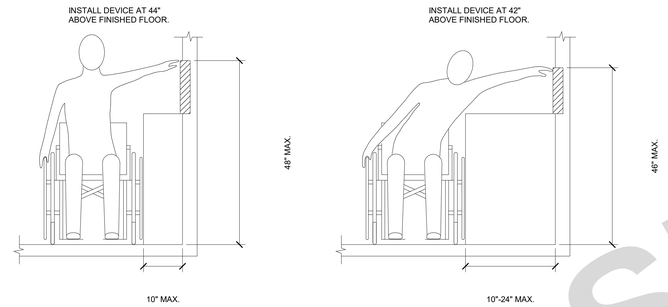
ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3.

0"
1"



ADA GUIDELINES -FRONT ACCESS



ADA GUIDELINES -SIDE ACCESS

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE J-BOXES AT ADA REQUIRED HEIGHTS TO ALLOW FOR THE DEVICE CONTROLS TO FALL WITHIN THE ACCESSIBLE REACH RANGE SHOWN ABOVE.
2. PROVIDE INSTALLATION PER SECTION 11B-308.1.1 ELECTRICAL SWITCHES.
3. WALL PHONES, CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING VENTILATING EQUIPMENT, SHALL COMPLY WITH SECTION 11B-308 EXCEPT THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX.

1 CBC/ADA STANDARDS FOR ACCESSIBLE DESIGN.
NOT TO SCALE

TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

1. EQUIPMENT SHALL MEET EFFICIENTY REQUIREMENTS OF TABLES 110.2-A THROUGH 110.2-K.
2. ALL AIR-COOLED, UNITARY, DX UNITS (PACKAGED, SPLIT-SYSTEM, HEAT PUMPS AND VRF) WITH ECONOMIZERS SHALL BE EQUIPPED WITH FAULT DETECTION AND DIAGNOSTICS SYSTEMS.
3. PIPE INSULATION FOR SPACE CONDITIONING AND SERVICE WATER-HEATING WITH FLUID TEMPERATURES LISTED IN TABLE 120.3-A SHALL AVE INSULATION LEVELS AS SPECIFIED IN SUBSECTION (A) AND (B).
4. MECHANICAL HEATING AND COOLING EQUIPMENT SHALL BE THE SMALLEST SIZE, WITHIN THE AVAILABLE OPTIONS OF THE DESIRED EQUIPMENT LINE, NECESSARY TO MEET THE DESIGN HEATING AND COOLING LOADS OF THE BUILDING, AS CALCULATED ACCORDING TO THE REQUIREMENTS OF SECTION 140.4(B).
5. HVAC MOTORS FOR FANS THAT ARE LESS THAN 1 HP AND 1/12 HP OR GREATER SHALL BE ECM OR HAVE A MINIMUM MOTOR EFFICIENCYOF 70%. MOTORS SHALL ALSO HAVE MEANS TO ADJUST MOTOR SPEED FOR BALANCING OR REMOTE CONTROL.
6. ELECTRIC RESISTANCE HEATING SYSTEMS ARE NOT PROVIDED FOR SPACE HEATING.
7. IN DRIER CLIMATES AND WHEN LARGE OUTDOOR AIR FRACTIONS ARE REQUIRED, EVAPORATIVE PRE-COOLING PACKAGES WERE EVALUATED TO PRE-COOL OUTSIDE AIR AND COOL THE AIR FLOWING OVER THE DX CONDENSING UNIT.
8. ZONE EACH AIR HANDLER TO SERVE ONLY AREAS WITH COMMON LOADS TO ALLOW MORE AGGRESSIVE CONTROL STRATEGIES AND IMPROVE COMFORT. HAVE DIFFERENT AHU'S SERVING CORE VS. PERIMETER AREAS.
9. THE DESIGN ACCOMMODATES PARTIAL OCCUPANCY ENERGY SAVINGS WHEN THE OWNER'S REQUIREMENTS OR NARRATIVE DESCRIBE ANY POSSIBILITY OF PARTIAL OCCUPANCY, BY ZONING AIR HANDLERS BY FLOOR OR BY PART OF A FLOOR, OR BY INCORPORATING CONTROLLED FLOOR DAMPERS, OR VAV AIR TERMINALS GOING TOTALLY SHUT WHEN NOT OCCUPIED, ETC.
10. EACH ZONE IS CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL. CONTROLS SHALL BE CAPABLE OF SETTING TEMPERATURES TO 55 DEG F FOR HEATING AND 85 DEG F FOR COOLING AND PROVIDE A TEMPERATURE DEADBAND OF AT LEAST 5 DEG F IF CONTROLLING BOTH HEATING AND COOLING.
11. EACH SPACE CONDITIONING SYSTEM SHALL BE EQUIPPED WITH CONTROLS TO SHUT THE SYSTEM OFF DURING PERIODS OF NON-USE AND WILL TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN SETBACK AND SETUP TEMPERATURES WHILE KEEPING VENTILATION DAMPERS CLOSED.
12. SYSTEMS SERVING MULTIPURPOSE ROOMS LESS THAN 100 SF AND CLASSROOMS, CONFERENCE, AUDITORIUM OR MEETING CENTER ROOMS GREATER THAN 750 SF SHALL HAVE OCCUPANCY SENSORS THAT INTERFACE WITH HVAC CONTROLS TO AUTOMATICALLY SETUP THE COOLING SETPOINT BY 2F OR MORE AND AUTOMATICALLY RESET THE MINIMUM REQUIRED VENTILATION RATE. THESE OCCUPANTSENSOR VENTILATION CONTROL DEVICES MUST MEET THE REQUIREMENTS OF SECTION 120.1(C)6.
13. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON EF FAN SHUTDOWN.
14. HVAC SYSTEMS WITH DDC TO THE ZONE LEVEL SHALL BE PROGRAMMED TO ALLOW CENTRALIZED DEMAND SHED FOR NON-CRITICAL ZONES.
15. ZONE CONTROLS PREVENT REHEATING, RECOOLING AND SIMULTANEOUS PROVISIONS OF HEATING AND COOLING TO THE SAME ZONE.
16. EACH WALL MOUNTED THRMOSTAT SHALL BE LOCATED AWAY FROM POTENTIAL SOURCES THAT WOULD ADVERSELY AFFECT THE READING (CLOSE TO COPIERS, DIRECT SUNLIGHT, BELOW OR ABOVE A SUPPLY AIR DIFFUSER OR CONVECTOR, ETC.). ANY THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL BE INSTALLED IN SEALED AND INSULATED JUNCTION BOXES.
17. CORNER OFFICE SHALL ALWAYS HAVE THEIR OWN THERMOSTATS, AIR TERMINAL BOXES OR FIN-TUBE RADIATORS.
18. CONTROL SEQUENCES SHALL BE LISTED FOR EQUIPMENT OPERATED BY STAND-ALONE PACKAGED CONTROLS. UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
19. CONTROL SEQUENCES SHALL BE PROVIDED FOR EACH PIECE OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE THAT IS MONITORED OR CONTROLLED BY THE BUILDING AUTOMATION SYSTEM (BAS). UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
20. OUTSIDE AIR TEMPERATURE SENSORS SHALL BE IN A COMMERCIALLY DESIGNED SOLAR SHIELD LOCATED ON A NORTH WALL OR SOME OTHER LOCATION OUT OF DIRECT SUNLIGHT AND AWAY FROM BUILDING EXHAUST OR HEAT REJECTION EQUIPMENT.
21. THE OUTDOOR AIR-VENTILATION RATE AND AIR-DISTRIBUTION ASSUMPTIONS MADE IN THE DESIGN OF THE VENTILATING SYSTEM ARE CLEARLY IDENTIFIED ON THE PLANS.
22. EACH SPACE IS DESIGNED TO HAVE NATURAL VENTILATION OR MECHANICAL VENTILATION THAT IS NO LESS THAN THE LARGER OF CONDITIONED FLOOR AREA TIMES THE REQUIREMENTS IN TABLE 120.1-A OR 15 CFM TIMES THE EXPECTED NUMBER OF OCCUPANTS.
23. THE MINIMUM AND MAXIMUM OUTDOOR AIR RATES FOR EACH AIR HANDLER ARE LISTED ON THE EQUIPMENT SCHEDULES.
24. THE OUTDOOR AIR-VENTILATION RATES ARE BASED ON PLANNED OWNER OCCUPANCY AS DEFINED IN OWNER'S DESIGN INTENT AND ARE NOT BASED ON MAXIMUM EGRESS OCCUPANCY RATES.
25. HVAC SYSTEMS THAT HAVE AN ECONOMIZER, SERVE A SPACE WITH A DESIGN OCCUPANT DENSITY GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SF, AND ARE EITHER A SINGLE ZONE SYSTEM WITH ANY CONTROLS OR MULTIPLE ZONE SYSTEM WITH DDC CONTROLS TO THE ZONE LEVEL MUST HAVE DEMAND CONTROL VENTILATION CONTROLS. THE FOLLOWING MUST BE MET:
    A. CO2 SENSORS INSTALLED IN EACH ROOM SERVED BY SYSTEMS WITH DCV CONTROLS. CO2 SENSORS SHALL BE INSTALLED IN A TAMPERPROOF MANNER.
    B. CO2 SENSORS ARE LOCATED BETWEEN 3 FT AND 6 FT ABOVE THE FLOOR AND AT LEAST FIVE FEET AWAY FROM DOORS AND OPERABLE WINDOWS, AND INDICATE A HARD WIRED OR PLUG-IN CONNECTION TO A POWER SOURCE. ADDITIONALLY, PLANS SHALL SPECIFY THE MAKE AND MODEL NUMBER OF THE DEVICE THAT MEETS THE PERFORMANCE REQUIREMENTS OF PUC 1625.
    C. CO2 CONCENTRATIONS MAINTAINED AT LESS THAN OR EQUAL TO 600 PPM PLUS OUTDOOR PPM.
    D. DURING HOURS OF EXPECTED OCCUPANCY, CONTROLS MAINTAIN THE SYSTEM VENTILATION RATE.
26. EACH COOLING FAN SYSTEM THAT HAS A DESIGN MECHANICAL COOLING CAPACITY OVER 54,000 BTUH SHALL HAVE AN AIR ECONOMIZER OR A WATER ECONOMIZER. AIR ECONOMIZERS MUST COMPLY WITH THE HIGH LIMIT SHUTOFF CONTROLS SHOWN IN TABLE 140.4-B.
27. INTEGRATED ECONOMIZER CONTROLS SHALL BE SET UP SUCH THAT PARTIAL COOLING IS PROVIDED BY THE ECONOMIZER EVEN WHEN ADDITIONAL MECHANICAL COOLING ID REQUIRED.
28. ECONOMIZER DAMPERS SHALL BE DRIVEN BY DIRECT DRIVE ACTUATORS RATHER THAN ROD LINKAGES, WHICH CAN BE A MAJOR CAUSE OF ECONOMIZER MALFUNCTION.
29. BAROMETRIC RELIEF IS USED, IF POSSIBLE. IF NOT, RELIEF FANS (RATHER THAN RETURN FANS) SHALL BE USED IN MOST CASES.
30. OUTDOOR AND RETURN AIR SENSORS SHALL BE PROPERLY SELECTED, PROPERLY LOCATED TO PROVIDE ACCURATE AND REPEATABLE MEASUREMENTS FOR CONTROLLING ECONOMIZER OPERATION. AVERAGING SENSORS COVER THE ENTIRE DUCT OR COIL FACE AREAS.
31. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS MUST BE INSTALLED, SEALED AND INSULATED AS REQUIRED BY 120.4(A).
32. DUCT SEALING LEAKAGE RATES SHALL BE NO MORE THAN 6% OF AIR FLOW FOR NEW DUCT SYSTEMS AND NO MORE THAN 15% OF AIR FLOW FOR ALTERED EXISTING DUCT SYSTEMS.
33. DUCT SHALL UTILIZE LOW STATIC PRESSURE DESIGN. IDENTIFY THE MOST RESTRICTIVE BRANCH FROM THE FAN TO THE LAST AIR TERMINAL UNIT. IDENTIFY POSSIBLE MEANS OF SIGNIFICANTLY REDUCING THE PRESSURE DROP. BRANCH DUCT SYSTEMS SHALL DESIGNED FOR EQUAL PRESSURE DROP, WHEN POSSIBLE.
34. DUCT BRANCHES WITH SIGNIFICANTLY DIFFERING STATIC PRESSURE REQUIREMENTS SHALL HAVE VOLUME CONTROL STRATEGICALLY PLACED TO AID IN TAB WORK.
35. FAN SHALL DISCHARGE INTO DUCT SECTIONS THAT REMAIN STRAIGHT FOR AS LONG AS POSSIBLE (IDEALLY 10 DUCT DIAMETERS) TO REDUCE FAN INEFFICIENCIES FROM SYSTEM EFFECTS.
36. DUCT VELOCITIES SHALL GENERALLY BE BELOW 2,000 FPM FOR DUCTS IN CEILING PLENUMS, 1500 FPM FOR EXPOSED DUCTS AND 3500 FPM IN MECHANICAL ROOMS AND NON-NOISE SENSITIVE SHAFTS AND DO NOT REDUCE ANY DUCT SIZES LISTED ON PLANS.
37. DUCT FRICTION RATES SHALL GENERALLY BE LESS THAN 0.25" WC PER 100 LINEAL FEET NEARER THE FAN, 0.15 TO 0.20" IN THE MAIN DUCTS AND 0.08 TO 0.12" WC/100' NEARER THE END OF THE SYSTEM. DESIGNS OVER THESE RATES SHALL BE QUESTIONED. VERY ENERGY EFFICIENT DESIGN CAN LOWER THESE VALUES BY UP TO 40%.
38. CONTRACTOR SHOP DRAWINGS SHALL BE SUFFICIENTLY DETAILED TO ENSURE THAT DISTRIBUTION SYSTEM DESIGN INTENT IS ADEQUATELY CONVEYED TO MATCH PLANS. IF SUFFICIENT DETAIL IS NOT INCLUDED IN DRAWINGS, INSTALLATIONS MAY RESULT IN SIGNIFICANTLY HIGHER PRESSURE DROPS AND HENCE HIGHER ENERGY CONSUMPTION AND OTHER OPERATING ISSUES.
39. ACCEPTANCE REQUIREMENTS ARE CLEARLY IDENTIFIED IN CONSTRUCTION DOCUMENTS.
40. COMMISSIONING MEASURES OR REQUIREMENTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
41. REQUIREMENTS FOR FUNCTIONAL PERFORMANCE TESTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
42. COOLING SYSTEMS IDENTIFIED IN TABLE 140.4-D SHALL HAVE FAN CONTROLS TO VARY THE INDOOR FAN AIRFLOW AS A FUNCTION OF LOAD:
    A. DX AND CHILLED WATER COOLING SYSTEMS THAT CONTROL CAPACITY BASED ON OCCUPIED SPACE TEMPERATURE SHALL HAVE A MINIMUM OF 2 STAGES OF CONTROL.
    B. SYSTEMS THAT CONTROL SPACE TEMPERATURE BY MODULATING AIRFLOW TO THE SPACE SHALL HAVE PROPORTIONAL FAN CONTROL.
    C. SYSTEMS WITH AIR SIDE ECONOMIZER SHALL HAVE A MINIMUM OF 2 SPEEDS OF FAN CONTROL DURING ECONOMIZER OPERATION.
43. FAN CABINET ENCLOSURE AND INTERNAL COMPONENTS SHALL BE ELECTED TO MINIMIZE PRESSURE DROP, E.G. FACE VELOCITY IS LESS THAN 500 FPM, LOW PRESSURE DROP COILS, FILTERS, ETC.
44. FAN WHEEL SHALL BE SELECTED FOR EFFICIENT OPERATION, E.G. LARGER DIAMETER ROTATING AT LOWER SPEED.
45. SYSTEMS THAT SERVE MULTIPLE ZONES SHALL HAVE CONTROLS THAT AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE. ZONES WITH HIGHINTERNAL LOADS WITH NEAR CONSTANT AIRFLOW SHALL BE DESIGNED FOR THE ELEVATED RESET SUPPLY AIR TEMPERATURE. RESET CONTROLS SHALL BE IN RESPONSE TO BUILDING LOADS OR TO OUTDOOR AIT TEMPERATURE AND SHALL BE ATLEAST 25% OF THE DIFFERENCE BETWEEN SUPPLY AIR AND DESIGN ROOM AIR TEMPERATURE. CONTROL SEQUENCES ARE IDENTIFIED IN CONSTRUCTION DOCUMENTS.
46. SAT RESET SHALL BE ESTABLISHED WITH AN AGGRESSIVE RESET SCHEDULE OF 10F, E.G. 55F DURING WARM WEATHER AND 65F DURING COOL WEATHER.

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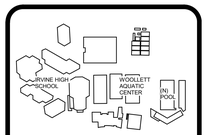

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN. 10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER RE DAVID WANG No. M 36155 Exp. 06/30/2026 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

MECHANICAL GENERAL NOTES & ADA STANDARDS

M0.1

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MECHANICAL FLOOR PLAN
M2.1
FOR BLUEBEAM LABELING/OCR:

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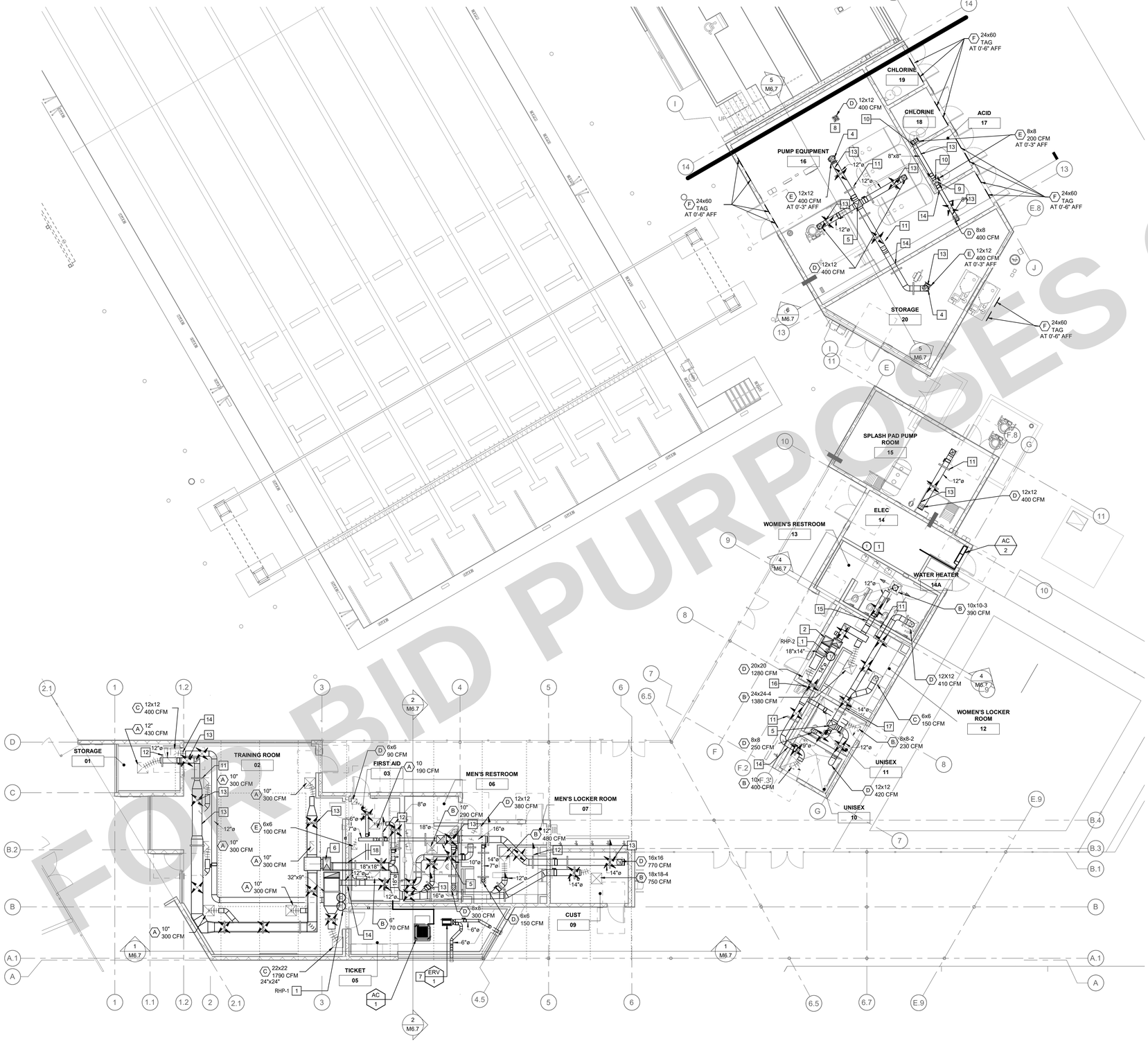
1"



KEY NOTES

1. THERMOSTAT MOUNTED AT 48" AFF TO TOP OF DEVICE. ALL WIRE SHALL BE INSIDE CONDUIT CONCEALED IN WALL AND ATTIC.
2. 18" x 12" SA & 26" x 11" RA ACOUSTIC LINED DUCT DROPS THRU ROOF. SA SHALL TEE IN OPPOSITE DIRECTIONS AND TRANSITION TO DUCTS SHOWN. RA SHALL ELBOW OVER AND TRANSITION TO ROUND.
3. 12" x 12" EA DUCT DROP THRU ROOF WITH TEE IN OPPOSITE DIRECTIONS AND TRANSITION TO ROUND DUCTS.
4. 12"ø DUCT SHALL ELBOW DOWN, TRANSITION TO 16" x 6" AND EXTEND DOWN EXPOSED ON WALL TO FLOOR WITH GRILLE MOUNTED ON FACE OF DUCT.
5. 16" x 16" EA DUCT DROP THRU ROOF WITH ROUND TAPS OUT SIDES.
6. 29" x 14" SA & 36" x 13" RA ACOUSTIC LINED DUCT DROPS THRU ROOF. SA SHALL TEE IN OPPOSITE DIRECTIONS AND TRANSITION TO DUCTS SHOWN. RA SHALL ELBOW OVER AND TRANSITION TO ROUND.
7. 5"ø OA & 5"ø EA DUCT CONNECTIONS WITH TRANSITIONS TO 6"ø DUCTS.
8. 12" x 12" EA DUCT DROP THRU ROOF TO CEILING GRILLE.
9. 12" x 12" EA DUCT DROP THRU ROOF WITH 8" x 8" DUCT TAPS OUT SIDES AND 8" x 8" DROP STRAIGHT DOWN TO FLOOR.
10. 8" x 8" EA DUCT DROP DOWN TO FLOOR WITH ELBOW OUT TO GRILLE.
11. DUCT SUPPORT REFER TO DETAILS ON M6.4 & M6.6. (TYPICAL)
12. DUCT TRANSVERSE BRACE. REFER TO DETAIL ON M6.5. (TYPICAL)
13. DUCT TRANSVERSE & LONGITUDINAL BRACE. REFER TO DETAILS ON M6.5. (TYPICAL)
14. (1) 16" SQUARE OPENING
15. (2) 16" SQUARE OPENING
16. (1) 24" SQUARE OPENING
17. (1) 16"x32" OPENING
18. (1) 24"x32" OPENING

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE PURCHASED AND INSTALLED IN ACCORDANCE WITH ALL NATIONAL & CALIFORNIA STATE CODES AND REGULATIONS (AS WELL AS ALL APPLICABLE LOCAL CODES & REGULATIONS). THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL HVAC WORK IS PROVIDED AND INSTALLED IN STRICT ACCORDANCE WITH SEISMIC REQUIREMENTS.
2. DO NOT SCALE FROM THESE DRAWINGS.
3. THE EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, ARCHITECTURAL AND STRUCTURAL SYSTEMS. DURING SHOP DRAWINGS SUBMISSIONS, SHOW ALL MOUNTING HEIGHTS OF DUCTWORK, PIPING, UNITS, ETC.
4. VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL DESIGN PRIOR TO ORDERING EQUIPMENT.
5. PROVIDE PHASE LOSS PROTECTION FOR ALL POLY-PHASE MOTOR DEVICES.
6. DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE ASHRAE, NFPA, AND SMACNA GUIDE RECOMMENDATIONS. ALL DUCTS TO HAVE PITTSBURGH TYPE LOCK FOR LONGITUDINAL SEAMS AND DRIVE SLIP / "S" SLIP FOR TRANSVERSE JOINTS. "DUCT-MATE" JOINT SYSTEM IS ACCEPTABLE IN LIEU OF PRIOR SEAM SYSTEMS. SIZES AS SHOWN INDICATE INSIDE CLEAR DIMENSIONS OF THE AIR PASSAGE. DUCTWORK SHALL BE FULLY INSULATED AS PER APPLICABLE CODES AND WRITTEN SPECIFICATIONS.
7. DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION AS LONG AS EFFECTIVE CROSS-SECTIONAL AREA IS MAINTAINED. DUCT TRANSITIONS SHALL BE CONSTRUCTED WITH A SLOPE OF 1 "TO 4". ALL DEVIATIONS FROM ORIGINAL CONTRACT DRAWINGS SHALL BE REVIEWED BY ENGINEER DURING THE SHOP DRAWING PROCESS.
8. PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO PROPERLY BALANCE EACH INDIVIDUAL AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF THE BALANCING DAMPER IS NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUMS STANDARDS SHALL GOVERN. ALL SUPPLY, RETURN, AND EXHAUST MAIN BRANCHES FROM TRUNKS, EACH SPLIT AND ALL SUB- BRANCHES FROM MAIN SHALL INCORPORATE BALANCING DAMPERS.
9. PROVIDE FLEXIBLE CONNECTORS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTORS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
10. PROVIDE FIRE DAMPERS WITH RATED ACCESS DOORS AT ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS, SMOKE AND FIRE STOPPING, SHAFT, FLOORS, RATED CEILINGS AND PARTITIONS AS REQUIRED TO MAINTAIN ARCHITECTURAL FIRE RATINGS. REFER TO THE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR LOCATIONS AND FIRE RATING REQUIREMENTS. CONTRACTOR MUST FULLY REVIEW ALL ARCHITECTURAL AND ENGINEERING DRAWINGS AND VISIT THE SITE PRIOR TO SUBMITTING THE BID. NO EXTRAS WILL BE ALLOWED.

1. ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED HVAC EQUIPMENT, VALVES AND OTHER RELATED EQUIPMENT. THE HVAC CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
2. ALL CEILING MOUNTED OR ABOVE CEILING MOUNTED EQUIPMENT MUST BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH COMBINATION SPRING AND NEOPRENE-IN-SHEAR HANGERS AND ROD. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT THE LOAD.
3. THE CONTRACTOR MUST CONTRACT AN INDEPENDENT CERTIFIED AIR BALANCING & TESTING COMPANY TO PERFORM THE AIR BALANCING WORK AND ASSOCIATED SYSTEM AIR BALANCING REPORT. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS, PLANS AND WRITTEN SPECIFICATIONS. SUBMIT THE FINAL AIR BALANCE REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, AS DETERMINED BY THE G.C. AND OWNER/CLIENT. THE AIR BALANCE REPORT MUST INCLUDE ALL SUPPLY, RETURN, & EXHAUST AIR TERMINALS, FRESH AIR (OUTSIDE AIR) INTAKE AND VENTILATION EXHAUST CFM RATES FOR ALL UNITS. ALSO INCLUDE ACTUAL SUPPLY & RETURN AIR VELOCITY & STATIC PRESSURE READINGS ALONG WITH ALL MOTOR AMPERAGES FOR ALL UNITS.
4. THE CONTRACTOR IS TO INCLUDE IN THEIR BID ALL LOW VOLTAGE CONTROL WIRING, THERMOSTATS, RELAYS, TRANSFORMERS, STARTERS ETC FOR A COMPLETE OPERATING CONTROL SYSTEM AS DESCRIBED IN THE SEQUENCE OF OPERATIONS. ALL CONTROL WIRING IN THE AREAS THAT DO NOT HAVE DROPPED CEILINGS THE CONTRACTOR MUST PROVIDE ALL CONTROL WIRING CONDUIT. IN AREAS OF DROPPED CEILING PLENUM RATED CONTROL WIRING CAN BE RUN EXPOSED ABOVE CEILING.
5. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.
6. MOUNTED DIRECTLY TO THE UNIT DRAIN PAN, AUXILIARY DRAIN PANS MAY ALSO BE SECURED BY THE MOUNTING HOLES TO FIELD SUPPORTS OR TO THE UNIT COIL UTILIZING PIPE HANGER WIRE, PLASTIC TIES, OR METAL STRAPPING.

MINI-SPLIT SYSTEM GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODES
2. ALL WORK SHALL MEET MINIMUM STANDARDS OF CONSTRUCTION AND WORKMANSHIP AS PER CALIFORNIA MECHANICAL CODE (2019), CALIFORNIA PLUMBING CODE, CALIFORNIA TITLE-24 STANDARDS, APPLICABLE NFPA REGULATIONS AND APPLICABLE ASHRAE STANDARDS
3. ALL CONDENSING UNITS (CU), INDOOR FAN COILS (FC) AND ASSOCIATED REFRIGERANT PIPING, CONTROL WIRING SHALL BE INSTALLED BY TRAINED AND CERTIFIED TECHNICIANS BY THE MANUFACTURER OF THOSE PRODUCTS.
4. MANUFACTURER TO PROVIDE FUSED DISCONNECT AND CONVENIENCE OUTLETS AT EACH CONDENSING UNIT.
5. MINIMUM INSULATION ON NEW DUCTS SHALL BE R-8. MINIMUM INSULATION LEVEL OF REFRIGERANT PIPING WILL BE HIGHER OF MANUFACTURER RECOMMENDED LEVEL AND THE LBUSD STANDARDS AND PROJECT SPECIFICATION.
6. MAIN DUCTS FROM NEW AC UNITS SHALL BE CONSTRUCTED OF SHEET METAL AS PER SMACNA STANDARDS. BRANCH DUCTS TO CEILING REGISTERS AND DIFFUSERS SHALL BE FLEXIBLE DUCTS.
7. CONSULT ARCHITECTURAL PLANS FOR FIRE RATED WALLS. DUCTS THAT WILL PENETRATE FIRE WALLS MUST HAVE FIRE AND SMOKE DAMPERS DAMPERS IN WALL AS PER CMC AND NFPA CERTIFIED FIRE DAMPERS.
8. PROVIDE PRIMARY AND SECONDARY CONDENSATE DRAIN CONNECTIONS TO FAN COIL UNITS AND TIE INTO SINKS IN BATHROOMS/CLASSROOMS.
9. INSTALL NEW FAN COIL UNITS AS PER PLAN AND STRUCTURAL DRAWINGS FOR SUPPORT FROM ROOF STRUCTURE.
10. REFER TO ARCHITECTURAL PLANS FOR NEW REFLECTED CEILING PLAN, LOCATION OF CEILING DIFFUSERS AND GRILLES.
11. MECHANICAL CONTRACTOR SHALL PROVIDE TITLE-24/DSA APPROVED THERMOSTAT FROM HVAC EQUIPMENT MANUFACTURER AND INSTALL AS PER PLANS.
12. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE THERMOSTAT FOR EACH AC UNIT.

DUCT SUPPORT LEGEND

TRANSFERSE AND LONGITUDINAL DUCT SUPPORT, FOR RECT. AND ROUND DUCTS.

DUCT TRANSVERSE BRACE FOR RECT. AND ROUND DUCTS.

N

1 FIRST FLOOR PLAN
1/8" = 1'-0"

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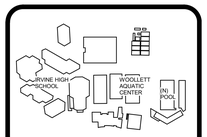

DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER REX DAVID WANG No. M 38155 Exp.09-30-2026 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

MECHANICAL FLOOR PLAN

M2.1

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MECHANICAL ROOF PLAN
M4.1
FOR BLUEBEAM LABELING/OCR:

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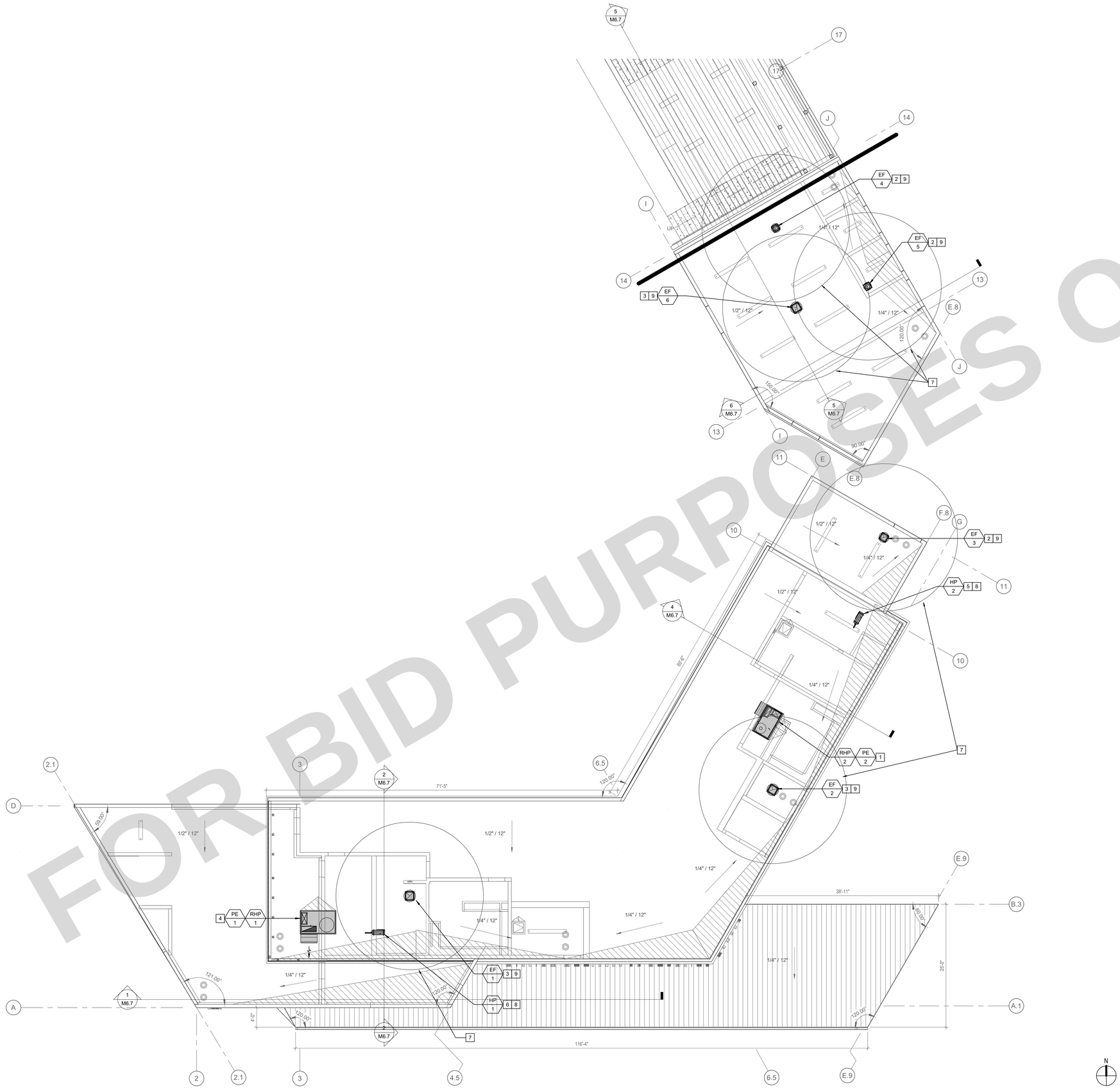
1"



KEY NOTES

1. 18" x 12" SA & 26" x 11" RA DUCT FLEX CONNECTIONS WITH SAME SIZE DUCT DROPS THRU ROOF.
2. 12" x 12" EA DUCT CONNECTION AND DROP THRU ROOF.
3. 16" x 16" EA DUCT CONNECTION AND DROP THRU ROOF.
4. 29" x 14" SA & 36" x 13" RA DUCT FLEX CONNECTIONS WITH SAME SIZE DUCT DROPS THRU ROOF.
5. REFRIGERANT PIPES DROP THRU ROOF, OFFSET IN ATTIC, DROP DOWN INSIDE WALL AND CONNECT TO AC UNIT. ONE LINE SHOWN FOR CLARITY ONLY.
6. REFRIGERANT PIPES DROP THRU ROOF OFFSET IN ATTIC AND CONNECT TO CEILING AC UNIT. ONE LINE SHOWN FOR CLARITY ONLY.
7. DASHED LINES DENOTES 10 FT. RADIUS FROM EXHAUST FAN.

   SEE DETAIL 6 / M6.2 FOR REFRIGERANT PIPING THRU ROOF.

   SEE DETAIL 11 / M6.1 FOR EXH FAN DUCT THRU ROOF.

FOR BID PURPOSES ONLY

1 ROOF PLAN
1/8" = 1'-0"

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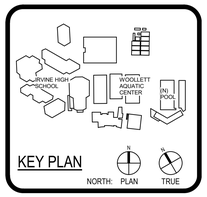
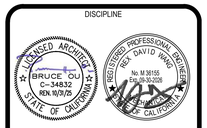
CITY OF IRVINE



DISCIPLINE



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CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date
1	DSA V1 Responses	Date 1

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

MECHANICAL ROOF PLAN

M4.1

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MECHANICAL SCHEDULES
M5.1
FOR BLUEBEAM LABELING/OCR:

PACKAGED ROOFTOP HEAT PUMP UNIT SCHEDULE

UNIT	MANUFACTURER & MODEL NO.	CFM	ESP (IN. WG)	TONS	TOTAL SENS. COOLING CAPACITY (MBH)	EDB TEMP. °F	EWB TEMP °F	LDB TEMP °F (UNIT)	LWB TEMP °F (UNIT)	ENT. COND. TEMP. (°F) SUMMER DB	SUMMER WB	WINTER DB/WB	EER/ SEER	IEER	HEATING CAPACITIES (MBH) TOTAL @ 47 F	TOTAL @ 17 F	COP/ COP2 HIGH TEMP.	COP/ COP2 LOW TEMP.	HSPF2	ELECTRIC HEAT (KW)	ELECTRICAL DATA W/O POWERED EXHAUST BHP	MCA	FUSE OR HACR BRKR OR MIN. OCP	DISCONNECT FLA	DISCONNECT LRA	MAX. OCP	O.S.A CFM	FILTER (INCHES) MERV 13	OPER. WT. (LBS.)	V/PHASE/HZ	REMARKS
RHP 1	CARRIER 50FEQM09A2Q6	4000	0.60	8.5	95.9	80.0	67.0	58.4	58.3	95	67	37	11.0/-	15.0	81.6	-	3.4 / -	2.25 / -	-	23	1.27	57.0	60	54	137	60	1620	(4) 20x20x2	1118	460/3/60	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13
RHP 2	CARRIER 50FEQA06A2Q6	2400	0.60	5.0	59.6	80.0	67.0	58.2	57.9	95	67	37	-/17.0	-	51.5	-	- /3.7	- / 2.2	6.7	10.6	0.95	32.0	35	30	77	35	1130	(4) 16x16x2	710	460/3/60	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13

NOTES:

1. SCHEDULED LOADS INCLUDE FAN AND MOTOR HEAT.
2. PROVIDE CRANKCASE HEATER, LOW AMBIENT KIT AND HIGH CAPACITY FILTER RACK WITH 4" MERV 13 FILTERS.
3. PROVIDE FACTORY "MICROMETL" MODULATING ECONOMIZER WITH POWER EXHAUST. RHP-1 UNIT SHALL PROVIDE DCV (C02 CONTROL).
4. PROVIDE AND INSTALL PER DETAIL 24 INCH VIBRATION ISOLATOR CURBS BY MICROMETL. CURB SHALL BE SLOPED TO MATCH THE ROOF SLOPE.
5. BYPASS UNIT ANTI-RECYCLE TIMER WHEN ANTI-RECYCLE FUNCTION IS INCLUDED IN THE THERMOSTAT.
6. OVERALL SMOKE DETECTION SYSTEM PROVIDED BY ELECTRICAL FOR ALL UNITS 2000 CFM OR OVER TO SHUT-OFF UPON DETECTION OF SMOKE AND SIGNAL THE FIRE ALARM SYSTEM. INSTALL IN STRICT ACCORDANCE WITH THE 2022 CALIFORNIA MECHANICAL CODE, SECTION 609. REFER TO ELECTRICAL, FIRE ALARM AND MECHANICAL SHEETS. PRIOR TO MECHANICAL PERMIT FINAL, A SMOKE DETECTOR SYSTEM SHUT-OFF TEST WILL BE REQUIRED.
7. PROVIDE ROOFTOP UNIT WITH FACTORY MOUNTED NON-FUSED DISCONNECT SWITCH AND NON POWERED CONVENIENCE OUTLET. POWER EXHAUST SHALL BE PROVIDED WITH A SEPARATE NON-FUSED DISCONNECT SWITCH, FIELD WIRED BY ELECTRICAL.

NOTES: (CONT'D)

8. PROVIDE T-24 COMPLIANT INTERNET PROGRAMMABLE THERMOSTAT "NT" MODEL 241003-000 WITH DEMAND CONTROL VENTILATION (DCV), C02 SENSORS.
9. UNITS SHALL HAVE DUCT FLEX CONNECTIONS INSTALLED WITHIN ROOF CURB.

POWER EXHAUSTER / ECONOMIZER SCHEDULE

UNIT	POWER EXHAUST /ECONOMIZER MAKE & MODEL	POWER EXHAUST CFM	HP	FLA	MCA	MOCP	V/PHASE/HZ	PWR. EXH./ ECON. OPER. WT. (LBS)	ROOF CURB WEIGHT (LBS) 24" HIGH	ROOF CURB MAKE & MODEL	TOTAL WEIGHT (RTU, CURB, ECONOMIZER & POWER RELIEF FAN) (LBS)	REMARKS	STRUCTURAL ANCHORAGE DETAILS
PE 1	MICROMETL PECH-SRT12CB-D0DB-4L1-4	3200	1.0	2.8	3.5	6.3	460/3/60	313	469	MICROMETL CRBV-SRT34HA-14	1900		4 M6.1 / 2 M6.3 / 5 M6.3
PE 2	MICROMETL PECH-SRT12CB-D0DB-4L1-4	1850	0.5	1.5	1.9	3.4	460/3/60	225	365	MICROMETL CRBV-SRT12HA-14	1300		4 M6.1 / 2 M6.3 / 5 M6.3

EXHAUST FAN SCHEDULE

UNIT	MANUFACTURER & MODEL NO.	SERVICE	TYPE	CFM	SP IN W.G.	FAN RPM	MOTOR HP/ BHP	MOTOR MCA	MOCP	VOLT	PH	HZ	SONES INLET	OPER WT. (LBS)	REMARKS	STRUCTURAL ANCHORAGE DETAIL (S)
EF 1	GREENHECK G-140-VG	RM. 03, 06, 07 & 09	ROOF EXHAUST FAN	1320	0.40	960	0.5/0.18	8.0	15	120	1	60	7.3	90		7 M6.1 / 11 M6.1 / 4 S4.7
EF 2	GREENHECK G-140-VG	RM. 10, 11, 12 & 13	ROOF EXHAUST FAN	1230	0.40	929	0.5/0.17	8.0	15	120	1	60	6.9	90		7 M6.1 / 11 M6.1 / 4 S4.7
EF 3	GREENHECK G-099-VG	PUMP RM. 15	ROOF EXHAUST FAN	800	0.40	1372	0.25/0.13	4.0	15	120	1	60	9.3	70		7 M6.1 / 11 M6.1 / 4 S4.7
EF 4	GREENHECK G-080-VG	STORAGE RM. 20	ROOF EXHAUST FAN	400	0.20	1543	0.1/0.05	2.0	15	120	1	60	7.2	60		7 M6.1 / 11 M6.1 / 4 S4.7
EF 5	GREENHECK G-099-VG	RM 17,18 & 19	ROOF EXHAUST FAN	600	0.40	1173	0.25/0.08	4.0	15	120	1	60	7.4	70		7 M6.1 / 11 M6.1 / 4 S4.7
EF 6	GREENHECK G-140-VG	PUMP RM. 16	ROOF EXHAUST FAN	1600	0.40	1206	0.5/0.25	8.0	15	120	1	60	8.8	90		7 M6.1 / 11 M6.1 / 4 S4.7

NOTES:
1. PROVIDE 14" HIGH FACTORY ROOF CURBS.
2. FANS HAVE VARI-GREEN ECM MOTORS WITH DIAL ON MOTOR FOR BALANCING.
3. DISCONNECT SWITCH, FACTORY MOUNTED.
4. BIRDSCREEN
5. BACKDRAFT DAMPER, GRAVITY OPERATED
6. CONNECT TO EMS. REFER TO CONTROL SEQUENCES.
7. EF-3 THRU 6 SHALL RUN 24/7 PROVIDE AN ALARM TO SIGNAL IF THE FAN QUITS RUNNING. ALARM SHALL BE CONNECTED TO THE EMCS.
8. CONTROLLED BY DDC BASED ON EMCS TEMPERATURE SENSOR TIED
9. EF-1 & 2 SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.

AIR DISTRIBUTION SCHEDULE

SYMBOL	TYPE	MOUNTING TYPE	MAKE & MODEL	DESCRIPTION
A	CEILING SUPPLY	T-BAR OR SURFACE MOUNT	PRICE MODEL ASPD	SQUARE PLAQUE DIFFUSER. T-BAR OR SURFACE MOUNTING. 24" x 24" OVERALL SIZE, ALUMINUM
B	CEILING SUPPLY	SURFACE MOUNT	PRICE MODEL SMCD	SQUARE MODULAR CORE DIFFUSER WITH FRAME FOR SURFACE MOUNTING IN HARD CEILING, ALUMINUM
C	CEILING RETURN OR EXHAUST	T-BAR MOUNT	PRICE MODEL F80	EGGCRATE RETURN OR EXHAUST GRILLE WITH PAINTED FLAT BLACK BACK PAN..
D	CEILING RETURN OR EXHAUST	SURFACE MOUNT	PRICE MODEL 535L	LOUVERED RETURN OR EXHAUST GRILLE WITH FIXED BLADES AT 45 DEGREES, 1/2" BLADE SPACING, TRIM FOR SURFACE MOUNTING. BLADES TO EXTEND OVER ENTIRE FACE AREA OF GRILLE REGARDLESS OF CONNECTION SIZE.
E	EXHAUST OR RETURN	SIDEWALL SURFACE MOUNT	PRICE MODEL 535L	LOUVERED RETURN OR EXHAUST GRILLE WITH FIXED BLADES AT 45 DEGREES, 1/2" BLADE SPACING, TRIM FOR SURFACE MOUNTING, FRONT BLADES PARALLEL TO FLOOR IN VERTICAL APPLICATIONS.
F	TRANSFER	DOOR LOUVER	PRICE MODEL STG	SIGHTPROOF HEAVY DUTY DOOR LOUVER WITH LG100, 1" x 1" SQUARE HOLE 14 GA. LATTICE COVER OVER EACH SIDE.

NOTES:
1. REFER TO THE FLOOR PLANS FOR NECK SIZE, CFM, AIR DIFFUSION PATTERN AND FIRE/DAMPER, IF REQUIRED.
2. PROVIDE RADIAL OPPOSED BLADE DAMPERS FOR ALL CEILING SUPPLY DIFFUSERS.
3. ARCHITECT TO SELECT COLOR ON SUBMITTALS.

INDOOR FAN COIL UNIT SCHEDULE

UNIT NO.	MANUFACTURER AND MODEL NO.	CAPACITY (MBH) COOLING MBH	CAPACITY (MBH) HEATING MBH	SUPPLY FAN CFM (3 SPEEDS)	SUPPLY FAN OPERATING CFM	SUPPLY FAN E.S.P.	ELECTRICAL VOLTAGE	ELECTRICAL FLA	ELECTRICAL UNIT MCA	OPER. WT. (LBS.)	REMARKS	STRUCTURAL ANCHORAGE DETAIL (S)
AC 1	CARRIER RAV-HB181UTP-UL	18.0	20.0	470 / 540 / 670	540	NA	208-230V / 1Ø / 60HZ	NA	0.2	50	1, 2, 3, 4, 5	3 M6.1
AC 2	CARRIER RAV-HB361KRTP-UL	36.0	36.0	735 / 910 / 970	910	NA	208-230V / 1Ø / 60HZ	NA	0.4	50	1, 2, 3, 4, 5	8 M6.2

NOTES:
1. PROVIDE WITH FACTORY FURNISHED & INSTALLED CONDENSATE DRAIN LIFT PUMP (CONDENSATE PUMP SHALL BE POWERED THRU INDOOR FAN COIL UNIT).
2. SIZE REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS.
3. CONNECT TO EMS FOR CONTROLS.
4. FAN COIL UNIT IS POWERED THRU OUTDOOR UNIT.
5. AC-1 IS CEILING CASSETTE AND AC-2 IS WALL MOUNTED DUCTLESS FAN COIL UNIT.

OUTDOOR HEAT PUMP SCHEDULE

UNIT NO.	MANUFACTURER AND MODEL NO.	COOLING CAP. (MBH) COOLING	COOLING CAP. (MBH) HEATING	AMB.°F	SEER2/ E.E.R.2	HSPF2/ COP	ELECTRICAL COMPRESSOR NO. OF	COMPRESSOR RLA	OUTDOOR FAN NO. OF	OUTDOOR FAN FLA	MCA	MOCP	VOLTAGE	OPER WT. (LBS)	REMARKS	STRUCTURAL ANCHORAGE DETAIL (S)
HP 1	CARRIER RAV-BP181AT2P-UL	18.0	20.0	95.0	25.5 / 13.6	11.3 / 13.6	1	-	1	-	14	25	208V / 1Ø / 60HZ	90	1, 2, 3, 4, 5, 6	8 M6.1 / 1 M6.2
HP 2	CARRIER RAV-BP361AT2P-UL	36.0	40.0	95.0	22.4 / 11.7	11.3 / 10.0	1	-	1	-	30	40	208V / 1Ø / 60HZ	220	1, 2, 3, 4, 5, 6	8 M6.1 / 1 M6.2

NOTES:
1. PROVIDE CRANKCASE HEATER, HIGH & LOW PRESSURE SWITCHES.
2. PROVIDE LOW AMBIENT KIT.
3. PROVIDE MINIMUM CLEARANCE AROUND EACH UNIT PER THE MANUFACTURER'S RECOMMENDATIONS.
4. SIZE REFRIGERANT LINES PER MANUFACTURERS RECOMMENDATIONS. PROVIDE LONG LINE KIT IF REQUIRED.
5. UNITS ARE R-454B REFRIGERANT.
6. LOCK OUT HEATING FUNCTION FOR HP-2.

ENERGY RECOVERY VENT. SCHEDULE

NUMBER	ERV-1
NUMBER	SEE PLAN
VOLTS / PHASE	115 / 1
HP (OA FAN / EA FAN)	39 WATTS
BHP (OA FAN / EA FAN)	-
EFF. (OA / EA)	66 / 66
MCA / MAX. OCP.	0.2 / 15
CFM (OA / EA)	50 / 50
ESP (IN. WC)	0.1 / 0.1
FILTER SIZE (IN.)	-
FILTER TYPE	WASHABLE
ACCESSORIES	SEE NOTES
OPER. WT. (LBS)	20
MANUFACTURER	PANASONIC
MODEL	FV-06VE1

NOTES:
1. PROVIDE FACTORY OA AND EXH. AIR FILTERS.
2. THE PANASONIC ERV IS A CEILING MOUNT UNIT.
3. ERVS SHALL BE SET TO RUN CONTINUOUS DURING OCCUPIED HOURS.

FOR BID PURPOSES ONLY

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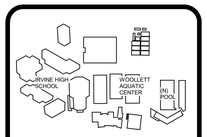

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date
1	DSA V1 Responses	Date 1

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

MECHANICAL SCHEDULES

M5.1

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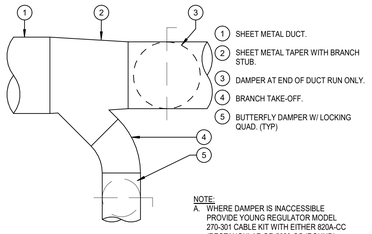
MECHANICAL DETAILS
M6.1
FOR BLUEBEAM LABELING/OCR:

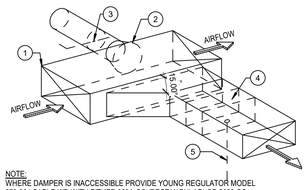
0"
1"



1. SHEET METAL DUCT.
2. SHEET METAL TAPER WITH BRANCH STUB.
3. DAMPER AT END OF DUCT RUN ONLY.
4. BRANCH TAKE-OFF.
5. BUTTERFLY DAMPER W/ LOCKING QUAD. (TYP)

NOTE:
A. WHERE DAMPER IS INACCESSIBLE PROVIDE YOUNG REGULATOR MODEL 270-301 CABLE KIT WITH EITHER 820A-CC (RECTANGULAR OR 5020-CC (ROUND) DAMPER.
B. PROVIDE DAMPER WITH LOCKING QUADRANT AT ALL SINGLE RUNOUTS.

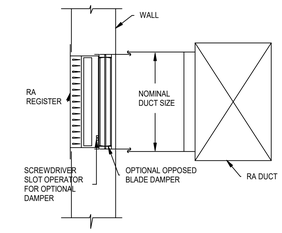
13 BRANCH DUCT DAMPER DETAIL.
NOT TO SCALE



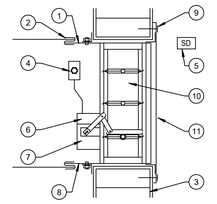
NOTE:
WHERE DAMPER IS INACCESSIBLE PROVIDE YOUNG REGULATOR MODEL 270-301 CABLE KIT WITH EITHER 830A-CC (RECTANGULAR) OR 5020-CC (ROUND) DAMPER.

1. RECTANGULAR GALVANIZED SHEET METAL SUPPLY AIR DUCT - SEE MECHANICAL PLAN FOR SIZE.
2. CUT OPENING ACCURATELY FOR SPIN IN (FLARED) FITTING - WHERE POSSIBLE.
3. BUTTERFLY DAMPER W/ LOCKING QUADRANT (TYP).
4. VOLUME CONTROL DAMPER WITH LOCKING QUADRANT.
5. DAMPER REGULATOR.

9 BRANCH DUCT TAKE-OFF & DMP. DETAIL.
NOT TO SCALE



5 ERV
NOT TO SCALE



DAMPER CSFM LISTING NO: 3235-0245:0124

DETAIL NOTES:

1. SLEEVE TO EXTEND 3" BEYOND WALL.
2. DUCT TO SLEEVE CONNECTION (S-LOCK).
3. CMU FIRE RATED WALL, SEE ARCHITECTURAL DWGS.
4. EFL, ELECTRIC RESET LINK, REST ON OUTSIDE OF DMP.
5. AREA SMOKE DETECTOR SHALL BE FURNISHED AND CONNECTED BY ELECTRICAL CONTRACTOR. OVERALL DETECTION SYSTEM SHALL CONTROL DAMPERS, SEE ELECTRICAL DRAWINGS.
6. JUNCTION BOX.
7. 120 VOLT ELECTRIC ACTUATOR.
8. 16 GA. ANGLE FRAME, WELDED BOLTED OR SCREWED TO ALL FOUR SIDES OF SLEEVE. ANGLE FRAME NOT LESS THAN 1-1/2" ANGLE . NET OPENING IN FRAMED WALLS SHALL EXCEED NET O.D. OF THE DAMPER ASSEMBLY BY 1/8" FOR EACH FOOT OF WIDTH AND HEIGHT OF DAMPER ASSEMBLY. USE S/M SCREWS OR FASTENERS AS REQUIRED TO SECURE ASSEMBLY.
9. STANDARD REGISTER SCREW INTO STEEL FRAMING MEMBER.
10. 1-1/2 HOUR FIRE/SMOKE DAMPER SHALL BE U.L. 555 LISTED FOR FIRE AND U.L. 555S LEAKAGE RATED FOR NO LESS THAN CLASS II. RUSKIN MODEL FSD36 WITH FACTORY G-STYLE ENCLOSURE FOR SQUARE OR RECTANGULAR DUCTS. PROVIDE W/ RELAYS AS REQUIRED BY SMOKE DETECTORS. PROVIDE SP100 DUAL POSITION INDICATOR SWITCH, TS150 FIRESTAT AND MP10 REMOTE PANEL.
11. REGISTER OR GRILLE, SEE MECHANICAL PLAN.

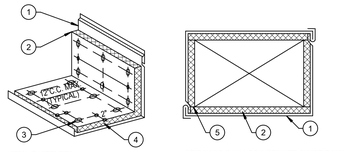
NOTES:

1. FIRE DAMPER & INSTALLATION TO BE IN ACCORDANCE WITH CALIFORNIA STATE FIRE MARSHAL # LISTED ABOVE.
2. FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED & INSTALLED STRICTLY PER MFG'S PRINTED INSTRUCTIONS.
3. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTION AUTHORITIES.
4. AREA SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS.
5. FIRE DAMPER DETAIL FOR REFERENCE ONLY.

1 COMBINATION FIRE/SMOKE DAMPER DETAIL (STEEL STUD WALL)
NOT TO SCALE

NOTES:

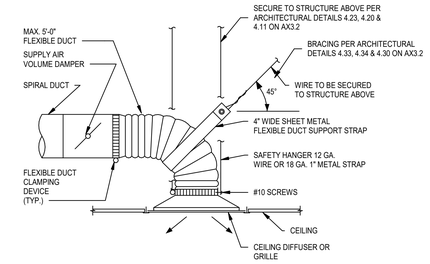
1. GALVANIZED SHEET METAL DUCT.
2. 2" THICK ACOUSTIC DUCT LINER, LINER TO BE ADHERED TO DUCT WITH 100% ADHESIVE. (MIRACLE PF96)
3. NOT MORE THAN 2" FROM EDGE OF DUCT LINER.
4. ALL ENDS OF LINER TO BE COATED WITH ADHESIVE. (MIRACLE PF96) ENDS OF LINER SHALL BE BUTTED FIRMLY TOGETHER.
5. TOP AND BOTTOM SECTIONS OF LINER SHALL OVERLAP THE SIDES.



METAL FASTENERS:
OMARK INSUL-PINS.
DURA DYNE FASTENERS OR GRIP NAILS.

GRIP NAILS SHALL BE INSTALLED BY "GRIP-NAIL AIR HAMMER" OR BY AUTOMATIC FASTENER EQUIPMENT.

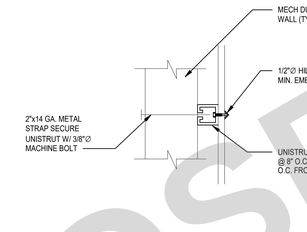
14 ACOUSTIC LINED DUCTS DETAIL
NOT TO SCALE



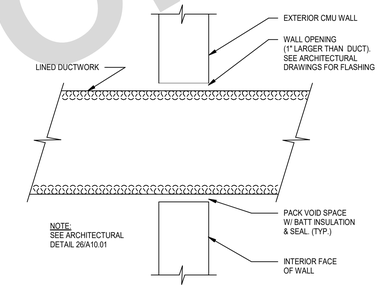
NOTES:

1. REFER TO DETAIL #12 ON M6.1 FOR FLEXIBLE DUCTWORK DETAIL.
2. LOCATE VOLUME DAMPER AS FAR AWAY FROM DIFFUSER OR GRILLE AS POSSIBLE.

10 LAY IN DIFFUSER CONNECTION DETAIL
NOT TO SCALE

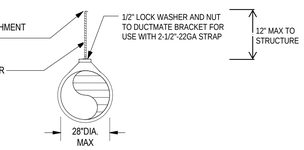


6 DUCT SUPPORT ON CMU WALL DETAIL
NOT TO SCALE



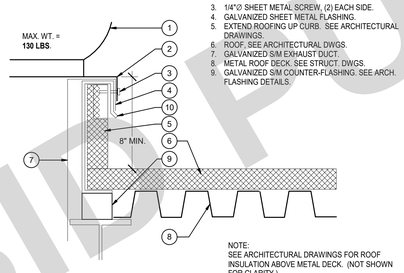
NOTE:
SEE ARCHITECTURAL DETAIL 26/A10.01

2 DUCT WALL PENETRATION DETAIL
NOT TO SCALE



NOTES:
1. HANGERS SHALL BE INSTALLED AT EVERY CHANGE OF DIRECTION AND NO MORE THAN 5'-0" APART.
2. REFER TO SHEET M6.4 FOR UPPER ATTACHMENT DETAILS.
3. THE DUCT IS SUPPORTED BY INDIVIDUAL ROD HANGERS 1/2 IN IN DIAMETER, AND EACH HANGER IN THE DUCT RUN IS 12 IN OR LESS IN LENGTH FROM THE DUCT SUPPORT POINT TO THE CONNECTION AT THE SUPPORTING STRUCTURE, AND THE TOTAL WEIGHT SUPPORTED BY ANY SINGLE ROD IS 50 LBS.
4. MAXIMUM 6 SQFT DUCTWORK

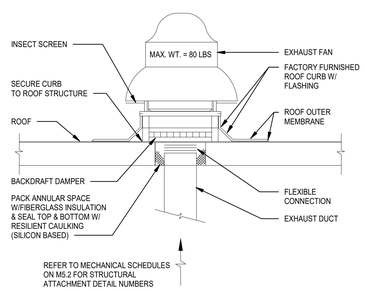
15 ROUND DUCT SUPPORT (NON SEISMIC) WITHIN 12" FROM STRUCTURE
NOT TO SCALE



1. ROOF MOUNTED EXHAUST FAN / RELIEF HOOD.
2. EXHAUST FAN BASE.
3. 1/4"Ø SHEET METAL SCREW, (2) EACH SIDE.
4. GALVANIZED SHEET METAL FLASHING.
5. EXTEND ROOFING UP CURB. SEE ARCHITECTURAL DRAWINGS.
6. ROOF, SEE ARCHITECTURAL DWGS.
7. GALVANIZED S/M EXHAUST DUCT.
8. METAL ROOF DECK, SEE STRUCT. DWGS.
9. GALVANIZED S/M COUNTER-FLASHING. SEE ARCH. FLASHING DETAILS.

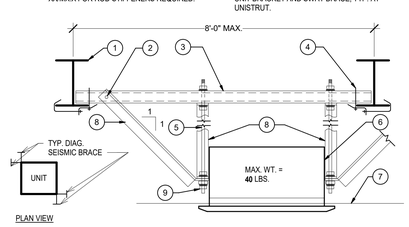
NOTE:
SEE ARCHITECTURAL DRAWINGS FOR ROOF INSULATION ABOVE METAL DECK. (NOT SHOWN FOR CLARITY.)

11 EXHAUST FAN - RELIEF HOOD MOUNTING
NOT TO SCALE

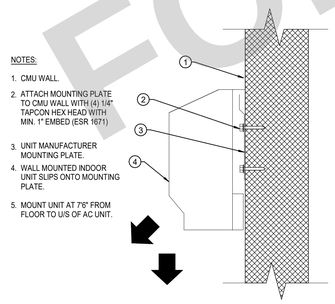


7 ROOF MOUNTED EXHAUST FAN DETAIL.
NOT TO SCALE

1. STRUCTURAL BEAM - SEE STRUCT. DRAWINGS.
2. 3/8"Ø BOLT WITH WASHER AND NUT.
3. L1-5/8"x1-5/8"x12GA. P-1000 UNI-STRUT C-CHANNEL. (TYP.)
4. B-LINE B769-2/2 BEAM CLAMP (TYP.).
5. 3/8"Ø THREADED ROD, (1) EACH CORNER. SEE XX/MX.X FOR ROD STIFFENERS REQUIRED.
6. CEILING SUSPENDED IDU. SEE MECH. SCHEDULE FOR MAKE & MODEL.
7. FINISHED CEILING.
8. 2x2x1/8 DIAG. BRACE. (TYPICAL OF 4) ONE IN EA. DIRECTION. MAX. LENGTH OF 5'-0".
9. 3/8"Ø LOCK WASHER AND NUT ON EACH SIDE OF UNIT BRACKET AND SWAY BRACE, TYP. AT UNISTRUT.



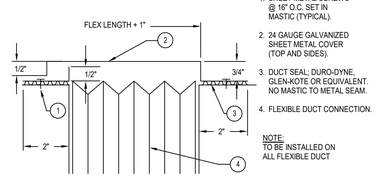
3 CEILING CASSETTE UNIT
NOT TO SCALE



NOTES:

1. CMU WALL.
2. ATTACH MOUNTING PLATE TO CMU WALL WITH (4) 1/4" TAPCON HEX HEAD WITH MIN. 1" EMBED (ESR 1671)
3. UNIT MANUFACTURER MOUNTING PLATE.
4. WALL MOUNTED INDOOR UNIT SLIPS ONTO MOUNTING PLATE.
5. MOUNT UNIT AT 7'6" FROM FLOOR TO U/S OF AC UNIT.

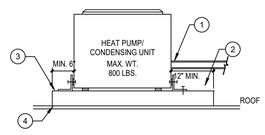
16 WALL MOUNT AC UNIT (CMU WALLS)
NOT TO SCALE



1. SHEET METAL SCREWS @ 16" O.C. SET IN MASTIC (TYPICAL).
2. 24 GAUGE GALVANIZED SHEET METAL COVER (TOP AND SIDES).
3. DUCT SEAL; DURO-DYNE, GLEN-KOTE OR EQUIVALENT. NO MASTIC TO METAL SEAM.
4. FLEXIBLE DUCT CONNECTION.

NOTE:
TO BE INSTALLED ON ALL FLEXIBLE DUCT

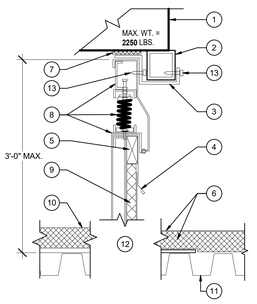
12 FLEX CONNECTOR DETAIL.
NOT TO SCALE



NOTES:

1. INSULATED REFRIGERANT PIPES THRU ROOF. REFER TO DETAIL 6 ON M6.2
2. PROVIDE GRADULATED STEP BOOT WITH STAINLESS STEEL CLAMPS BY THE PATE COMPANY.
3. HEAT PUMP/CONDENSING UNIT'S PLATFORM WITH NEOPRENE PAD.
4. ROOF CURB SEE DETAIL 1 / S4.7

8 HP/CU ROOF MOUNTING DETAIL
NOT TO SCALE



1. AC UNIT.
2. UNIT BASE RAIL. SEE MANUFACTURER'S CUT SHEET.
3. MANUFACTURER'S HOLD DOWN S-CLIP. 14 GA. GALVANIZED STEEL. SEE AC DETAIL 2 & 4 ON SHEET **M6.3**.
4. GALVANIZED S/M COUNTER-FLASHING. SEE ARCH. FLASHING DETAILS.
5. 2x4 FULL PERIMETER WOOD FRT NAILER.
6. ROOF & RIGID INSULATION.
7. 2"x1/4" CONTINUOUS DENSE NEOPRENE SPONGE GASKET.
8. 2" MIN. DEFLECTION. SPRING ISOLATION ROOF CURB WITH CALDYN CQA ISOLATORS. MICROMETL AS LISTED ON AC SCHED. CALDYN CQA ISOLATORS (OSHPD OPM-0401).
9. 1-1/2" RIGID INSULATION COMPATIBLE WITH ROOFING.
10. MINIMUM R-19 RIGID INSULATION.
11. METAL ROOF DECK.
12. SEE STRUCT DETAIL **1/S4.7**.
13. SECURE TO ROOF DECK PER STEEL ATTACHMENT SUB-DETAILS IN DETAIL 2 & 4 ON M6.3

4 AC ISO CURB MOUNTING
NOT TO SCALE

FOR BID PURPOSES ONLY

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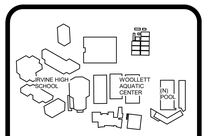


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date
1	DSA V1 Responses	Date 1

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

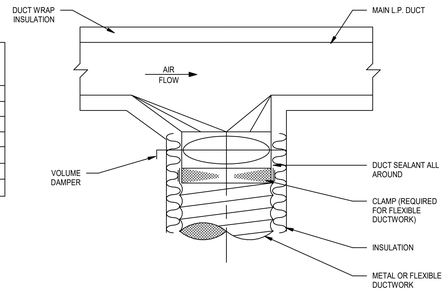
MECHANICAL DETAILS

M6.1

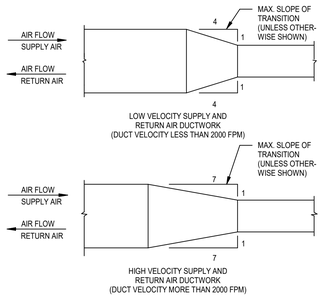
0"
1"

MECHANICAL DETAILS
M6.2
FOR BLUEBEAM LABELING/OCR:

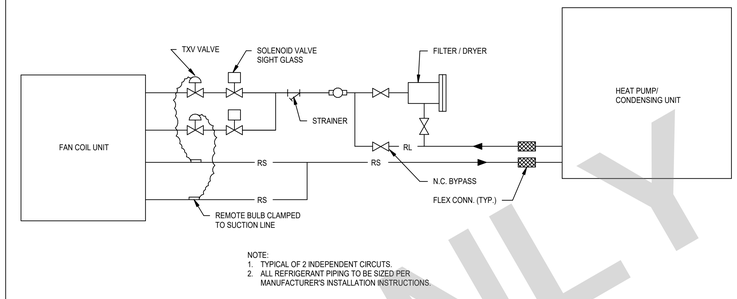
ROUND DUCT SIZE	BUCKLEY TAKE-OFF SIZE	MINIMUM MAIN DUCT DEPTH
6"	6"X12"	8"
8"	6"X12"	8"
9"	6"X14"	8"
10"	6 1/2" X16"	8 1/2"
12"	7 3/4"X18"	9 3/4"
14"	9"X20"	11"
16"	10"X20"	12"



7 RECTANGULAR TO ROUND TRANSITION TAKE-OFF DETAIL
NOT TO SCALE

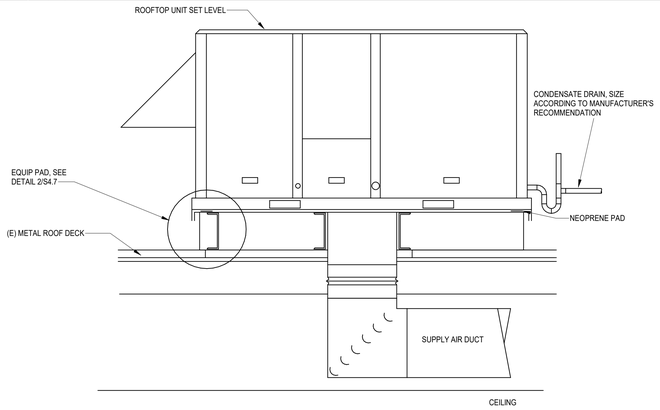


4 RECTANGULAR DUCT TRANSITION DETAIL
NOT TO SCALE

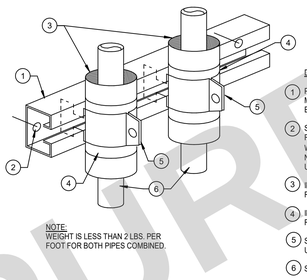


NOTE:
1. TYPICAL OF 2 INDEPENDENT CIRCUITS.
2. ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

1 REFRIGERANT PIPING SCHEMATIC DETAIL
NOT TO SCALE



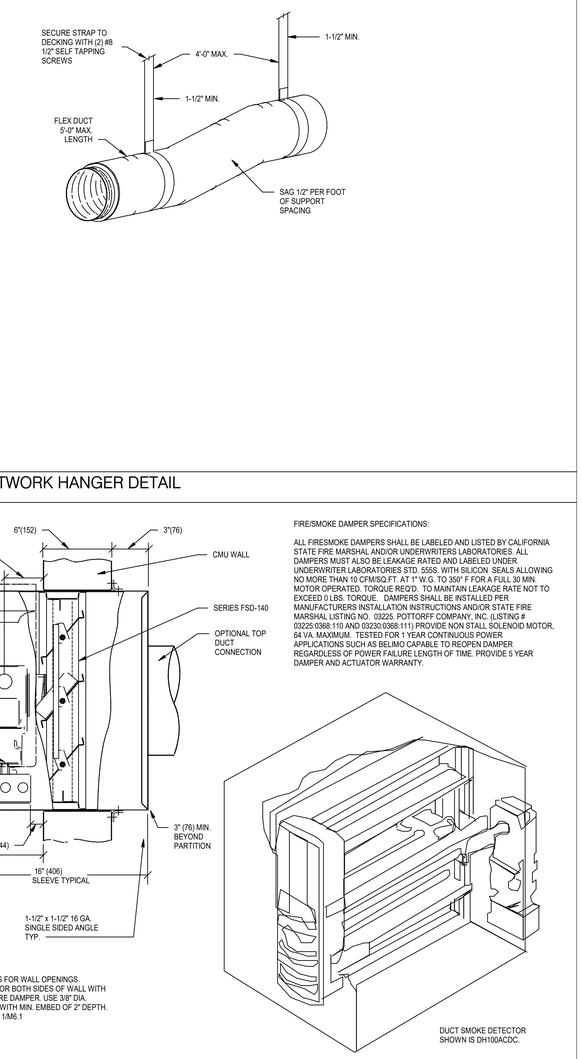
9 ROOF TOP UNIT DETAIL
NOT TO SCALE



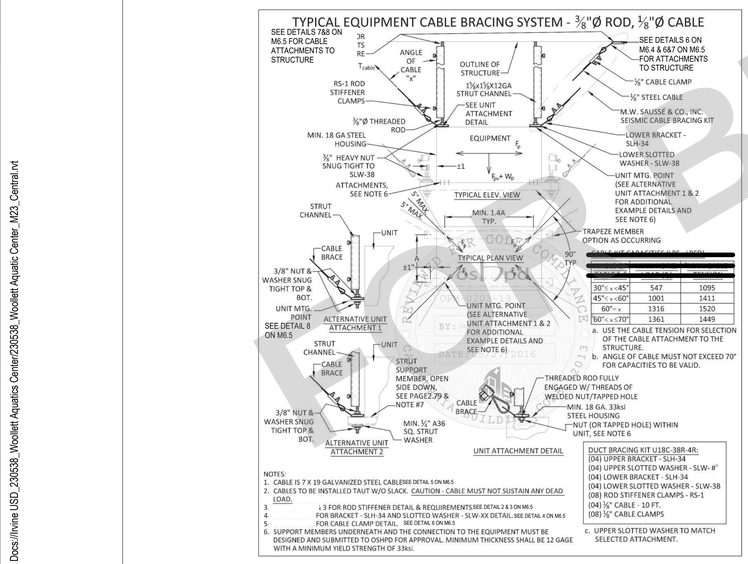
NOTE:
WEIGHT IS LESS THAN 2 LBS. PER FOOT FOR BOTH PIPES COMBINED.

DETAIL NOTES:
1. P1000 UNISTRUT CHANNEL AT 6'-0" MAX. SPACING AND 12" FROM EACH END. (LENGTH AS REQ'D).
2. SECURE EACH END TO METAL DECK ROOF W/ (2) #10 SMS OR CONC. FLOOR WITH 3/8"∅ TITAN HD ANCHOR W/ 2-1/2" NOMINAL EMBEDMENT. (2) PER UNISTRUT (ICC ESR-2713).
3. INSULATION (OMIT WHEN NOT REQUIRED).
4. INSULATION SHIELD (OMIT WHEN NOT REQUIRED).
5. SECURE PIPING TO SUPPORT WITH UNISTRUT P1100 PIPE CLAMP.
6. SEE PLAN FOR TYPE OF PIPING.

5 PIPE SUPPORT DETAIL (TYPICAL FOR HORIZ. OR VERT.)
NOT TO SCALE

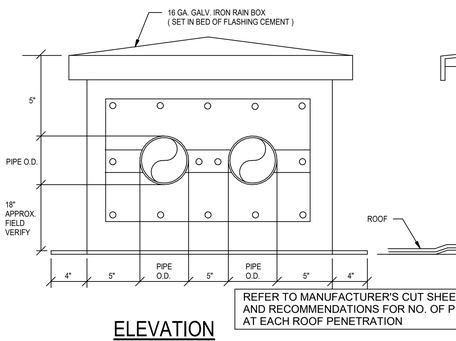


2 FLEXIBLE DUCTWORK HANGER DETAIL
NOT TO SCALE



NOTE: CASSETTE WEIGHTS LESS THAN 100 POUNDS.

8 CEILING CASSETTE CABLE BRACING SYSTEM - 3/8" ROD, 1/8" CABLE
NOT TO SCALE



6 REFRIGERANT PIPE PENETRATION THROUGH ROOF DETAIL ..
NOT TO SCALE

NOTE:
SEE STRUCTURAL DRAWINGS FOR WALL OPENINGS. FABRICATE STEEL COVERS FOR BOTH SIDES OF WALL WITH OPENINGS FOR DUCT AND FIRE DAMPER. USE 3/8" DIA. SIMPSON TITEN HD SCREWS WITH MIN. EMBED OF 2" DEPTH. ALSO APPLICABLE TO DETAIL 1/M6.1

3 COMBINATION FIRE SMOKE DAMPER DETAIL
NOT TO SCALE

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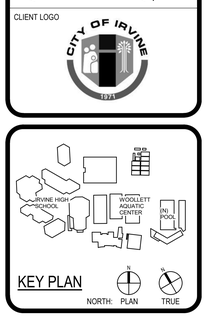

DISCIPLINE

LICENSED ARCHITECT
BRUCE OI
C-34832
EXP. 08/31/2026
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
ED DAVID WONG
No. M 36155
EXP. 08/31/2026
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date
1	DSA V1 Responses	Date 1

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

MECHANICAL DETAILS

M6.2

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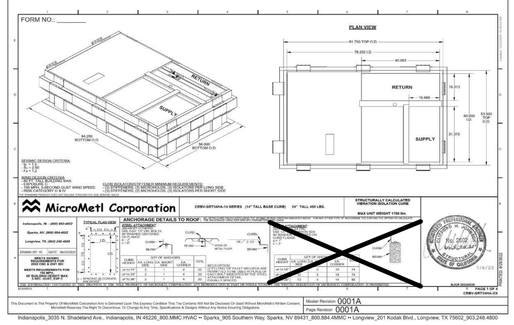
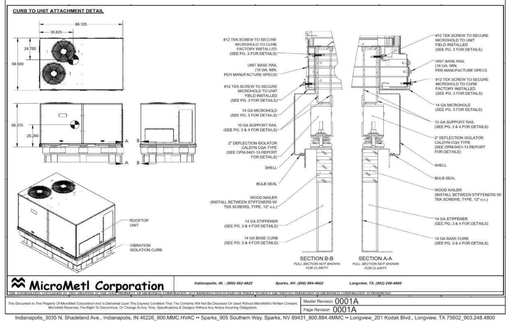
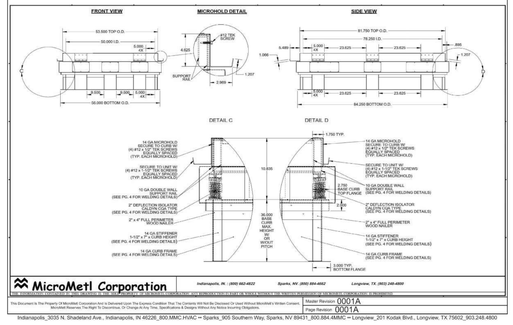
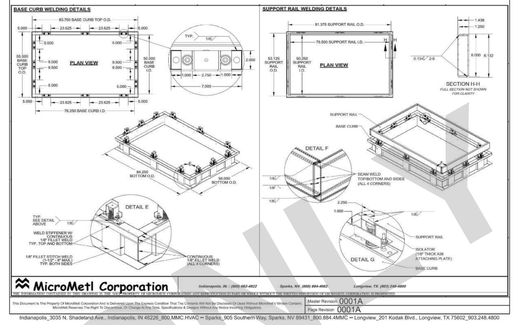
MECHANICAL DETAILS
M6.3
FOR BLUEBEAM LABELING/OCR:

0"
1"



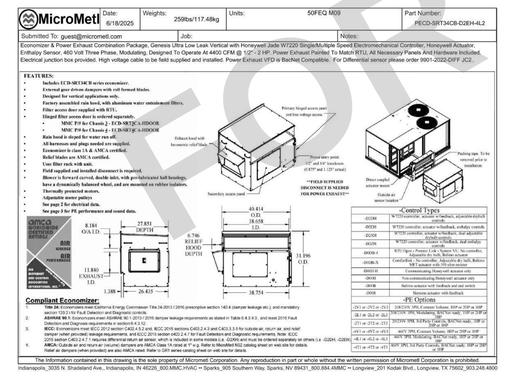




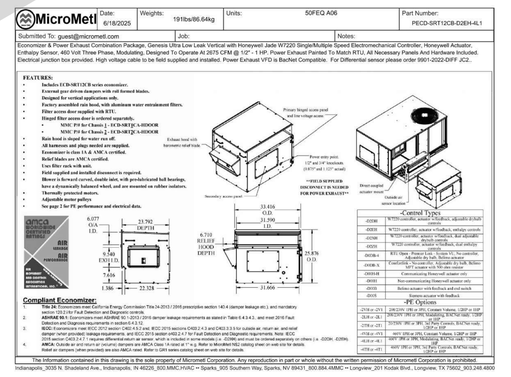


2 ROOFTOP HEAT PUMP CURB DETAIL - RHP-1

4 ROOFTOP HEAT PUMP CURB DETAIL - RHP-2



3 ROOFTOP HEAT PUMP ECONOMIZER & POWER EXHAUST



5 ROOFTOP HEAT PUMP ECONOMIZER & POWER EXHAUST

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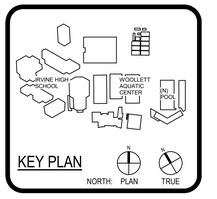


DISCIPLINE
LICENSED ARCHITECT
BRUCE OU
C-34532
REN.10/31/25
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
No. M 36155
Exp. 06/30/2026
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 08/07/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date
1	DSA V1 Responses	Date 1

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

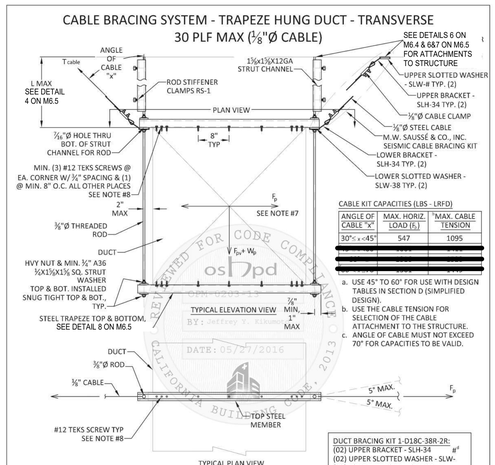
MECHANICAL DETAILS

M6.3

MECHANICAL DETAILS
M6.4
FOR BLUEBEAM LABELING/OCR:

0"
1"

CABLE BRACING SYSTEM - TRAPEZE HUNG DUCT - TRANSVERSE 30 PLF MAX (⅛"Ø CABLE)



CABLE KIT CAPACITIES (LBS - LRFD)

ANGLE OF CABLE "x"	MAX. HORIZ. LOAD (F_x)	MAX. CABLE TENSION
30°≤ x <45°	547	1095

a. USE 45° TO 60° FOR USE WITH DESIGN TABLES IN SECTION D (SIMPLIFIED DESIGN).
b. USE THE CABLE TENSION FOR SELECTION OF THE CABLE ATTACHMENT TO THE STRUCTURE.
c. ANGLE OF CABLE MUST NOT EXCEED 70° FOR CAPACITIES TO BE VALID.

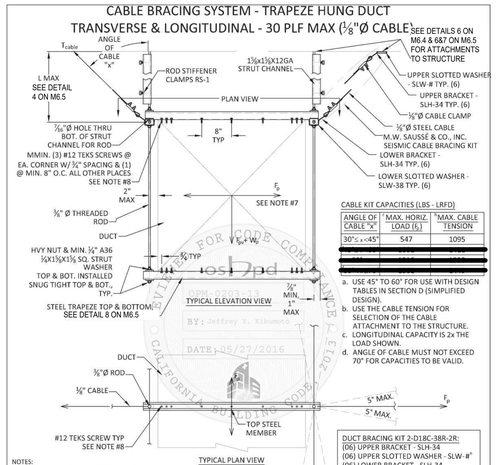
DUCT BRACING KIT 1-D18C-38R-2R:
(02) UPPER BRACKET - SLH-34
(02) UPPER SLOTTED WASHER - SLW-#"
(02) LOWER BRACKET - SLH-34
(02) LOWER SLOTTED WASHER - SLW-38
(04) ROD STIFFENER CLAMPS - RS-1
(02) ¾" CABLE - 10 FT.
(04) ⅜" CABLE CLAMPS

d. UPPER SLOTTED WASHER TO MATCH SELECTED ATTACHMENT.

NOTES:
1. CABLE IS 7 X 19 GALVANIZED STEEL CABLE. SEE DETAIL 5 ON M6.5
2. CABLES TO BE INSTALLED TAUT W/O SLACK. CAUTION - CABLE MUST NOT SUSTAIN ANY DEAD LOAD.
3. 3 FOR ROD STIFFENER DETAIL & REQUIREMENTS. SEE DETAL 2 & 3 ON M6.5
4. FOR BRACKET - SLH-34 AND SLOTTED WASHER - SLW-XX DETAIL. SEE DETAL 4 ON M6.5
5. FOR CABLE CLAMP DETAIL. SEE DETAL 6 ON M6.5
6. TEKS SCREWS MUST BE PER ICC ESR-1976.
7. RDP SHALL CONSIDER THE ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE F_x VALUE USED IN THE DESIGN
8. USE SHORTEST SMS POSSIBLE WHEN PENETRATING DUCTWORK TO MINIMIZE AIRFLOW NOISE INSIDE THE DUCT (FEMA 414).

1 CABLE BRACING TRAPEZE HUNG DUCT - TRANSVERSE
NOT TO SCALE

CABLE BRACING SYSTEM - TRAPEZE HUNG DUCT TRANSVERSE & LONGITUDINAL - 30 PLF MAX (⅛"Ø CABLE)



CABLE KIT CAPACITIES (LBS - LRFD)

ANGLE OF CABLE "x"	MAX. HORIZ. LOAD (F_x)	MAX. CABLE TENSION
30°≤ x <45°	547	1095

a. USE 45° TO 60° FOR USE WITH DESIGN TABLES IN SECTION D (SIMPLIFIED DESIGN).
b. USE THE CABLE TENSION FOR SELECTION OF THE CABLE ATTACHMENT TO THE STRUCTURE.
c. LONGITUDINAL CAPACITY IS 2x THE LOAD SHOWN.
d. ANGLE OF CABLE MUST NOT EXCEED 70° FOR CAPACITIES TO BE VALID.

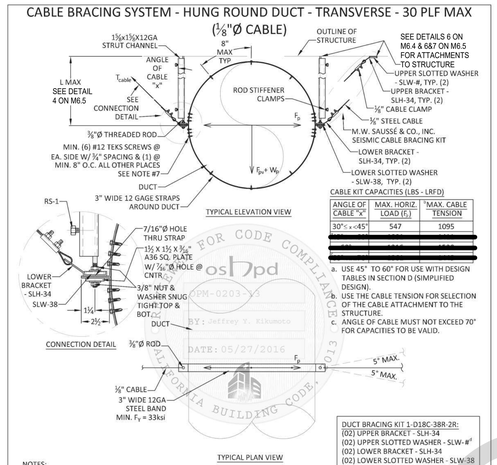
DUCT BRACING KIT 2-D18C-38R-2R:
(06) UPPER BRACKET - SLH-34
(06) UPPER SLOTTED WASHER - SLW-#"
(06) LOWER BRACKET - SLH-34
(06) LOWER SLOTTED WASHER - SLW-38
(04) ROD STIFFENER CLAMPS - RS-1
(06) ¾" CABLE - 10 FT.
(12) ⅛" CABLE CLAMPS

e. UPPER SLOTTED WASHER TO MATCH SELECTED ATTACHMENT.

NOTES:
1. CABLE IS 7 X 19 GALVANIZED STEEL CABLE. SEE DETAIL 5 ON M6.5
2. CABLES TO BE INSTALLED TAUT W/O SLACK. CAUTION - CABLE MUST NOT SUSTAIN ANY DEAD LOAD.
3. 3 FOR ROD STIFFENER DETAIL & REQUIREMENTS. SEE DETAL 2 & 3 ON M6.5
4. FOR BRACKET - SLH-34 AND SLOTTED WASHER - SLW-XX DETAIL. SEE DETAL 4 ON M6.5
5. FOR CABLE CLAMP DETAIL. SEE DETAL 6 ON M6.5
6. TEKS SCREWS MUST BE PER ICC ESR-1976.
7. RDP SHALL CONSIDER THE ECCENTRIC LOAD DISTRIBUTION WHEN DETERMINING THE F_x VALUE USED IN THE DESIGN
8. USE SHORTEST SMS POSSIBLE WHEN PENETRATING DUCTWORK TO MINIMIZE AIRFLOW NOISE INSIDE THE DUCT (FEMA 414).

2 CABLE BRACING TRAPEZE HUNG DUCT - TRANS. & LONGITUDINAL
NOT TO SCALE

CABLE BRACING SYSTEM - HUNG ROUND DUCT - TRANSVERSE - 30 PLF MAX (⅛"Ø CABLE)



CABLE KIT CAPACITIES (LBS - LRFD)

ANGLE OF CABLE "x"	MAX. HORIZ. LOAD (F_x)	MAX. CABLE TENSION
30°≤ x <45°	547	1095

a. USE 45° TO 60° FOR USE WITH DESIGN TABLES IN SECTION D (SIMPLIFIED DESIGN).
b. USE THE CABLE TENSION FOR SELECTION OF THE CABLE ATTACHMENT TO THE STRUCTURE.
c. ANGLE OF CABLE MUST NOT EXCEED 70° FOR CAPACITIES TO BE VALID.

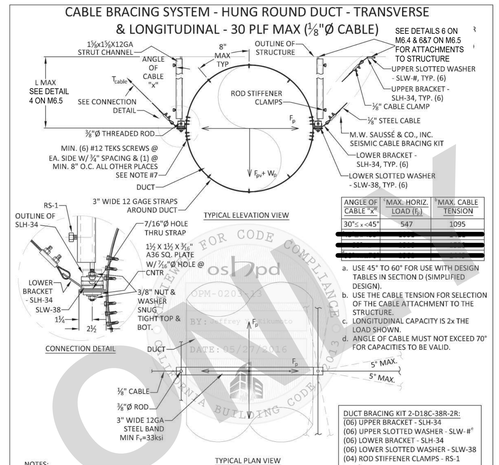
DUCT BRACING KIT 1-D18C-38R-2R:
(02) UPPER BRACKET - SLH-34
(02) UPPER SLOTTED WASHER - SLW-#"
(02) LOWER BRACKET - SLH-34
(02) LOWER SLOTTED WASHER - SLW-38
(04) ROD STIFFENER CLAMPS - RS-1
(02) ¾" CABLE - 10 FT.
(04) ⅜" CABLE CLAMPS

d. UPPER SLOTTED WASHER TO MATCH SELECTED ATTACHMENT.

NOTES:
1. CABLE IS 7 X 19 GALVANIZED STEEL CABLE. SEE DETAIL 5 ON M6.5
2. CABLES TO BE INSTALLED TAUT W/O SLACK. CAUTION - CABLE MUST NOT SUSTAIN ANY DEAD LOAD.
3. & 3 FOR ROD STIFFENER DETAIL & REQUIREMENTS. SEE DETAL 2 & 3 ON M6.5
4. FOR BRACKET - SLH-34 AND SLOTTED WASHER - SLW-XX DETAIL. SEE DETAL 4 ON M6.5
5. FOR CABLE CLAMP DETAIL. SEE DETAL 6 ON M6.5
6. TEKS SCREWS MUST BE PER ICC ESR-1976.
7. USE SHORTEST SMS POSSIBLE WHEN PENETRATING DUCTWORK TO MINIMIZE AIRFLOW NOISE INSIDE THE DUCT (FEMA 414).

3 CABLE BRACING TRAPEZE HUNG ROUND DUCT - TRANSVERSE
NOT TO SCALE

CABLE BRACING SYSTEM - HUNG ROUND DUCT - TRANSVERSE & LONGITUDINAL - 30 PLF MAX (⅛"Ø CABLE)



CABLE KIT CAPACITIES (LBS - LRFD)

ANGLE OF CABLE "x"	MAX. HORIZ. LOAD (F_x)	MAX. CABLE TENSION
30°≤ x <45°	547	1095

a. USE 45° TO 60° FOR USE WITH DESIGN TABLES IN SECTION D (SIMPLIFIED DESIGN).
b. USE THE CABLE TENSION FOR SELECTION OF THE CABLE ATTACHMENT TO THE STRUCTURE.
c. LONGITUDINAL CAPACITY IS 2x THE LOAD SHOWN.
d. ANGLE OF CABLE MUST NOT EXCEED 70° FOR CAPACITIES TO BE VALID.

DUCT BRACING KIT 2-D18C-38R-2R:
(06) UPPER BRACKET - SLH-34
(06) UPPER SLOTTED WASHER - SLW-#"
(06) LOWER BRACKET - SLH-34
(06) LOWER SLOTTED WASHER - SLW-38
(04) ROD STIFFENER CLAMPS - RS-1
(06) ¾" CABLE - 10 FT.
(12) ⅛" CABLE CLAMPS

e. UPPER SLOTTED WASHER TO MATCH SELECTED ATTACHMENT.

NOTES:
1. CABLE IS 7 X 19 GALVANIZED STEEL CABLE. SEE DETAIL 5 ON M6.5
2. REFER TO SHEET M6.4 FOR ATTACHEMENT TO STRUCTURE.
3. TRAPEZE ASSEMBLIES WITH 1/2 IN DIAMETER ROD HANGERS NOT EXCEEDING 12 IN IN LENGTH FROM THE DUCT SUPPORT POINT TO THE CONNECTION AT THE SUPPORTING STRUCTURE ARE USED TO SUPPORT DUCT, AND THE TOTAL WEIGHT SUPPORTED BY ANY SINGLE TRAPEZE IS LESS THAN 10 LB/FT AND 50 LBS OR LESS PER ROD.
4. MAXIMUM 6 SQFT DUCTWORK

4 CABLE BRACING TRAPEZE HUNG ROUND DUCT - TRANS. & LONG.
NOT TO SCALE

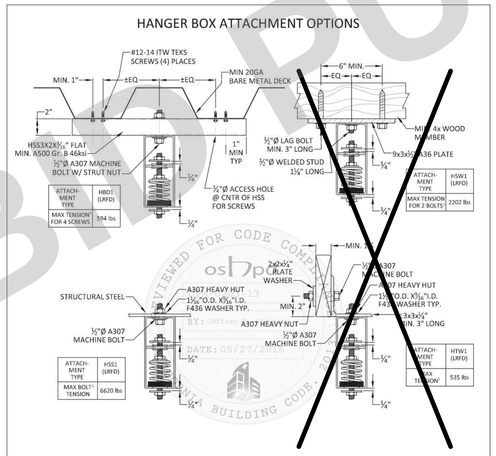
DIMENSION OF LONGEST SIDE, INCHES	SHEET METAL GAGE (ALL FOUR SIDES)	TRANSVERSE REINFORCING (1)					
			AT JOINTS				
		MINIMUM REINFORCING ANGLE SIZE AND MAXIMUM LONGITUDINAL SPACING BETWEEN TRANSVERSE JOINTS &/OR INTERMEDIATE REINFORCING	MIN. HT. IN.	DRIVE SLIP / PLAIN S SLIP	HEMMED S SLIP	ALTERNT BAR SLIP	REINFORCED BAR SLIP
				RECOM-MENDED GAGE	RECOM-MENDED GAGE	RECOM-MENDED GAGE	RECOM-MENDED GAGE
UP THRU 12	26	NONE REQUIRED	1	26	26	24	24
13 - 18	24	NONE REQUIRED	1	24	24	24	24
19 - 30	24	1" X 1" X 1/8" @ 60 IN.	1		24	24	24
31 - 42	22	1" X 1" X 1/8" @ 60 IN.	1			22	22
43 - 60	20	1" X 1" X 1/8" @ 60 IN.	1				20
61 & ABOVE	18	1" X 1" X 1/8" @ 60 IN.	1				18

(1) TRANSVERSE REINFORCING SIZE IS DETERMINED BY DIMENSION OF SIDE TO WHICH ANGLE IS APPLIED.

DUCT DIMENSION IN	PERIMETER FT.	AREA/LIN. FT SQ FT/FT	GALV IRON GAUGE	WEIGHT LB/SF	WEIGHT OF DUCT LB/LIN FT	R-8 INSUL THICKNESS IN	R-8 INSUL AREA SF/LIN.FT.	INSUL WT OZ/SF	INSUL WT LBS/LIN FT	TOTAL WT. LB/LIN FT
26x14	6.67	6.67	24	1.156	7.71	3	7.17	1.25	0.56	8.27
20x18	6.33	6.33	24	1.156	7.32	3	6.83	1.25	0.53	7.86
20x14	5.67	5.67	24	1.156	6.55	3	6.17	1.25	0.48	7.03
18x18	6.00	6.00	24	1.156	6.94	3	6.50	1.25	0.51	7.44
16x14	5.00	5.00	24	1.156	5.78	3	5.50	1.25	0.43	6.21
16x12	4.67	4.67	24	1.156	5.39	3	5.17	1.25	0.40	5.80
18 ROUND		4.72	24	1.156	5.46	3	5.22	1.25	0.41	5.86
16 ROUND		4.19	24	1.156	4.84	3	4.69	1.25	0.37	5.21
14 ROUND		3.67	24	1.156	4.24	3	4.17	1.25	0.33	4.57
12 ROUND		3.14	24	1.156	3.63	3	3.64	1.25	0.28	3.91
10 ROUND		2.62	24	1.156	3.03	3	3.12	1.25	0.24	3.27

5 DUCT GAUGE, WEIGHT & CONSTRUCTION STANDARDS
NOT TO SCALE

HANGER BOX ATTACHMENT OPTIONS

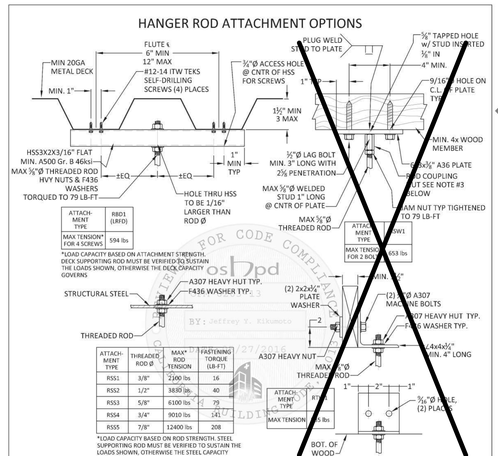


NOTE(S):

3. BOLT HOLES FOR THRU BOLT SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.

6 HANGER BOX ATTACHMENT OPTIONS
NOT TO SCALE

HANGER ROD ATTACHMENT OPTIONS



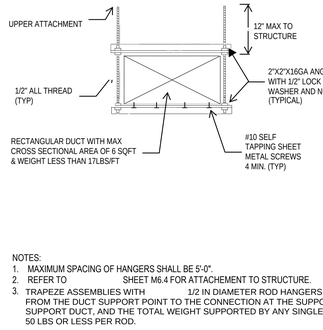
ATTACH-MENT TYPE	THREADED ROD Ø	MAX* ROD TENSION	FASTENING TORQUE (LB-FT)
RSS1	3/8"	2300 lbs	16
RSS2	1/2"	3830 lbs	40
RSS3	5/8"	6100 lbs	79
RSS4	3/4"	9010 lbs	141
RSS5	7/8"	12400 lbs	208

*LOAD CAPACITY BASED ON ROD STRENGTH. STEEL SUPPORTING ROD MUST BE VERIFIED TO SUSTAIN THE LOADS SHOWN, OTHERWISE THE STEEL CAPACITY GOVERNS

NOTE(S):

2. BOLT HOLES FOR THRU BOLT SHALL BE BORED 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER.
3. ROD COUPLING NUT MUST BE MIN. ASTM A194-2H HEAVY HEX OR A563-DH HEAVY HEX NUTS. ROD AND ANCHOR MUST HAVE A MIN. THREAD ENGAGEMENT INTO THE COUPLING NUT EQUAL TO THE DIAMETER OF THE ROD/ANCHOR. ROD AND ANCHOR MUST BE IN CONTACT W/ EACH OTHER WITHIN THE COUPLING NUT AND TIGHTENED ACCORDINGLY.

7 HANGER ROD ATTACHMENT OPTIONS
NOT TO SCALE



8 RECT DUCT HANGER DETAIL (NON-SEISMIC) W/I 12" FROM STRUCTURE ..
NOT TO SCALE

FOR BID PURPOSES ONLY

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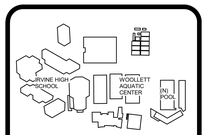
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34332 REN. 10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER REZ DAVID IRANI No. M 38158 Exp. 06-30-2026 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 08/07/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

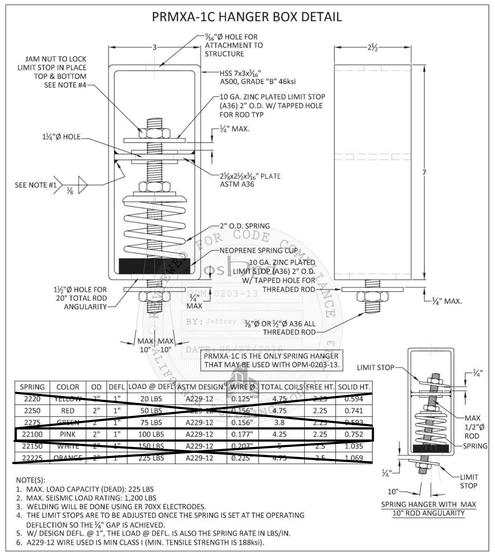
MECHANICAL DETAILS

M6.4

MECHANICAL DETAILS
M6.5
FOR BLUEBEAM LABELING/OCR:

0"
1"

PRMXA-1C HANGER BOX DETAIL



SPRING	COLOR	OD	DEFL	LOAD @ DEFL	ASTM DESIGN	WIRE Ø	TOTAL COILS	FREE HT.	SOLID HT.
2220	YELLOW	2"	1"	20 LBS	A229-12	0.125"	4.75	2.25	0.594
2250	RED	2"	1"	50 LBS	A229-12	0.156"	4.75	2.25	0.741
2275	GREEN	2"	1"	75 LBS	A229-12	0.156"	3.8	2.25	0.593
22100	PINK	2"	1"	100 LBS	A229-12	0.177"	4.25	2.25	0.752
22150	WHITE	2"	1"	150 LBS	A229-12	0.207"	4	2.5	1.035
22225	ORANGE	2"	1"	225 LBS	A229-12	0.225"	4.75	2.5	1.069

NOTE(S):
1. MAX. LOAD CAPACITY (DEAD): 225 LBS
2. MAX. SEISMIC LOAD RATING: 1,200 LBS
3. WELDING WILL BE DONE USING ER 70XX ELECTRODES.
4. THE LIMIT STOPS ARE TO BE ADJUSTED ONCE THE SPRING IS SET AT THE OPERATING DEFLECTION SO THE ½" GAP IS ACHIEVED.
5. W/ DESIGN DEFL. @ 1", THE LOAD @ DEFL. IS ALSO THE SPRING RATE IN LBS/IN.
6. A229-12 WIRE USED IS MIN CLASS I (MIN. TENSILE STRENGTH IS 188ksi).

1 HANGER BOX DETAIL
NOT TO SCALE

RS-1 - ROD STIFFENER DETAILS & REQUIREMENTS

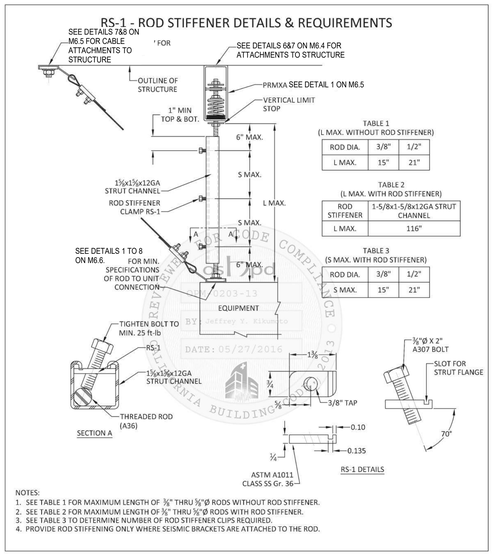


TABLE 1
(L MAX. WITHOUT ROD STIFFENER)

ROD DIA.	3/8"	1/2"
L MAX.	15"	21"

TABLE 2
(L MAX. WITH ROD STIFFENER)

ROD STIFFENER	1-5/8x1-5/8x12GA STRUT CHANNEL
L MAX.	116"

TABLE 3
(S MAX. WITH ROD STIFFENER)

ROD DIA.	3/8"	1/2"
S MAX.	15"	21"

NOTES:
1. SEE TABLE 1 FOR MAXIMUM LENGTH OF ⅜" THRU ½"Ø RODS WITHOUT ROD STIFFENER.
2. SEE TABLE 2 FOR MAXIMUM LENGTH OF ⅜" THRU ½"Ø RODS WITH ROD STIFFENER.
3. SEE TABLE 3 TO DETERMINE NUMBER OF ROD STIFFENER CLIPS REQUIRED.
4. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD.

2 ROD STIFFENER & REQUIREMENTS
NOT TO SCALE

RS-1 - ROD STIFFENER DETAILS & REQUIREMENTS

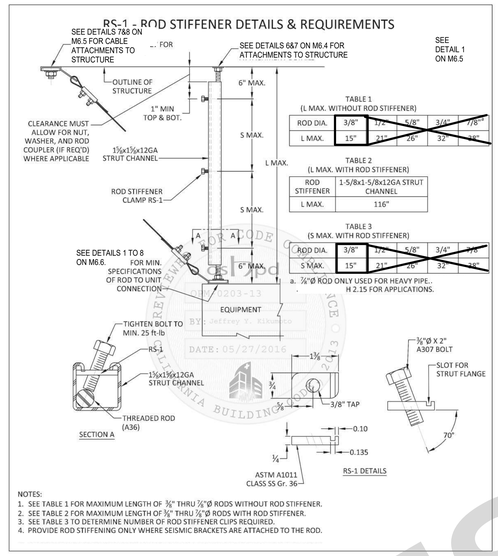


TABLE 1
(L MAX. WITHOUT ROD STIFFENER)

ROD DIA.	3/8"	1/2"	5/8"	3/4"	7/8"
L MAX.	15"	21"	26"	32"	38"

TABLE 2
(L MAX. WITH ROD STIFFENER)

ROD STIFFENER	1-5/8x1-5/8x12GA STRUT CHANNEL
L MAX.	116"

TABLE 3
(S MAX. WITH ROD STIFFENER)

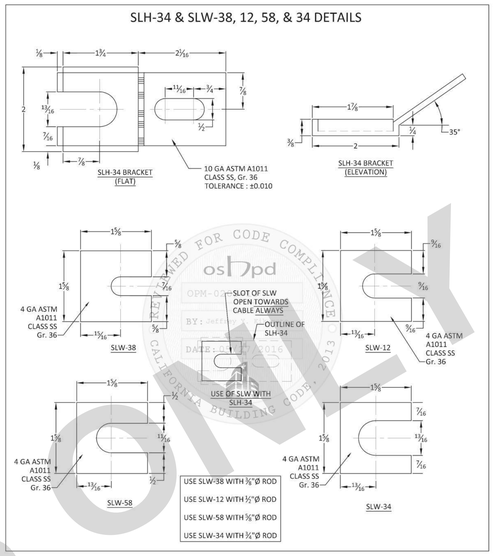
ROD DIA.	3/8"	1/2"	5/8"	3/4"	7/8"
S MAX.	15"	21"	26"	32"	38"

a. ¾"Ø ROD ONLY USED FOR HEAVY PIPE.. H 2.15 FOR APPLICATIONS.

NOTES:
1. SEE TABLE 1 FOR MAXIMUM LENGTH OF ⅜" THRU ¾"Ø RODS WITHOUT ROD STIFFENER.
2. SEE TABLE 2 FOR MAXIMUM LENGTH OF ⅜" THRU ¾"Ø RODS WITH ROD STIFFENER.
3. SEE TABLE 3 TO DETERMINE NUMBER OF ROD STIFFENER CLIPS REQUIRED.
4. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD.

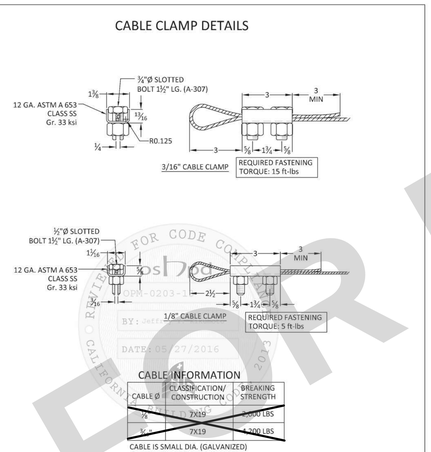
3 ROD STIFFENER & REQUIREMENTS..
NOT TO SCALE

SLH-34 & SLW-38, 12, 58, & 34 DETAILS



4 SLH-34 & SLW-38, 12, 58, & 34 DETAILS
NOT TO SCALE

CABLE CLAMP DETAILS



CABLE INFORMATION

CABLE Ø	CLASS/CONSTRUCTION	BREAKING STRENGTH
1/8"	7X19	3,600 LBS
1/4"	7X19	12,200 LBS

CABLE IS SMALL DIA. (GALVANIZED) SPECIALTY CORD & MEETS ASTM A1023/A1023M STANDARDS & FEDERAL U.S. SPECIFICATION RR-W-410G, TYPE VI, CLASS 3.

5 CABLE CLAMP DETAILS
NOT TO SCALE

TRAPEZE MEMBER FOR ALL SYSTEMS

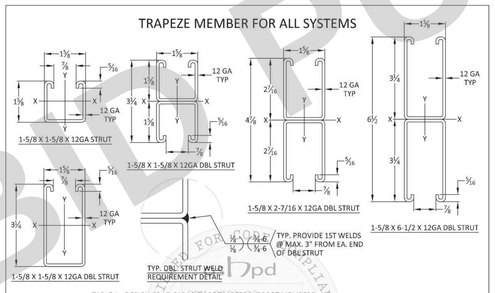


TABLE 1 - DESIGN LOAD CAPACITY OF TRAPEZE SUPPORT MEMBERS

MAX. SPAN	1⅝ X 1⅝ X 12GA STRUT		1⅝ X 3⅛ X 12GA STRUT		1⅝ X 1⅝ X 12GA DBL STRUT		1⅝ X 4⅛ X 12GA DBL STRUT		1⅝ X 6½ X 12GA DBL STRUT	
	DIST. LOAD	POINT LOAD	DIST. LOAD	POINT LOAD	DIST. LOAD	POINT LOAD	DIST. LOAD	POINT LOAD	DIST. LOAD	POINT LOAD
18"	548	274	1178	589	1224	612	1893	946	2574	1287
24"	410	205	881	440	914	457	1415	707	1925	962
30"	326	163	702	351	728	364	1128	564	1535	767
36"	270	135	582	291	603	301	935	467	1273	636
48"	199	99	431	215	446	223	690	345	944	472
60"	156	78	339	169	350	175	545	272	746	372

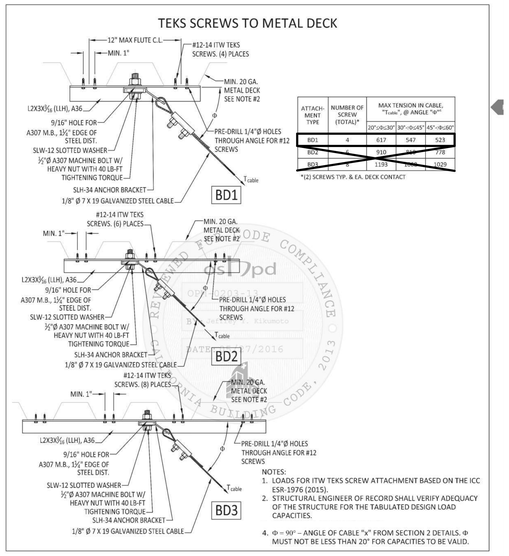
TABLE 2 - MINIMUM GEOMETRIC PROPERTIES OF SECTIONS

1⅝ X 1⅝ X 12GA STRUT				1⅝ X 3⅛ X 12GA STRUT				1⅝X3⅛X12GA DBL STRUT				1⅝X4⅛X12GA DBL STRUT				1⅝X6½X12GA DBL STRUT			
I_x in⁴	I_y in⁴	S_x in³	S_y in³	I_x in⁴	I_y in⁴	S_x in³	S_y in³	I_x in⁴	I_y in⁴	S_x in³	S_y in³	I_x in⁴	I_y in⁴	S_x in³	S_y in³	I_x in⁴	I_y in⁴	S_x in³	S_y in³
0.185	0.236	0.202	0.290	1.098	0.433	0.627	0.533	0.928	0.471	0.571	0.580	2.805	0.669	1.151	0.823	6.227	0.866	1.916	1.066

NOTES:
1. ALL STRUT MEMBERS MUST BE MADE OF MIN. A1011 SS Gr. 33 STEEL.
2. ALL STRUT MUST BE SOLID. SLOTTED OR HOLED STRUT NOT PERMITTED.
3. TO MEET THE DIST. LOADING REQUIREMENT THE LOAD MUST BE SPREAD EVENLY OVER 90% OF THE SPAN OF THE MEMBER.
4. TO MEET THE POINT LOAD REQUIREMENT THE LOAD MUST BE WITHIN THE MIDDLE THIRD OF THE SPAN OF THE MEMBER.

6 TRAPEZE MEMBER FOR ALL SYSTEMS
NOT TO SCALE

TEKS SCREWS TO METAL DECK



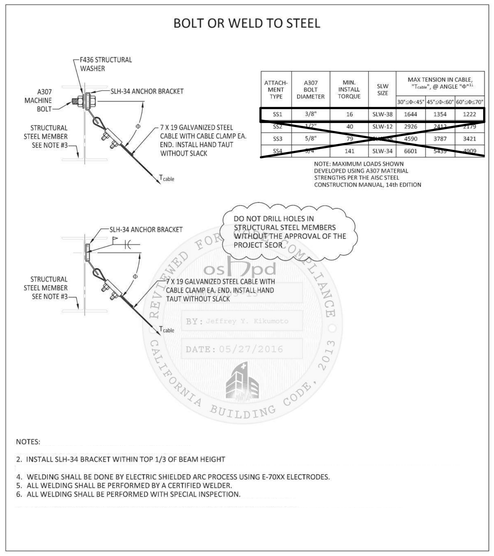
ATTACHMENT TYPE	NUMBER OF SCREW (TOTAL)*	MAX TENSION IN CABLE, "T_{cable}", @ ANGLE "Φ"		
		20°≤Φ≤30°	30°<Φ≤45°	45°<Φ≤60°
BD1	4	617	547	523
BD2	6	910	810	778
BD3	8	1189	1056	1029

*(2) SCREWS TYP. & EA. DECK CONTACT

NOTES:
1. LOADS FOR ITW TEKS SCREW ATTACHMENT BASED ON THE ICC ESR-1976 (2015).
2. STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE FOR THE TABULATED DESIGN LOAD CAPACITIES.
4. Φ = 90° – ANGLE OF CABLE "x" FROM SECTION 2 DETAILS. Φ MUST NOT BE LESS THAN 20° FOR CAPACITIES TO BE VALID.

7 TEKS SCREWS TO METAL DECK
NOT TO SCALE

BOLT OR WELD TO STEEL



ATTACH-MENT TYPE	A307 BOLT DIAMETER	MIN. INSTALL TORQUE	SLW SIZE	MAX TENSION IN CABLE, "T_{cable}", @ ANGLE "Φ"[1].		
				30°≤Φ<45°	45°≤Φ<60°	60°≤Φ≤70°
SS1	3/8"	16	SLW-38	1644	1354	1222
SS2	½"	40	SLW-12	2976	2451	2279
SS3	5/8"	79	SLW-58	4590	3787	3421
SS4	¾"	141	SLW-34	6601	5439	4928

NOTE: MAXIMUM LOADS SHOWN DEVELOPED USING A307 MATERIAL STRENGTHS PER THE AISC STEEL CONSTRUCTION MANUAL, 14th EDITION

NOTES:
2. INSTALL SLH-34 BRACKET WITHIN TOP 1/3 OF BEAM HEIGHT
4. WELDING SHALL BE DONE BY ELECTRIC SHIELDED ARC PROCESS USING E-70XX ELECTRODES.
5. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER.
6. ALL WELDING SHALL BE PERFORMED WITH SPECIAL INSPECTION.

8 BOLT OR WELD TO STEEL
NOT TO SCALE

FOR BID PURPOSES ONLY

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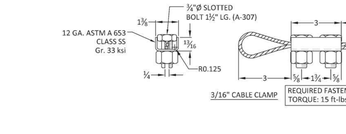
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT — BRUCE OU C-34332 REN 10/31/25 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — No. M 38158 Exp. 06-30-2026 — MECHANICAL — STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

MECHANICAL DETAILS

M6.5

Vibrex vibration & seismic control systems
M.W. Sausse & Co., Inc.
28744 Witherspoon Parkway | Valencia, CA 91355
Ph: (661) 257-3311 | Fax: (661) 257-6050
Civil Engineer: P.K. Sachdeva
California PE No. C59644

Page No.: 3.24
Date: May 9, 2016

MECHANICAL CONTROLS
M6.6
FOR BLUEBEAM LABELING/DOCR:

0"
1"

SEQUENCE OF OPERATION

1.1 SEQUENCE OF OPERATION FOR CNUSD CENTENNIAL HS AQUATICS CENTER

1.1.1 HEAT PUMP ROOFTOP UNIT CONTROLLER (RTHP-A2)

INDOOR FAN
DURING OCCUPIED PERIODS, FAN SHALL OPERATE CONTINUOUSLY. DURING UNOCCUPIED PERIODS, FAN SHALL OPERATE WHEN THE SPACE TEMPERATURE EXCEEDS THE UNOCCUPIED HEATING OR COOLING SETPOINTS. THE FAN OPERATES AT ONE SPEED ONLY AND PROVIDES ON/OFF OPERATION.

HEATING MODE
WHEN SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, UNIT SHALL OPERATE IN THE HEATING MODE. UNIT SHALL STAGE AVAILABLE HEAT STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

COOLING MODE
WHEN SPACE TEMPERATURE IS ABOVE OCCUPIED COOLING SETPOINT, UNIT SHALL OPERATE IN THE COOLING MODE. UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

ECONOMIZER
ECONOMIZER SHALL CLOSE WHEN FAN IS OFF OR DURING A LOSS OF POWER. DURING OCCUPIED HOURS, WHEN FAN IS ENERGIZED, THE ECONOMIZER SHALL OPEN TO ADJUSTABLE MINIMUM POSITION. WHEN OUTSIDE AIR TEMPERATURE IS BELOW 74° AND OCCUPIED SPACE REQUIRES COOLING, ECONOMIZER SHALL OPEN. IF ECONOMIZER AIR IS NOT SUFFICIENT TO MEET THE DEMAND IN THE OCCUPIED SPACE, UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

CO2 CONTROL
UNIT SHALL MONITOR SPACE CO2 WHEN THE SUPPLY FAN IS ENERGIZED. WHEN CO2 IS ABOVE SETPOINT OF 1000 PPM, ECONOMIZER SHALL MODULATE OPEN TOWARD AN ADJUSTABLE MAXIMUM CO2 POSITION. AS THE CO2 LEVEL IN THE SPACE INCREASES ABOVE THE SETPOINT, THE MINIMUM POSITIONS OF THE DAMPERS WILL BE INCREASED PROPORTIONALLY, UNTIL THE MAXIMUM VENTILATION SETTING IS REACHED. AS THE SPACE CO2 LEVEL DECREASES BECAUSE OF THE INCREASE IN FRESH AIR, THE OUTDOOR-DAMPER WILL FOLLOW THE HIGHER DEMAND CONDITION FROM THE DCV MODE OR FROM THE FREE-COOLING MODE.

1.1.2 HEAT PUMP ROOFTOP UNIT CONTROLLER (RTHP-A1)

INDOOR FAN
DURING OCCUPIED PERIODS, THE FAN SHALL OPERATE CONTINUOUSLY. DURING UNOCCUPIED PERIODS, THE FAN SHALL OPERATE WHEN THE SPACE TEMPERATURE EXCEEDS THE UNOCCUPIED HEATING OR COOLING SETPOINTS. THE FAN OPERATES AT A VARIABLE SPEED TO MEET THE LOAD CONDITIONS AND SAT SAFETY REQUIREMENTS TO PROVIDE MAXIMUM ENERGY SAVINGS BY MINIMIZING FAN HORSEPOWER CONSUMPTION. FAN SPEED IS NOT CONTROLLED BY STATIC PRESSURE.

HEATING MODE
WHEN SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, UNIT SHALL OPERATE IN THE HEATING MODE. UNIT SHALL STAGE AVAILABLE HEAT STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

COOLING MODE
WHEN SPACE TEMPERATURE IS ABOVE OCCUPIED COOLING SETPOINT, UNIT SHALL OPERATE IN THE COOLING MODE. UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

CO2 CONTROL
UNIT SHALL MONITOR SPACE CO2 WHEN THE SUPPLY FAN IS ENERGIZED. WHEN CO2 IS ABOVE SETPOINT OF 1000 PPM, AN ALARM WILL DISPLAY ON THE BACS.

1.1.3 HIGH WALL SPLIT THERMOSTAT (AC-A1, A2, AND B1)

INDOOR FAN
DURING OCCUPIED PERIODS, FAN SHALL OPERATE CONTINUOUSLY. DURING UNOCCUPIED PERIODS, FAN SHALL OPERATE WHEN THE SPACE TEMPERATURE EXCEEDS THE UNOCCUPIED HEATING OR COOLING SETPOINTS. THE FAN OPERATES AT ONE SPEED ONLY AND PROVIDES ON/OFF OPERATION.

COOLING MODE
WHEN SPACE TEMPERATURE IS ABOVE OCCUPIED COOLING SETPOINT, UNIT SHALL OPERATE IN THE COOLING MODE. UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

1.1.4 EXHAUST FAN DETAIL (CP-1 AND CP-2)

EXHAUST FANS
EXHAUST FANS SHALL RUN BASED ON AN OCCUPIED TIME SCHEDULE (CONFIGURABLE)
EXHAUST FAN STATUS WILL BE MONITORED THROUGH A CURRENT SENSING SWITCH. IF THE CURRENT SWITCH DOES NOT DETECT FAN STATUS AFTER A START COMMAND HAS BEEN SENT TO THE ASSOCIATED EXHAUST FAN, AN ALARM WILL BE GENERATED TO THE I-VU WEB SERVER.

SEQUENCE OF OPERATIONS | 7

COMMON ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AC	AIR CONDITIONING
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AUTO	AUTOMATIC
AUX	AUXILIARY
BAI	BACNET ANALOG INPUT
BAO	BACNET ANALOG OUTPUT
BBI	BACNET BINARY INPUT
BBO	BACNET BINARY OUTPUT
BI	BINARY INPUT
BO	BINARY OUTPUT
C	COMMON
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
COND	CONDENSER
CW	CONDENSER WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DA	DISCHARGE AIR
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
EA	EXHAUST AIR
EF	EXHAUST FAN
EVAP	EVAPORATOR
F	FAHRENHEIT
FCU	FAN COIL UNIT
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HTEX	HEAT EXCHANGER
HW	HOT WATER
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTDOOR AIR
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN
SP	STATIC PRESSURE
TEMP	TEMPERATURE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VAVTU	VARIABLE AIR VOLUME TERMINAL UNIT
VVT	VARIABLE VOLUME & TEMPERATURE
W/	WITH
W/O	WITHOUT
WSHP	WATER SOURCE HEAT PUMP

LEGEND, NOTES AND ABBREVIATIONS | 6

SYMBOL LEGEND

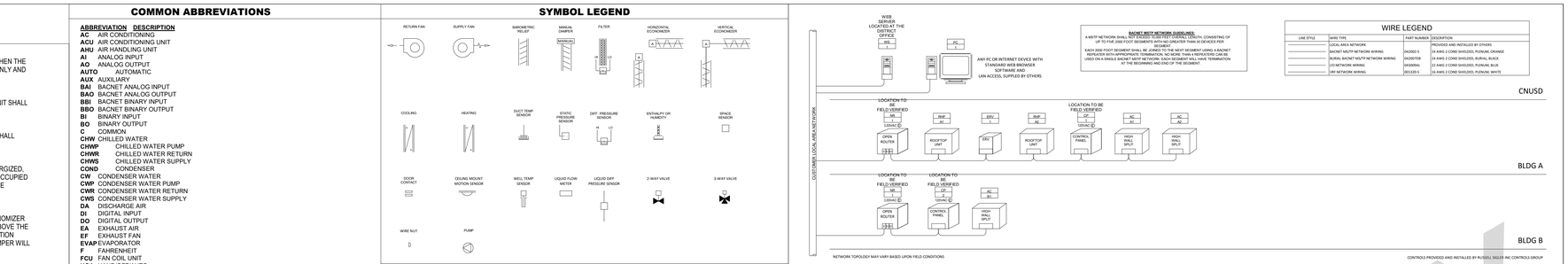
GENERAL INFORMATION

COMMUNICATION BUS SPECIFICATION
1. A 24 AWG 2-CONDUCTOR-SHIELDED-STRANDED CABLE (PLENUM RATED AS REQUIRED) MUST BE DAISY CHAINED FROM CONTROLLER TO CONTROLLER. IT SHOULD BE COLOR CODED (RED, BLACK, WHITE)
2. THE COMMUNICATION CABLE OPERATES AT UP TO 5 VDC. VERIFY WITH THE LOCAL CODE AUTHORITY AND SPECS REGARDING CONDUIT REQUIREMENTS.
3. NO "T" TAP OR "STAR" TYPE CONNECTIONS ARE PERMITTED.
4. TERMINATE THE SHIELDS ON THE DESIGNATED TERMINAL AT EACH DEVICE.
5. 30 CONTROLLER'S MAXIMUM PER COMMUNICATION BUS SEGMENT. 60 CONTROLLER'S MAXIMUM PER NETWORK ROUTER.
6. A REPEATER IS REQUIRED EVERY 2000 FT. OR 30 DEVICES. MAXIMUM OF 4 REPEATERS PER BUS FOR A TOTAL OF 10,000 FT.

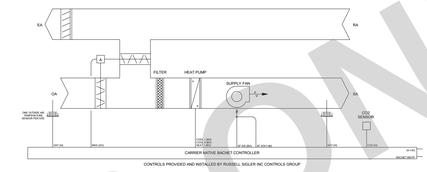
POWER TO VVT AND VAV DAMPER ACTUATORS/CONTROLLERS
1. EACH ZONE REQUIRES A 24 VAC, 40 VA TRANSFORMER (MORE IN SOME CASES DEPENDING ON THE VALVE OR ELECTRIC HEATER REQUIREMENTS).
2. IT IS RECOMMENDED THAT EACH ZONE HAVE ITS OWN TRANSFORMER, HOWEVER ZONES MAY BE GROUPED UP TO 100 VA AND STILL REMAIN IN UL CLASS 2 CONFORMANCE. BE CAREFUL OF VOLTAGE DROP. THE DAMPER WILL OPERATE IN A POWER RANGE OF 22 TO 26 VAC. THE DAMPER WILL NOT OPERATE AT - VOLTAGES LESS THAN 22 VAC.

GENERAL NOTES
1. THE 2 CONDUCTOR COMMUNICATION CABLE AND SENSOR CABLES MUST ALWAYS BE IN A SEPARATE JACKET FROM ONE ANOTHER. NEVER RUN THE SE CABLES IN THE SAME CONDUIT AS, OR BUNDLE THEM WITH, AC POWER WIRING OF ANY VOLTAGE. DO NOT STRAP THESE CABLES ALONG ANY CONDUITS THAT CONTAIN AC POWER WIRING OF ANY VOLTAGE.
2. DO NOT RUN THESE CABLES IN RINGS OR CONDUIT WITH FIRE, LIFE, SAFETY, SECURITY, NETWORK, TELEPHONE, POWER, OR OTHER WIRING WHEN RUNNING COMMUNICATION AND SENSOR WIRING PARALLEL TO OTHER CABLING OR CONDUIT MAINTAIN A 12 IN. DISTANCE.
3. ETHERNET AND/OR INTERNET CONNECTION TO I-VU ARE SUPPLIED AND MAINTAINED BY BUILDING OWNER/OPERATOR.

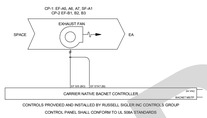
INSTALLATION COORDINATION NOTES
1. INSTALLER SHALL COORDINATE ALL POWER AND DATA CONNECTION REQUIREMENTS WITH THE GC ONSITE.
2. INSTALL ALL COMPONENTS IN ACCORDANCE WITH THE SPECIFICATION, APPLICABLE CODES AND MANUFACTURER'S LITERATURE



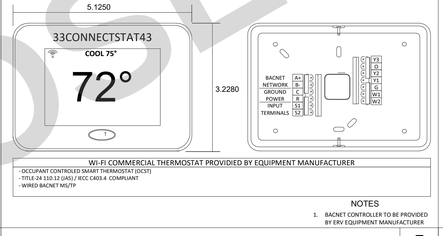
BACS RISER DIAGRAM | 1



HEAT PUMP ROOFTOP UNIT DETAIL | 2



EXHAUST FAN DETAIL EF-A1, EF-A8, EF-A3 | 4



NOTES
1. BACNET CONTROLLER TO BE PROVIDED BY ERV EQUIPMENT MANUFACTURER

TYPICAL THERMOSTAT DETAIL | 5

ERV FACTORY INSTALLED BACNET CONTROLLER POINTS

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV
AUTO ENABLE/DISABLE						X
EXHAUST FAN ENABLE				X		
FILTER ALARM			X			
BYPASS CONTROL				X		
SUPPLY FAN SPEED		X				
EXHAUST FAN SPEED		X				
SUPPLY AIR TEMP	X					

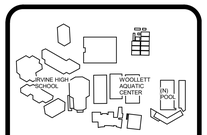
ERV BACNET POINTS LIST | 3

FOR BID PURPOSES ONLY

PBK
ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P
CONSULTANT LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE



DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 REN. 10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER REX DAVID IRWIN No. M 36158 Exp. 06-30-2026 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 08/07/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

MECHANICAL CONTROLS

M6.6

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_M23_Central.rvt
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Author
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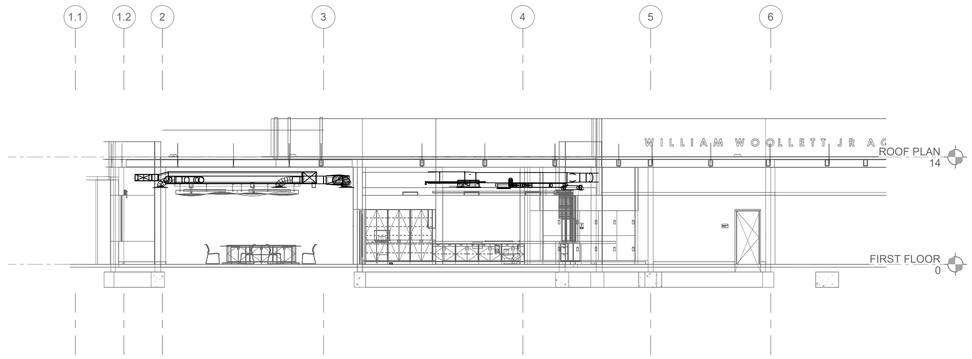
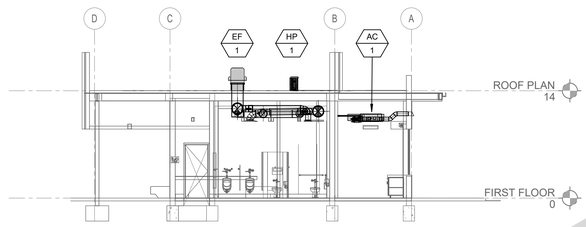
MECHANICAL SECTIONS
M6.7
FOR BLUEBEAM LABELING/OCR:

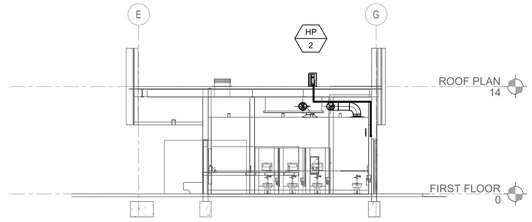
0"
1"



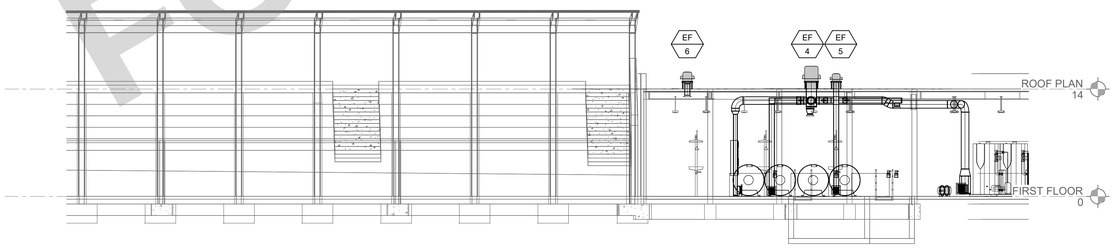
1 SECTION AT TRAINING ROOM AND TICKET
1/8" = 1'-0"



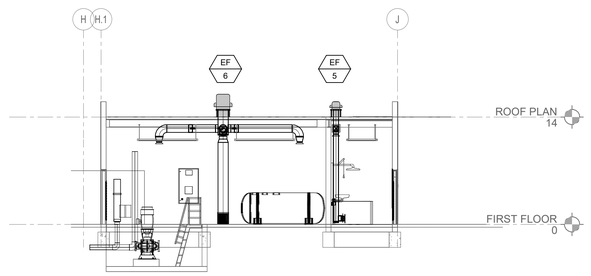
2 SECTION AT TICKET AND MEN'S RESTROOM
1/8" = 1'-0"



4 SECTION AT WOMEN'S RESTROOM
1/8" = 1'-0"



5 SECTION AT STORAGE AND PUMP EQUIPMENT
1/8" = 1'-0"



6 SECTION AT PUMP EQUIPMENT
1/8" = 1'-0"

FOR BID PURPOSES ONLY

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Author
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PBK

ARCHITECT PBK, Inc.
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8163 Rochester Avenue, Suite 100
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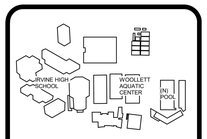
leafengineers.com

AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE 1971



DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN.10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER REX DAVID WARE No. M 36165 Exp.09-30-2026 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

MECHANICAL SECTIONS

M6.7

P0.0
PLUMBING SYMBOLS, LEGENDS & GENERAL NOTES
FOR BLUEBEAM LABELING/OCR:

0"
1"

PLUMBING LEGEND

NOTE: NOT ALL SYMBOLS TABULATED BELOW ARE NECESSARILY USED ON THE DRAWINGS.

SYMBOL	ITEM	ABBR.
S / 1	FIXTURE DESIGNATION UNIT ABBREVIATION NUMBER	
01 / P-1	DETAIL DESIGNATION DETAIL NUMBER SHEET NO. WHERE SHOWN	
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HW RETURN	HWR
	EXISTING PIPING	
X	POINT OF CONNECTION	POC
C	CONDENSATE DRAIN	
SOV	SHUT-OFF VALVE IN BOX	SOV
	PIPING RISE	
	PIPING DROP	
S / W	SOIL OR WASTE	S OR W
V	VENT	V
	VENT THRU ROOF	VTR
FCO	FLOOR CLEANOUT	FCO
COTG	CLEANOUT TO GRADE	COTG
	WALL CLEANOUT	WCO
	HOSE BIBB	HB
RD	ROOF DRAIN	RD
OD	OVERFLOW DRAIN	OD
	DOWN SPOUT	DS
	UNDERGROUND	UG
TP	TRAP PRIMER	TP
SD	STORM DRAIN	SD
(E)	EXISTING	EXIST.
(N)	NEW	NEW
	UNDERFLOOR	UF
	OVERHEAD	OH
R	RELIEF	
D	DRAIN	
	CONDENSATE DRAIN CLEAN OUT	CO
SC	SECONDARY CONDENSATE DRAIN	
FC	FURNACE CONDENSATE	
	GAS SHUT OFF VALVE	GSOV
	CONDENSATE DRAIN TRAP	CDT
LPG	LIQUIFIED PETROLEUM GAS	LPG
G	NATURAL GAS	G
	FIRE SPRINKLER RISER	FSR
FSL	FIRE SPRINKLER LINE	FSL
	FIRE DEPARTMENT CONNECTION	FDC
	FINISHED FLOOR	FF
	FLOW LINE	FL
▲	FIRE RATED PENETRATION	
	POINT OF DISCONNECTION	POD
	POINT OF CONNECTION	POC

CALIFORNIA GREEN BUILDING STANDARDS

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

5.303.1 METERS: SEPARATE SUBMETERS OR METERING DEVICES SHALL BE INSTALLED FOR USES DESCRIBED IN SECTIONS
5.303.1.1 AND 5.303.1.2.

5.303.1.1 NEW BUILDINGS OR ADDITIONS IN EXCESS OF 50,000 SQUARE FEET:
1. FOR EACH INDIVIDUAL LEASED, RENTED, OR OTHER TENANT SPACE WITHIN THE BUILDING PROJECTEED TO CONSUME MORE THAN 100 GAL/DAY, INCLUDING, BUT NOT LIMITED TO, SPACES USED FOR LAUNDRY OR CLEANERS, RESTAURANT OR FOOD SERVICE, MEDICAL OR DENTAL OFFICE, LABORATORY, OR BEAUTY SALON OR BARBER SHOP.
2. WHERE SEPARATE SUBMETERS FOR INDIVIDUAL BUILDING TENANTS ARE UNFEASIBLE, FOR WATER SUPPLIED TO THE FOLLOWING SUBSYSTEMS:
   a. MAKE-UP WATER FOR COOLING TOWERS WHERE FLOW THROUGH IS GREATER THAN 500 GPM.
   b. MAKE-UP WATER FOR EVAPORATIVE COOLERS GREATER THAN 6 GPM.
   c. STEAM AND HOT-WATER BOILERS WITH ENERGY INPUT MORE THAN 500,000 BTUH/H.

5.303.1.2 EXCESS CONSUMPTION: A SEPARATE SUBMETER OR BE PROVIDED FOR ANY TENANT WITHIN A NEW BUILDING OR WITHIN AN ADDITION THAT IS PROJECTED TO CONSUME MORE THAN 1,000 GAL/DAY.

5.303.2 RESERVED

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS: PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:

5.303.3.1 WATER CLOSETS: THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS. NOTE: THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.

5.303.3.2 URINALS:

5.303.3.2.1 WALL-MOUNTED URINALS: THE EFFECTIVE FLUSH VOLUME OF WALL-MOUNTED URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH.

5.303.3.2.2 FLOOR-MOUNTED URINALS: THE EFFECTIVE FLUSH VOLUME OF FLOOR-MOUNTED URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

5.303.3.2.1 WALL-MOUNTED URINALS: THE EFFECTIVE FLUSH VOLUME OF WALL-MOUNTED URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH.

5.303.3.2.2 FLOOR-MOUNTED URINALS: THE EFFECTIVE FLUSH VOLUME OF FLOOR-MOUNTED URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

5.303.3.3 SHOWERHEADS:

5.303.3.3.1 SINGLE SHOWERHEAD: SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 2.0 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.

5.303.3.3.2 MULTIPLE SHOWERHEADS SERVING ONE SHOWER: WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME. NOTE: A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.

5.303.3.4 FAUCETS AND FOUNTAINS:

5.303.3.4.1 NONRESIDENTIAL LAVATORY FAUCETS: LAVATORY FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.5 GALLONS PER MINUTE AT 60 PSI.

5.303.3.4.2 KITCHEN FAUCETS: KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.

5.303.3.4.3 WASH FOUNTAINS: WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE/20 [RIM SPACE (INCHES) AT 60 PSI].

5.303.3.4.4 METERING FAUCETS: METERING FAUCETS SHALL NOT DELIVER MORE THAN 0.20 GALLONS PER CYCLE.

5.303.3.4.5 METERING FAUCETS FOR WASH FOUNTAINS: METERING FAUCETS FOR WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.20 GALLONS PER CYCLE/20 [RIM SPACE (INCHES) AT 60 PSI]. NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

PLUMBING TESTING

1. ALL EQUIPMENT AND/OR SYSTEMS NOTED ON THE DRAWINGS "TO REMAIN" SHALL BE INSPECTED AND TESTED ON SITE TO CERTIFY WORKING CONDITION. A WRITTEN REPORT ON THE CONDITION OF ALL EQUIPMENT TO REMAIN, INCLUDING A COPY OF THE TEST RESULTS AND RECOMMENDED REMEDIAL ACTIONS AND COSTS SHALL BE MADE BY THIS CONTRACTOR TO THE ARCHITECT/ENGINEER FOR REVIEW.

2. PIPE COVER AND BACKFILLING:
   A. AFTER HYDROSTATIC TEST, EVENLY BACKFILL ENTIRE TRENCH WIDTH BY HAND PLACING BACKFILL MATERIAL AND HAND TAMPING IN FOUR (4) ICHES COMPACTED LAYERS TO 12 INCHES MINIMUM COVER OVER TOP OF JACKET. COMPACT TO 95 PERCENT MAXIMUM DENSITY.
   B. EVENLY AND CONTINUOUSLY BACKFILL REMAINING TRENCH DEPTH IN
   C. UNIFORM LAYERS WITH BACKFILL MATERIAL
   D. DO NOT USE WHEELED OR TRACKED VEHICLES FOR TAMPING.

3. PRESSURE TEST ALL DOMESTIC WATER PIPING. AFTER INSTALLATION AND PRIOR TO BACKFILL OR COVER-UP, RINSE PIPING SYSTEM OF PARTICULATE CONTAMINANTS, CAP AND SUBJECT TO STATIC WATER PRESSURE OF 125 PSIG FOR FOUR (4) HOURS. REPAIR LEAKS AND DEFECTS AND RE-TEST ANY PORTION OF PIPING SYSTEM THAT FAILS. PROVIDE WRITTEN TEST REPORT INCLUDING DATE AND TIME OF TEST, PASS OR FAIL INDICATION, SUMMARY OF REMEDIAL WORK REQUIRED AND DATE AND TIME OF EACH RE-TEST.

4. PRIOR TO COVER UP, WATER PIPE, SANITARY PIPE, AND GAS PIPING SHALL BE PRESSURE TESTED. TESTS SHALL BE WITNESSED BY CONSULTANT AND OWNER. NOTIFY OWNER 48 HOURS PRIOR TO TEST. TEST SHALL BEWITNESSED BY CLIENT PLUMBING TECHNICIAN.

5. UPON COMPLETION OF THE SANITARY PIPING SYSTEM, THE CONTRACTOR SHALL NOTIFY ENGINEER AND OWNER TO OBSERVE A SMOKE TEST OF THE SYSTEM. SMOKE TESTING SHALL BE PERFORMED ON SANITARY PIPING SYSTEM TWICE DURING CONSTRUCTION.

6. PRESSURE TEST NATURAL GAS PIPING IN ACCORDANCE WITH NFPA 54. CA PLUMBING CODE SECTION 1213

GENERAL PLUMBING NOTES

1. ALL BRACING OF PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES, HAZARD LEVEL 'A'.
2. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR.
3. SUPPORT AND BRACING OF ALL PIPING SHALL BE IN ACCORDANCE WITH THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF PLUMBING PIPING SYSTEMS", OR THE "SUPERSTRUT SEISMIC RESTRAINT SYSTEM" FOR PIPING ONLY.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PIPE ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, LIGHT FIXTURES, SKYLIGHTS, ETC.
6. PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL CONDENSATE DRAIN CONNECTIONS TO MECHANICAL EQUIPMENT.
7. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PLUMBING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
8. FOR PLUMBING FIXTURE MOUNTING HEIGHTS AND LOCATIONS, REFER TO THE ARCHITECTURAL DRAWINGS.
9. ALL PLUMBING CONVEYING OR DISPENSING WATER FOR HUMAN CONSUMPTION SHALL COMPLY WITH AB 1953 FOR LEAD CONTENT.
10. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. DO NOT SCALE FROM PLUMBING DRAWINGS.
11. ALL WALL CLEAN-OUTS SHALL BE ACCESSIBLE BY AN ACCESS PANEL.
12. PROVIDE A DOUBLE EXTERIOR CLEAN-OUT (DFCO) ON ALL SANITARY LINES EXITING THE BUILDING.
13. ALL FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH A TRAP PRIMER.
14. FIXTURES DESIGNATED AS ADA ACCESSIBLE BY ARCHITECT SHALL BE INSTALLED AT ADA ACCESSIBLE HEIGHT PER ARCHITECTURAL DETAILS.
15. ALL DOMESTIC COLD AND HOT WATER TAKE-OFFS SHALL HAVE AN ISOLATION SHUT-OFF VALVE.
16. CONTRACTOR SHALL DEWATER ANY AREA AT OR BELOW GRADE PRIOR TO SETTING EQUIPMENT.
17. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED TO PREVENT FREEZING.
18. ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE INSPECTION AUTHORITY. NOTHING IN THESE PLANS IS TO BE CONSTUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHER APPLICABLE PROJECT SPECIFICATIONS:

LIST OF APPLICABLE CODES
2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARD CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCE STANDARDS CODE (CBC), PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

APPLICABLE STANDARDS
FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

19. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE FACILITY, UTILITIES AND APPURTENANCE CAUSED BY THE WORK IN THEIR SCOPE. CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGE AT NO ADDITIONAL COST TO THE OWNERS BY INSTALLATION THE FACILITY OF NEW WORK.

MEP COMPONENT ANCHORAGE NOTES:

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTION 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW AND SHALL BE IN ACCORDINANCE WITH DSA IR 16-13. THE MEP DESIGN PROFESSIONALENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARF IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☒ E☐ OPTION 1: PROJECT-SPECIFIC DESIGN
P6.1
MP☐ MD☐ PP☐ E☐ OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL
MP☐ MD☐ PP☐ E☐ OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL

DRAWING INDEX

SHEET	DESCRIPTION
P0.0	PLUMBING SYMBOLS, LEGENDS & GENERAL NOTES
P1.1	PLUMBING SITE PLAN
P1.2	PLUMBING ENLARGED SITE PLAN
P2.1	PLUMBING FLOOR PLAN
P2.2	PLUMBING ENLARGED FLOOR PLAN
P2.3	PLUMBING ENLARGED FLOOR PLAN
P2.4	PLUMBING ENLARGED FLOOR PLAN
P4.1	PLUMBING ROOF PLAN
P5.1	PLUMBING SCHEDULES
P6.1	PLUMBING DETAILS
P6.2	PLUMBING DETAILS

ABBREVIATIONS

NOTE: 1. ALL ABBREVIATIONS MAY NOT BE USED ON THESE DRAWINGS.

AAP	AREA ALARM PANEL	MH	MANHOLE
AAV	AUTOMATIC AIR VENT	MS	MOP SINK
A.F.F.	ABOVE FINISHED FLOOR	N.C.	NORMALLY CLOSED
AP	ACCESS PANEL	NIC	NOT IN CONTRACT
B.F.F.	BELOW FINISHED FLOOR	N.O.	NORMALLY OPEN
BFP	BACKFLOW PREVENTER	O.F./C.I.	OWNER FURNISHED/CONTRACTOR INSTALLED
BOB	BOTTOM OF BEAM	O.F./O.I.	OWNER FURNISHED/OWNER INSTALLED
BOP	BOTTOM OF PIPE	OFD	OVERFLOW DRAIN
BTUH	BRITISH THERMAL UNITS PER HOUR	PH	PHASE
CA	COMPRESSED AIR	PIV	POST INDICATOR VALVE
C/C	CUT AND CAP	PRV	PRESSURE REDUCING VALVE
CFH	CUBIC FEET PER HOUR	RD	ROOF DRAIN
CFS	CUBIC FEET PER SECOND	RE:	REFER TO
CI	CAST IRON	R.I.C.	ROUGH-IN AND CONNECT
CLG	CEILING	RO	REVERSE OSMOSIS
CO	CLEANOUT	RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER
CONN	CONNECTION	RPM	REVOLUTIONS PER MINUTE
CONT.	CONTINUATION	RVB	REFRIGERATOR VALVE BOX
DF	DRINKING FOUNTAIN	SD	STORM DRAIN
DPV	DRY PIPE VALVE	S.F.	SQUARE FEET
DWG.	DRAWING	SIA.	SIAMESE
EA	EACH	SK	SINK
EL.	ELEVATION	T.O.P.	TOP OF PIPE
EDF	ELECTRIC DRINKING FOUNTAIN	TP	TRAP PRIMER
FCO	FLOOR CLEANOUT	TYP	TYPICAL
FD	FLOOR DRAIN	U	URINAL
FDV	FIRE DEPARTMENT VALVE	U/F	UNDERFLOOR
F.F.	FINISHED FLOOR	U/S	UNDERSLAB
FHC	FIRE HOSE CABINET	VAC. BRKR.	VACUUM BREAKER
F.L.	FLOW LINE	VIF	VERIFY IN FIELD
FS	FLOOR SINK	VTR	VENT THRU ROOF
FT	FEET	WC	WATER CLOSET
FU	FIXTURE UNITS	WCO	WALL CLEANOUT
GC	GENERAL CONTRACTOR	WH	WALL HYDRANT
GPH	GALLONS PER HOUR	WMB	WASHING MACHINE BOX
GPM	GALLONS PER MINUTE	YH	YARD HYDRANT
HB	HOSE BIBB	ZV	ZONE VALVE
HP	HORSEPOWER	(A)	ITEM NOTED TO BE ABANDONED
I.E.	INVERT ELEVATION	(D)	ITEM NOTED TO BE DEMOLISHED
KW	KILOWATTS	(E)	EXISTING ITEM
LAV	LAVATORY	(N)	NEW ITEM
MAP	MASTER ALARM PANEL	(R)	ZFITEM NOTED TO RELOCATED
MECH	MECHANICAL		

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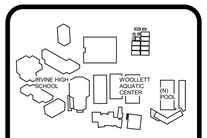

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

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DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLUMBING SYMBOLS, LEGENDS & GENERAL NOTES

P0.0

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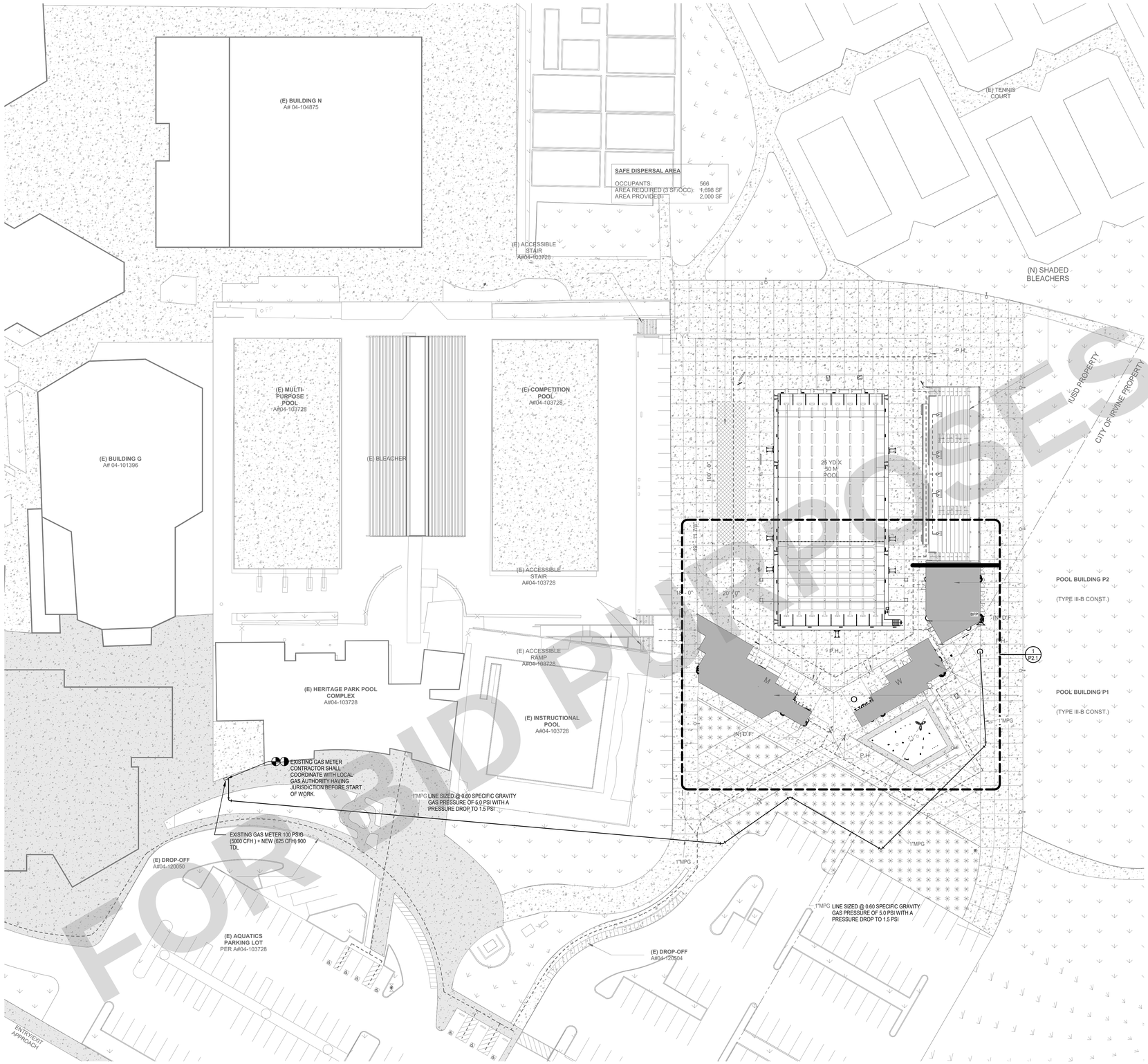
PLUMBING SITE PLAN
P1.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 SITE PLAN
1" = 30'-0"

GENERAL NOTES

1. FOR CONTINUATION OF ALL UTILITIES SEE BUILDING AS-BUILT/RECORD SET DRAWINGS.
2. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
3. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO BIDDING PROJECT.
4. INTERRUPTION OF EXISTING SERVICES: THE CONTRACTORS ATTENTION IS CALLED TO THE PRESENCE OF EXISTING, CONDUIT, PIPING, ETC. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGE BY HIM OR HIS CAUSED WORK TO THE EXISTING BUILDINGS, CONDUIT, PIPING, PLANTS ETC. NEW WORK AND INSTALLATIONS SHALL BE MADE WITH MINIMAL INTERRUPTIONS OF SERVICES TO EXISTING BUILDINGS ANY INTERRUPTIONS REQUIRED SHALL BE SCHEDULED TO MINIMIZE INCONVENIENCE TO THE OWNER, AND AT TIMES AS APPROVED IN ADVANCE BY THE ARCHITECT. NEW WORK AND INSTALLATIONS SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISITNG FACILITY. THE COMPLETED PROJECT SHALL BE A PROPERLY FUNCTIONING ENTITY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE, ETC. ANY EXISTING PIPING TO ACCOMODATE THE WORK. MATERIALS SHALL BE SPECIFIED UNLESS OTHERWISE APPROVED IN WRITING BY THE ARCHITECT. CONTRACTOR SHALL INCLUDE IN HIS BID ANY EXTRA WORK REQUIRED TO MINIMIZE SHUTDOWN TIME

KEY NOTES

1 AREA OF WORK

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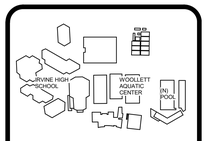

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN.10/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
REX DAVID WARD
No.M38155
Exp.09-30-2026
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLUMBING SITE PLAN

P1.1

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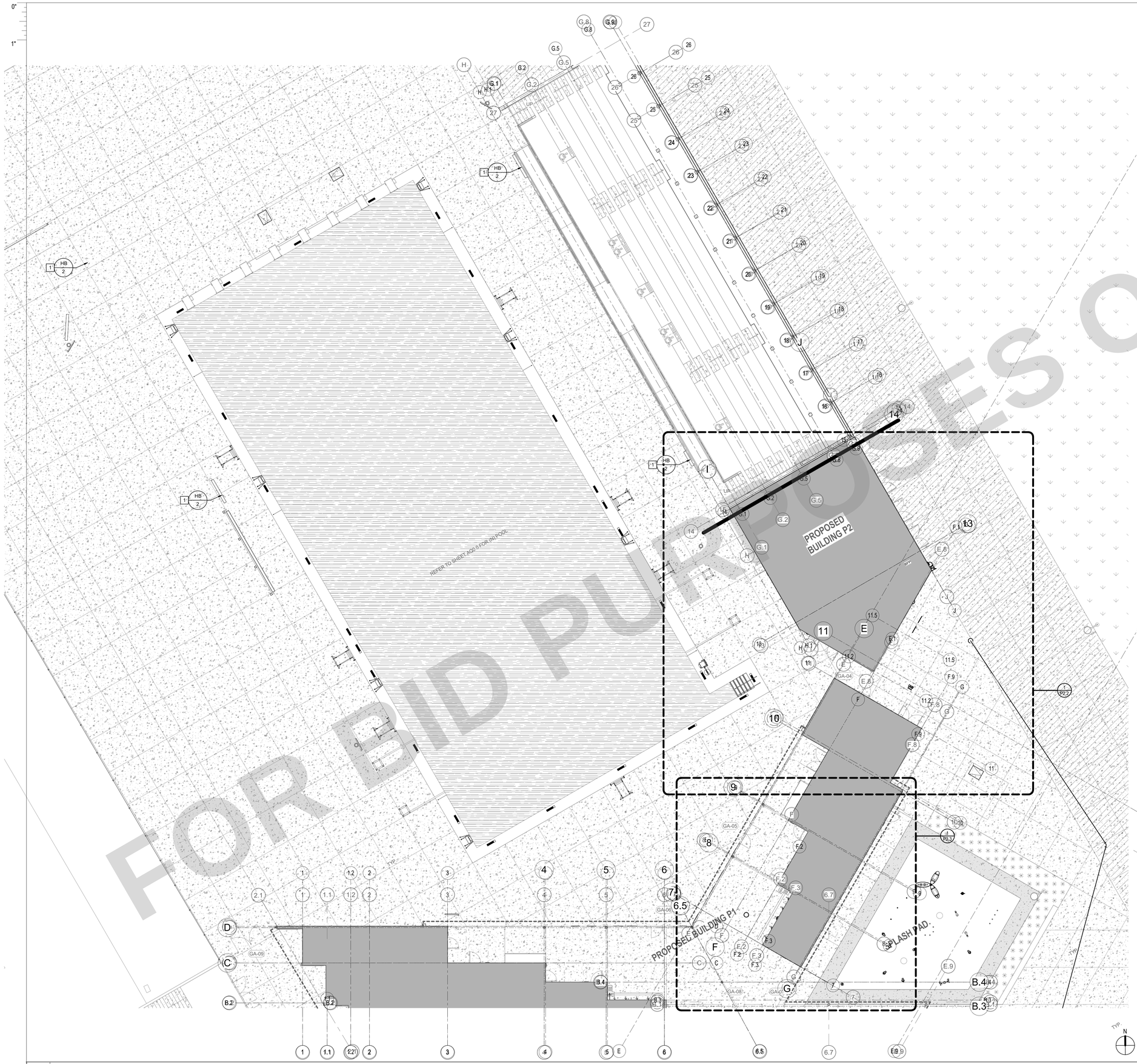
PLUMBING ENLARGED SITE PLAN
P1.2
FOR BLUEBEAM LABELING/OCR:



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GENERAL NOTES

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2. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
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KEY NOTES

1 PROVIDE HOSEBIBB W/ RECESSED LOCK BOX. PROVIDE 3/4" DOMESTIC COLD WATER LINE. (POC TO CIVIL)

1 ENLARGED SITE PLAN
1" = 10'-0"

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KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT BRUCE DU C-34832 REN. 10/31/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JEFF DAVID ADAMS No.M36155 Exp.09-30-2026 CIVIL STATE OF CALIFORNIA

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DATE	PROJECT NUMBER
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PLUMBING ENLARGED SITE PLAN

P1.2

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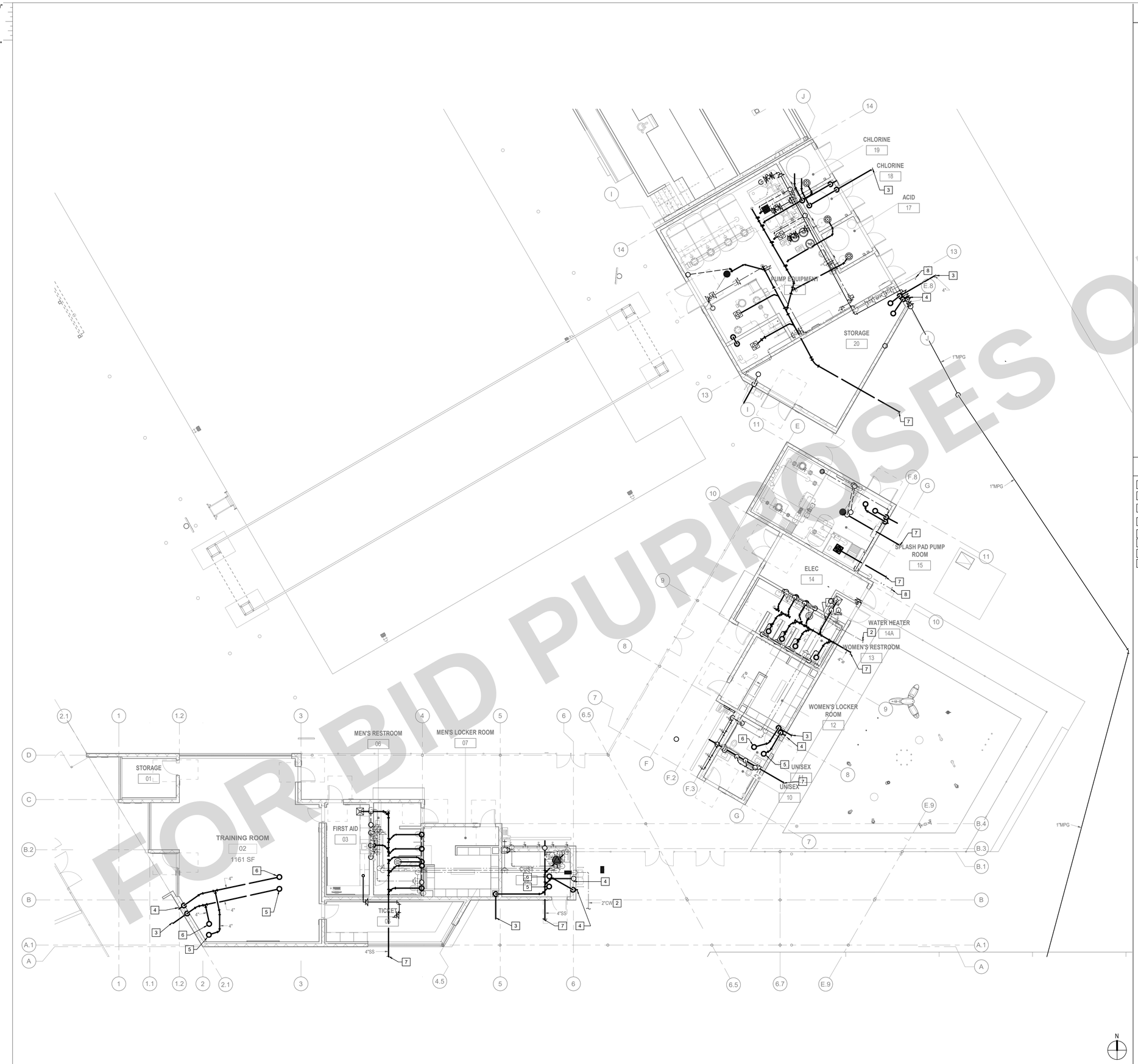
PLUMBING FLOOR PLAN
P2.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



GENERAL NOTES

1. ALL CONDENSATE DRAIN PIPING ABOVE CEILING SHALL SLOPE AT 1% UNLESS OTHERWISE NOTED.
2. FOR CONTINUATION OF ALL UTILITIES SEE BUILDING AS-BUILT/RECORD SET DRAWINGS.
3. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
4. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO BIDDING PROJECT.
5. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.
6. THE PLUMBING CONTRACTOR SHALL RUN ALL SERVICE LINES, ROUGH-IN AND MAKE FINAL CONNECTIONS TO ALL FIXTURES AND EQUIPMENT. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL TRIMS, TAILPIECES, STRAINERS, P-TRAPS, ARMS, HOT COLD WATER STOPS AND FAUCETS AS REQUIRED.

KEY NOTES

1	PIPING ABOVE IN CEILING SPACE
2	PIPING BELOW FLOOR / GRADE
3	4" SD DOWN TO BELOW GRADE. POINT OF CONNECTION TO CIVIL
4	4" OFD SPILL + 12" ABOVE GRADE. SPILL TO SPLASH BLOCK (3 / P6.2)
5	4" SD UP
6	4" OFD UP
7	4" SS BELOW GRADE POINT OF CONNECTION TO CIVIL (2 / P6.1)
8	3" CW BELOW GRADE W/ /SHUT OFF VALVE IN VAULT BELOW GRADE

1 FIRST FLOOR PLAN
1/8" = 1'-0"

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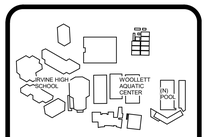
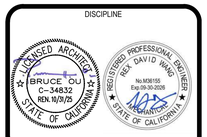


KEY PLAN NORTH: PLAN TRUE

DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

PLUMBING FLOOR PLAN

P2.1

PLUMBING ENLARGED FLOOR PLAN
P2.2
FOR BLUEBEAM LABELING/OCR:

FOR BID PURPOSES ONLY

KEY NOTES

1. ALL CONDENSATE DRAIN PIPING ABOVE CEILING SHALL SLOPE AT 1% UNLESS OTHERWISE NOTED.
2. FOR CONTINUATION OF ALL UTILITIES SEE BUILDING AS-BUILT/RECORD SET DRAWINGS.
3. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
4. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO BIDDING PROJECT.
5. WHERE PLANS INDICATE NEW FIXTURES OR EQUIPMENT CONNECTING TO EXISTING SERVICES, PLUMBING CONTRACTOR SHALL MODIFY AND/OR EXTEND EXISTING PIPING OR ROUGH-INS AS REQUIRED TO SUIT THE NEW FIXTURE.
6. THE PLUMBING CONTRACTOR SHALL RUN ALL SERVICE LINES, ROUGH-IN AND MAKE FINAL CONNECTIONS TO ALL FIXTURES AND EQUIPMENT. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL TRIMS, TAILPIECES, STRAINERS, P-TRAPS, ARMS, HOT COLD WATER STOPS AND FAUCETS AS REQUIRED.

EQUIPMENT SCHEDULE

ID	ITEM
1	CHEMICAL CONTROLLER REFER:
2	TOTAL LABS SOLUTION WORK STATION REFER TO SPECIFICATIONS
3	VARIABLE FREQUENCY DRIVE AND BYPASS PANEL
4	FLOW METER SENSOR REFER:
5	IMPACT FLOW METER REFER:
6	12'-0"x6'-0"x5'-6" DEEP BACKWASH CATCH BASIN
7	LADDER RUNGS
8	SAFETY CHAIN
9	REMOVABLE RAILING
10	LINK SEAL (TYP. ALL PENETRATIONS) REFER:
11	HARD PIPE TO DRAIN
12	CO_2 FILL BOX REFER:
13	CO_2 TANK REFER:
14	SODIUM HYPOCHLORITE TANK REFER:
15	VAPOR RECOVERY SYSTEM REFER:
16	MURIATIC ACID TANK REFER:
17	BACKWASH LEVEL SENSOR
18	FREE AND TOTAL CHLORINE SENSOR
19	TOTAL ALKALINITY PANEL

GENERAL NOTES

1. PIPING ABOVE EXPOSED
2. PIPING BELOW FLOOR / GRADE
3. PROVIDE 2" SANITARY SEWER , 2" VENT TO FLOOR DRAIN.
4. PROVIDE TRAP PRIMER BEHIND ACCESS PANEL. ROUTE 1/2" TP LINE DOWN TO BELOW FLOOR, ROUTE TO FLOOR DRAIN P-TRAP. (10 / P6.1)
5. 3/4" CONDENSATE DRAIN DOWN IN WALL AND CONNECTED TO TRAP OF SINK / LAVATORY. REFER TO PLUMBING PLANS FOR DETAILS. (14 / P6.1)
6. 4" SD DOWN TO BELOW GRADE. POINT OF CONNECTION TO CIVIL
7. 4" OFD SPILL + 12" ABOVE GRADE. SPILL TO SPLASH BLOCK
8. 4" SD UP (3 / P6.2)
9. 4" OFD UP
10. 4" SS BELOW GRADE POINT OF CONNECTION TO CIVIL
11. 4" VTR
12. 2" VTR
13. 3" CW BELOW GRADE W/ /SHUT OFF VALVE IN VAULT BELOW GRADE (5 / P6.1)
14. CONNECT BUILDING HIGH PRESSURE GAS SUPPLY (2 PSI) TO GAS SITE MAIN. PROVIDE AMERICAN METER ---- 1-½" INLET AND OUTLET WITH -" ORIFICE GAS PRESSURE REGULATOR (2PSI TO 7"W.C.). MOUNT ABOVE GRADE IN PROTECTIVE CAGE. SIZED PER 2016 C.P.C. TABLE 1216.2(1) AT 60 FT COLUMN AND MAXIMUM GAS LOAD OF 2520.0 MBH/2290 CFH.
15. 3/4" CW LINE TO HOSE BIBB.
16. PIPE MOUNTED ON WALL (EXPOSED)
17. 1-1/2" GAS LINE DOWN TO POOL HEATER. PROVIDE SHUT-OFF VALVE, UNION AND FLEX CONNECTION INSTALL PER MANUFACTURES RECOMENDATIONS. PROVIDE DRIP LEG AS REQUIRED (--- CFH)
18. PIPE PENETRATION REQUIRED. SLEEVE THROUGH.

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
P1	12"	FROM M1 TO PP1
P2	8"	FROM GUTTER DROP OUT TO SURGE TANK
P3	8"	FROM GUTTER DROP OUT TO SURGE TANK
P4	8"	FROM GUTTER DROP OUT TO SURGE TANK
P5	8"	FROM GUTTER DROP OUT TO SURGE TANK
P6	<varies>	FROM PP1 TO F1
P7	12"	FROM F1 TO RETURN INLETS
P8	4"	FROM P7 TO H1
P9	4"	FROM H1 TO P7
P10	6"	FROM P6 TO BACKWASH BASIN
P11	6"	FROM L1 TO SURGE TANK
P12	4"	FROM SURGE TANK TO ATMOSPHERE
P13	12"	FROM F1 TO BACKWASH BASIN
P14	6"	FROM PP2 TO F2
P15	6"	FROM M2 TO BALANCE TANK
P16	2"	FROM P15 TO STORM
P17	6"	FROM BALANCE TANK TO PP2
P18	6"	FROM F2 TO BACKWASH BASIN
P19	6"	FROM F2 TO BALANCE TANK
P20	3"	FROM L2 TO BALANCE TANK
P21	4"	FROM PP3 TO WATER FEATURE MANIFOLD
P22	4"	FROM BALANCE TANK TO PP3
P23	1"	FROM P21 TO TEAM BLASTER
P24	1 1/2"	FROM WATER FEATURE MANIFOLD TO TULIP FEATURE
P25	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P26	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P27	1"	FROM WATER FEATURE MANIFOLD TO WATERFALL 3 FEATURE
P28	1"	FROM WATER FEATURE MANIFOLD TO FISH FEATURE
P29	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P30	1 1/2"	FROM WATER FEATURE MANIFOLD TO DOUGHNUT FEATURE
P31	1 1/2"	FROM WATER FEATURE MANIFOLD TO AQUALUME FEATURE
P32	1"	FROM WATER FEATURE MANIFOLD TO WATER O FEATURE
P33	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P34	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
P35	4"	FROM BALANCE TANK TO ATMOSPHERE
P36	6"	FROM P14 TO BACKWASH BASIN

1 ENLARGED FLOOR PLAN - PUMP ROOMS
1/4" = 1'-0"

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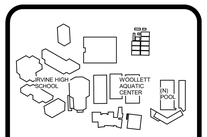
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN. 10/31/26
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
REX DAVID WARD
No.M38155
Exp.09-30-2026
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLUMBING ENLARGED FLOOR PLAN

P2.2

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_P23_Central.rvt
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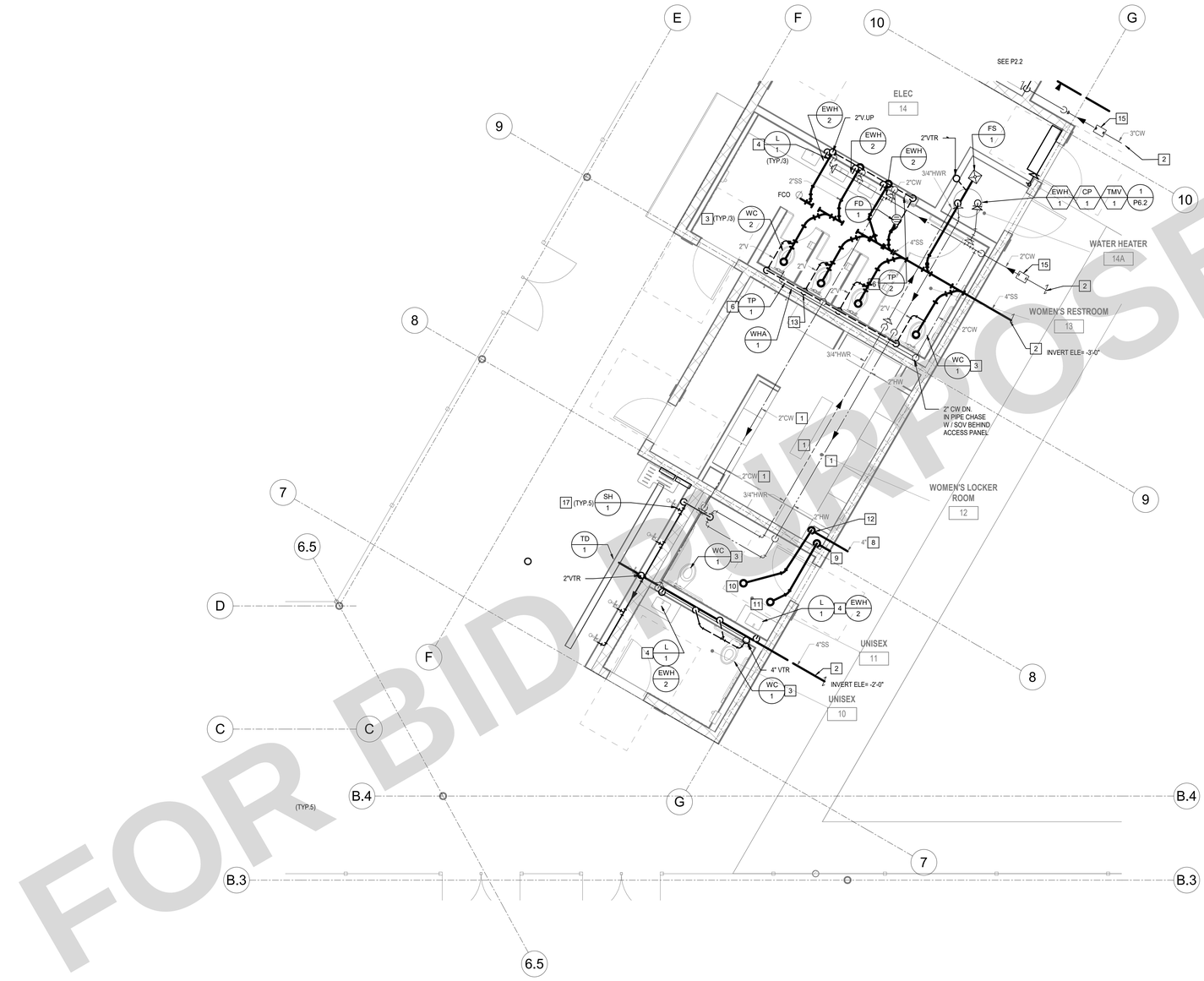
PLOT STAMP: 8/6/2025 2:35:34 PM

PLUMBING ENLARGED FLOOR PLAN
P2.3
FOR BLUEBEAM LABELING/OCR:

0"
1"



KEY NOTES

1. PIPING ABOVE IN CEILING SPACE
2. PIPING BELOW FLOOR / GRADE
3. PROVIDE 4" SANITARY SEWER , 2" VENT AND 1-1/2" CW TO WATER CLOSET. PROVIDE CLEANOUT AS REQUIRED.
4. LAVATORY AND FAUCET TO BE INSTALLED ADA COMPLIANT . PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ANGLE STOP, SINK SUPPLY, COMPLETE WITH LOOSE KEY, CHROME ESCUTCHEON PLATE COMPRESSION INLET, HEAVY DUTY OUTLET RISER. PROVIDE 2" SANITARY SEWER , 2" VENT AND 1/2" H/ CW
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6. PROVIDE TRAP PRIMER BEHIND ACCESS PANEL. ROUTE 1/2" TP LINE DOWN TO BELOW FLOOR, ROUTE TO FLOOR DRAIN P-TRAP. (10 / P6.1)
7. 3/4" CONDENSATE DRAIN DOWN IN WALL AND CONNECTED TO TRAP OF SINK / LAVATORY. REFER TO PLUMBING PLANS FOR DETAILS. (14 / P6.1)
8. 4" SD DOWN TO BELOW GRADE. POINT OF CONNECTION TO CIVIL
9. 4" OFD SPILL + 12" ABOVE GRADE. SPILL TO SPLASH BLOCK. (3 / P6.2)
10. 4" SD UP
11. 4" OFD UP
12. NOT USED
13. 4" VTR
14. NOT USED
15. SHUT OFF VALVE IN VAULT BELOW GRADE (5 / P6.1)
16. DRINKING FOUNTAIN INSTALLED AT ACCESSIBLE HEIGHT ; REFER TO ARCHITECTURAL PLANS FOR DETAILS. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ROUGH-IN, ANGLE STOP, SUPPLY LINE, EXTEND AND PROVIDE 1/2" CW.
17. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ROUGH-IN, ANGLE STOP, SUPPLY LINE, EXTEND AND PROVIDE 1/2" TEPI D WATER TO EACHE SHOWER HEAD..

GENERAL NOTES

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FOR BID PURPOSES ONLY

N

1 ENLARGED FLOOR PLAN - WOMENS LOCKER ROOM
1/4" = 1'-0"

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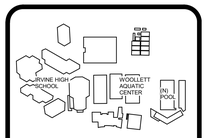

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN.10/31/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER REX DAVID WADE No.M38165 Exp.09-30-2026 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLUMBING ENLARGED FLOOR PLAN

P2.3

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_P23_Central.rvt

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DRAWN BY:
Author
PLOT STAMP:
8/6/2025 2:35:34 PM

PLUMBING ENLARGED FLOOR PLAN
P2.4
FOR BLUEBEAM LABELING/OCR:

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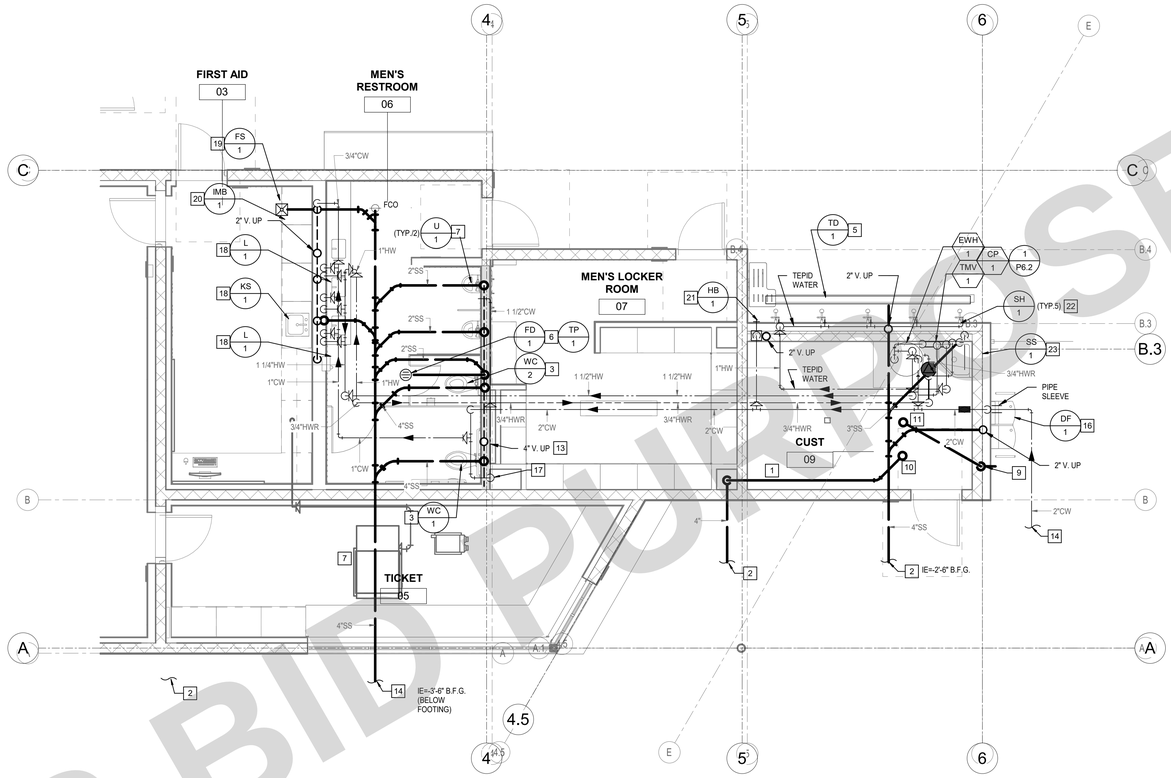
1"



KEY NOTES

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3. PROVIDE 4" SANITARY SEWER , 2" VENT AND 1-1/2" CW TO WATER CLOSET. PROVIDE CLEANOUT AS REQUIRED.
4. LAVATORY AND FAUCET TO BE INSTALLED ADA COMPLIANT. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ANGLE STOP, SINK SUPPLY, COMPLETE WITH LOOSE KEY, CHROME ESCUTCHEON PLATE COMPRESSION INLET, HEAVY DUTY OUTLET RISER. PROVIDE 2" SANITARY SEWER , 2" VENT AND 1/2" H/ CW
5. PROVIDE 2" SANITARY SEWER , 2" VENT TO TRENCH DRAIN.
6. PROVIDE TRAP PRIMER BEHIND ACCESS PANEL. ROUTE 1/2" TP LINE DOWN TO BELOW FLOOR, ROUTE TO FLOOR DRAIN P-TRAP.
7. 3/4" CONDENSATE DRAIN DOWN IN WALL AND CONNECTED TO TRAP OF SINK / LAVATORY. REFER TO PLUMBING PLANS FOR DETAILS.
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17. PROVIDE URINAL PROVIDE 2" SANITARY SEWER , 2" VENT AND 1" CW
18. SINK AND FAUCET TO BE INSTALLED ADA COMPLIANT. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ANGLE STOP, SINK SUPPLY, COMPLETE WITH LOOSE KEY, CHROME ESCUTCHEON PLATE COMPRESSION INLET, HEAVY DUTY OUTLET RISER. PROVIDE 2" SANITARY SEWER , 2" VENT AND 1/2" H/ CW
19. PROVIDE 2" SANITARY SEWER , 2" VENT TO FLOOR SINK.
20. PROVIDE 1/2" CW DN. TO ICE MAKER, PROVIDE VACUUM BREAKER. ROUTE INDIIRECT DRAIN TO FLOOR SINK
21. PROVIDE 3/4" CW DN. TO HOSE BIBB
22. PROVIDE 1/2" TEPID WATER TO SHOWERS

GENERAL NOTES:

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FOR BID PURPOSES ONLY

1 ENLARGED FLOOR PLAN - MENS LOCKER ROOM
1/4" = 1'-0"

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CLIENT LOGO
CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT BRUCE CU C-34832 REN. 10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER DAVID WANG No.M36155 Exp.09-30-2026 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 08/07/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

PLUMBING ENLARGED FLOOR PLAN

P2.4

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_P23_Central.rvt
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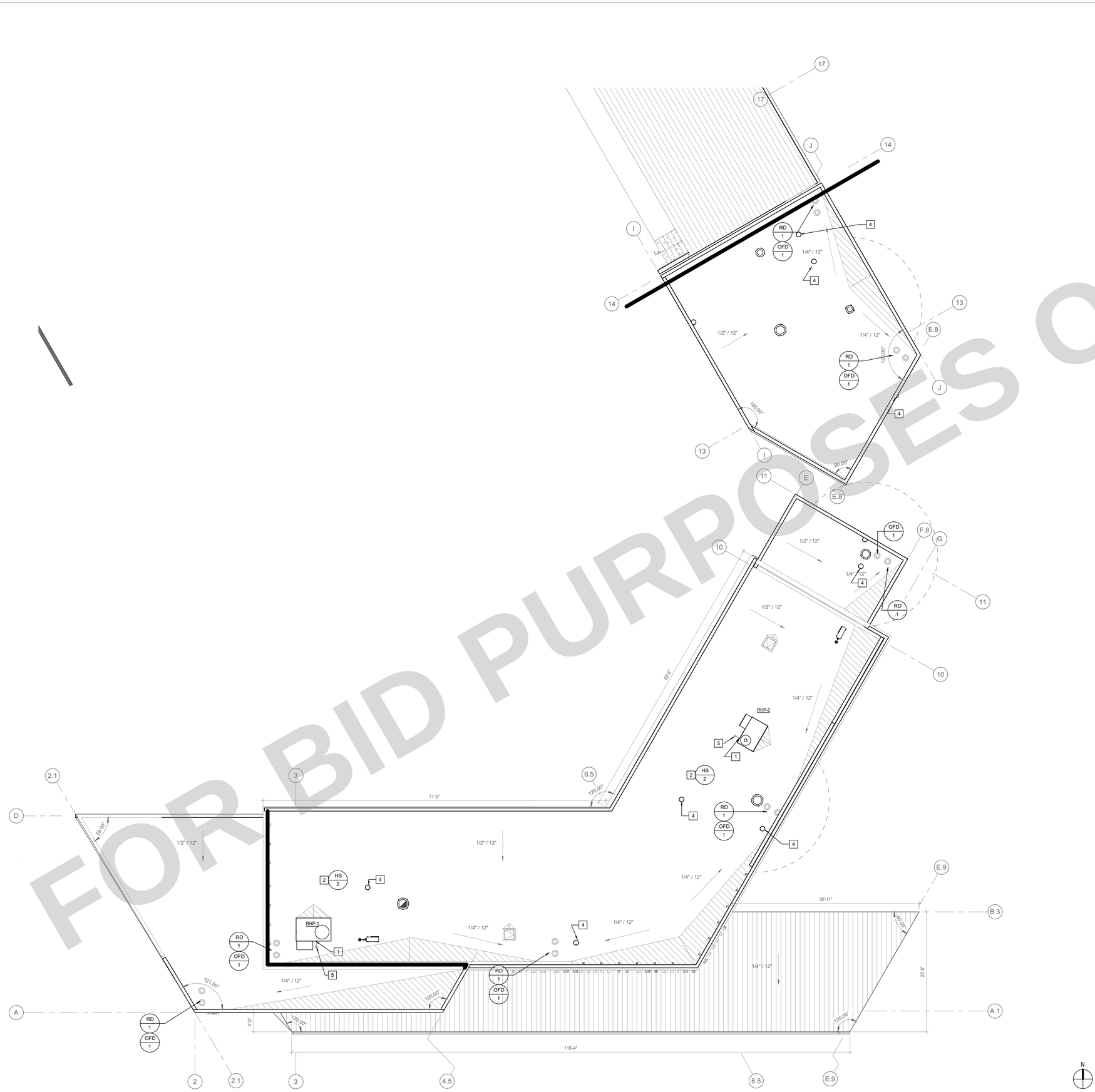
DRAWN BY: Author
PLOT STAMP: 8/6/2025 2:35:35 PM

PLUMBING ROOF PLAN
P4.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



FOR BID PURPOSES ONLY

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KEY NOTES

1. MECHANICAL EQUIPMENT SHOWN FOR FEREFENCE ONLY. PROVIDE 3/4" CD TRAP AND VENT AS REQUIRED — 10 / P6.2
2. 3/4" CW TO HOSE BIBB — 14 / P6.1
3. 2" VENT TO ROOF. — 5 / P6.1
4. 4" VENT TO ROOF.
5. 3/4" CONDENSATE DRAIN DOWN TO FLOOR BELOW.

1 ROOF PLAN
1/8" = 1'-0"

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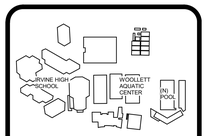

KEY PLAN — NORTH: PLAN / TRUE

DISCIPLINE

LICENSED ARCHITECT — BRUCE OU — C-34832 — REN. 10/31/25 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — REX DAVID WARNER — No.M38155 — Exp.09-30-2026 — STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLUMBING ROOF PLAN

P4.1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_P23_Central.rvt
CHECKED BY: Checker
DRAWN BY: Author
PLOT STAMP: 8/6/2025 2:35:36 PM

0"
1"

PLUMBING SCHEDULES
P5.1
FOR BLUEBEAM LABELING/OCR:

WATER HEATER SCHEDULE

NO.	SERVICE	LOCATION	MANUFACTURER MODEL	TANK CAPACITY	KW	FLA	OPER. WT.(LBS.)	ELEC. REQ.	TEMP. RISE 80°F	DIMENSIONS	REMARKS
WH 1	ELECTRIC WATER HEATER	HEATER ROOM	A.O. SMITH DVE -80	100	---	-	2,640	208/3/60	40	25.5" DIA. X 60-1/4"H	CONTRACTOR PROVIDE CONDENSATE NEUTRALIZING KIT # 100157721
WH 2	ELECTRIC INSTA HOT	RESTROOMS	CHRONOMITE SNR 15 L / 208		3.5			208/1/60	40		TEMPERATURE SETTING 110 DEGREES

CIRCULATOR PUMP SCHEDULE

NO.	SERVICE	LOCATION	MANUFACTURER MODEL	TYPE	EFFICIENCY	GPM	TDH	WATTS	RPM	VOLT/PH/HZ	OPER. WT.(LBS.)	REMARKS
CP 1	DOM. HOT WATER	HEATER ROOM	BELL & GOSSETT E-60	VERTICAL, IN-LINE	74%	5	10	39	2800	115/1/60	9.0	

EXPANSION TANK SCHEDULE

NO.	SERVICE	LOCATION	MANUFACTURER MODEL	QUANTITY	TOTAL VOL.(GAL)	HEIGHT	DIAM.	OPER. WT.(LBS.)	REMARKS
ET 1	DOMESTIC HOT ATER	HEATER ROOM	AMTROL INC THERM-X-TROL MODEL ST-5C	1	2.1	19 15/16"	16 1/4"	14	

TEMPERATURE MIXING VALVE SCHEDULE

NO.	MANUFACTURER MODEL	LOCATION	TYPE	SIZE	TOTAL VOL.(GAL)	DIAM.	OPER. WT.(LBS.)	REMARKS
TMV 1	LEONARD TM-420B-LF-DT	WATER HEATER		-	----	-	-	--- SEE DETAIL
TMV 2	LEONARD TM-800- LF	EEWHSH-1						

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	S or W	V	CW	HW	DESCRIPTION
WC 1	WATER CLOSET (STUDENT ACCESSIBLE)	4"	2"	1-1/2"	---	AMERICAN STANDARD MADERA YOUTH FLOWISE #2599.001.128 FLOOR MOUNTED TOILET SYSTEM WITH 6047.161.002 MANUAL FLUSH VALVE WITH METAL COVER AND 5901.100 HEAVY DUTY FRONT ADJUSTABLE OPEN FRONT SEAT CBC COMPLAINT ANGLE STOP CHICAGO FAUCET 1017-ABCP OR MCGUIRE LFH2166LK
WC 2	WATER CLOSET (ADULT ACCESSIBLE)	4"	2"	1-1/2"	---	AMERICAN STANDARD MADERA FLOWISE #2857.128 FLOOR MOUNTED TOLIET SYSTEM WITH 6047.121 MANUAL FLUSH VALVE WITH METAL COVER AND 5901.100 HEAVY DUTY OPEN FRONT ADJUSTABLE SEAT. FLUSH VALVE HANDLE TO BE MOUNTED ON WIDE SIDE OF STALL, 1.28GPF ADA CBC COMPLIANT ANGLE STOP CHICAGO FAUCET 1017-ABCP OR MCGUIRE LFH2166LK
U 2	URINAL (ADULT ACCESSIBLE)	2"	2"	1"	---	AMERICAN STANDARD #6590.001 WASHBROOK FLOWISE WALL HUNG URINAL 0.125 GPF. VITREOUS CHINA. SLOAN ROYAL 186-0.125 GPF EXPOSED MANUAL FLUSH VALVE. JR. SMITH #0600 SERIES URINAL SUPPORTS. PROVIDE WALL CLEANOUTS ABOVE EA. URINAL
L 1	LAVATORY (STUDENT ACCESSIBLE)	2"	2"	1/2"	1/2"	AMERICAN STANDARD NO. 0355.012 "LUCERNE WALL HUNG LAVATORY" 20"X18" WALL HUNG, COMPLETE WITH CHICAGO NO. 2200-ABCP FAUCET WITH 0.5GPM AERATOR AND VANDAL RESISTANT COVER PLATE. MCGUIRE NO. 155A 1-1/4" OUTLET "OPEN GRID P.O. PLUG" MCGUIRE NO. PW8090NCO 1-1/4" LA PATTERN TRAP WITH TRAP AND AUPPLY COVERS. GALVANIZED NIPPLE AND CHROMIUM PLATED BRASS CASING. CHICAGO NO. 1017-ABCP LOOSE KEY STOPS WITH RIDGID SUPPLIES, AND JOSAM LAV CARRIER 17100-202P MOUNT AT ADA ACCESSIBLE HEIGHT
L 2	LAVATORY (ADULT ACCESSIBLE)	2"	2"	1/2"	1/2"	AMERICAN STANDARD NO. 0356.028 "LUCERNE WALL HUNG LAVATORY" 20" X18" WALL HUNG, COMPLETE WITH CHICAGO NO. 2200-AABCP FAUCET WITH 0.5GPM AERATOR AND VANDAL RESISTANT COVER PLATE. MCGUIRE NO. 155A 1-1/4" OUTLET "OPEN GRID P.O. PLUG" MCGUIRE NO. PW8090NCO 1-1/4" LA. PATTERN TRAP WITH TRAP AND AUPPLY COVERS. GALVANIZED NIPPLE AND CHROMIUM PLATED BRASS CASING. CHICAGO NO. 1017-ABCP LOOSE KEY STOPS WITH RIDGID SUPPLIES, AND JOSAM LAV CARRIER 17380-AAB MOUNT AT ACCESSIBLE HEIGHT
KS 1	SINK	2"	2"	1/2"	1/2"	JUST SL-ADA-1921-A-GR, 18 GA STAINLESS STEEL, SINGLE COMPARTMENT, 21"X19" X 4-1/2, 3-HOLE PUNCH WITH CHICAGO 2300-8E34ABCP LEVER HANDLE FAUCET WITH 1.5 GPM FLOW RESTRICTOR, J-35-FS PERFORATED GRID DRAIN, SPEEDWAY COMPRESSION WALL STOPS & SUPPLY, P-TRAP. CBC COMPLIANT FOR ACCESS.
IMB 1	ICE MAKER BOX	-	2"	1/2"		GUY GRAY FRIB12DSAB
SS 1	SERVICE SINK	3"	2"	3/4"	3/4"	CECO NO. 871 "CORNER SINK", ENAMELED CAAST IRON, CORNER FLOOR MOUNTED, COMPLETE WITH CHICAGO NO. 897 FAUCET, CECO NO. B71-3", 3" DIAMETER DRAIN WITH FLAT CHROME STRAINER, CECO NO. B-872 COATED WIRE RIM GUARD AND HOSE
DF 1	DRINKING FOUNTAIN	2"	2"	3/4"	---	ELKAY NO. EZH20 WALL MOUNTED FILING STATION W / SINGLE ADA COOLER. NON FILTERED 8 GPH BOTTLE FILLER W/ SOLENOID VALVE, CONTROLLED BY TRANSFORMER 115 / 60HZ / 6 FLA 370 WATTS 14 GAUGE STAINLESS STEEL MLP100 MOUNTING BRACKET COMPLETE WITH VANDAL PROOF BOTTOM CHICAGO NO. 4SLKABCP ANGLE STOP W/ 1\2" FEMALE INLET & OUTLET. MOUNT AT ADA ACCESSIBLE HEIGHT.
SH 1	SHOWER	2"	2"	3/4"	3/4"	BRADLEY SHOWER WS-1F-HD-S15 INDIVIDUAL FLUSH-MOUNTED WALL SHOWER. 18 GAUGE TYPE 304 SS PANEL 1.5GPM FLOW CONTROL ½" NPT CONNECTIONS ACCESS THROUGH BACK OF SHOWER
WHA 1	WATER HAMMER ARRESTER	---	---	VARIES	VARIES	PPP SC SERIES HYDRA-RESTER, SEAMLESS COPPER CHAMBER SUITABLE FOR CONCEALED INSTALLATION, SIZE INDICATED ON PLANS. INSTALL PER MANUFACTURER RECOMMENDATION.
SB 1	SUPPLY BOX	---	---	3/4"	---	SIOUX CHIEF 696-1011 RECESSED WATER SUPPLY BOX WITH FRAME, SHUT-OFF VALVE AND ARRESTER.
TP 1	TRAP PRIMER	---	---	1/2"	---	PRECISION PLUMBING PRODUCTS INC. BRASS DIAPHRAM TYPE TRAP PRIMER W/INTEG. VAC. BREAKER & GRAVITY OUTLET, PROVIDE INLET BALL VALVE & ACCESS PANEL. SEE PLANS FOR NUMBER OF TRAPS SERVED.
FD 1	FLOOR DRAIN	2"	1-1/2"	TP	---	ZURN Z415-5B COATED CAST IRON WITH 5" ROUND CHROME PLATED GRATE.INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS & NO HUB OUTLET. TRAP PRIMER CONNECTION. GRATE OPENING NOT MORE THAN 1/4".
FS 1	FLOOR SINK	2"	1-1/2"	TP	---	ZURN Z1900 - 12X12 X 6" SUMP DEPTH. CAST IRON BODY ,SQUARE, LIGHT DUTY GRATE. SLOTTED OPENINGS , ACID RESISTANT, PORCELAIN ENAMEL. W / ANTI SPLASH INTERIOR BOTTOM DOME STRAINER . GRATE SPECIFIED BY CONTRACTOR.
HB 1	HOSE BIBB	---	---	3/4"	---	WOODFORD 24P-3/4 WITH WALL FLANGE AT WALLS; WOODFORD Y24 AT STAND PIPES.BRASS FAUCET, SHIELDED LOOSE KEY HANDLE, NON REMOVABLE VACUUM BREAKER, & ROUGH CHROME FINISH FOR OUTDOORS; POLISHED CHROME INDOORS.
HB 2	HOSE BIBB (POOL AREA)	---	---	3/4"		WOODFORD 24P-3/4 WITH WALL FLANGE AT WALLS; WOODFORD Y24 AT STAND PIPES.BRASS FAUCET, SHIELDED LOOSE KEY HANDLE, NON REMOVABLE VACUUM BREAKER, & ROUGH CHROME FINISH FOR OUTDOORS; POLISHED CHROME INDOORS.
BFP 1	BACKFLOW PREVENTOR	---	---	3"	---	FEBCO 860, REDUCED PRESSURE TYPE BACKFLOW PREVENTER, DRAIN TO BACKWASH PIT, ACCESS AND CLEARANCE PER 2022 C.P.C. 603.4.12. (PER CITY OF PALMDALE APPROVED TYPE)
RD 1	SEE PLANS FOR SIZES					JOSAM 22010-3-22-Z SERIES COATED CAST IRON ROOF DRAIN, CAST IRON MEDIUM BEEHIVE DOME, NON-PUNCTURING CLAMP RING WITH INTEGRAL GRAVEL STOP, MEDIUM SUMP WITH ROOF FLANGE AND BOTTOM OUTLET UNDER DECK CLAMP SUMP RECEIVER.
OFD 1	SEE PLANS FOR SIZES					JOSAM 22010-3-22-Z SERIES COATED CAST IRON ROOF DRAIN, CAST IRON MEDIUM BEEHIVE DOME, NON-PUNCTURING CLAMP RING WITH INTEGRAL GRAVEL STOP, MEDIUM SUMP WITH ROOF FLANGE AND BOTTOM OUTLET UNDER DECK CLAMP SUMP RECEIVER.
DN 1	SEE PLANS FOR SIZES					JOSAM 25010-B-T CAST BRONZE DOWNSPOUT NOZZLE, LOOSE WALL FLANGE AND THREADED INLET SS BIRD SCREEN CONNECT TO NO HUB PIPING WITH JOSAM 88350 ADAPTER
RR 1	ROOF RECEPTOR	SEE PLANS FOR SIZES				ZURN NO. Z-127-E, RECEPTOR DRAIN " , 8-5/8" DIA. , DUCCO COATED CAST IRON BODY, COMPLETE WITH WATER DAM, DOME BOTTOM STRAINER AND P-TRAP
EEW 1	EMERGENCY EYEWASH			1-1/4"		BRADLEY S19345JXBT BARRIER FREE DRENCH SHOWER AND HALO EYE/FACE WASH FLUSH MOUNTED, SHOWER ACTIVATION DOES NOT BREAK PLANE OF WALL INTEGRAL STRAINER SPINTEC SHOWER HEAD P-TRAP MIXING VALVE NAVIGATOR S19-2150 VALVE IN RECESSED PANEL BOX ABOVE SHOWER WITH ACCESS PANEL JOSAM 58632 TRAP PRIMER JOSAM 88250
TD 1	TRENCH DRAIN					ZURN NO. ZPT1, PRO SHALLOW DRAIN " , (CUSTOM) , DUCCO COATED CAST IRON BODY, COMPLETE WITH WATER DAM, DOME BOTTOM STRAINER AND P-TRAP. (HEEL PROOF)
EQV 1	EARTHQUAKE VALVE	---	---	-	-	PACIFIC SEISMIC , LINE SIZE
GR 1	GAS REGULATOR	---	---	-	-	AMERICAN METER 8113
CB 1	CATCH BASIN DRAIN	6"	---	-	-	ZURN 550 DRAIN (NO HUB)

NOTES:

1. ALL PLUMBING FIXTURES, FLUSH VALVES, FAUCETS, FLOOR DRAINS, FLOOR SINKS, DRINKING FOUNTAINS, ETC. SHALL BE VANDAL RESISTANT.
2. ALL PLUMBING FIXTURES SHALL COMPLY WITH CAL GREEN FLOW RATES FOR 20 PERCENT FLOW RATE REDUCTION PER TABLE 5.303.2.3.
3. COORDINATE ALL FIXTURES WITH ARCHITECT

FOR BID PURPOSES ONLY

PBK

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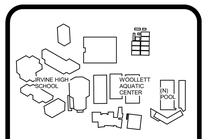
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

CONSULTANT LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

PLUMBING SCHEDULES

P5.1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_P23_Central.rvt
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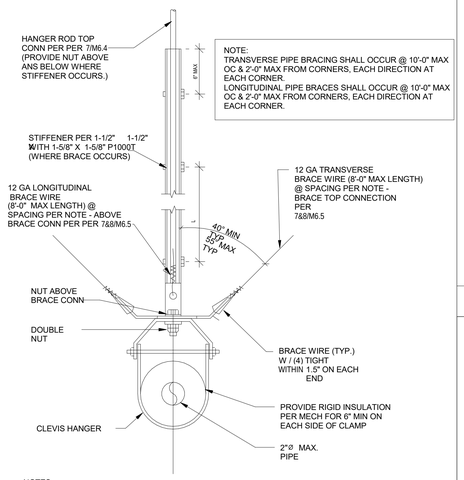
PLUMBING DETAILS
P6.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



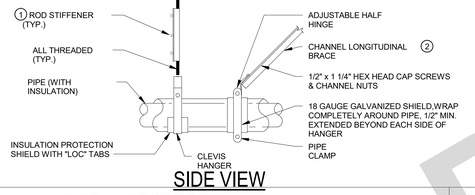
NOTES:

2. ALL PIPE SUPPORTS SHALL BE PIPING TECHNOLOGY & PRODUCTS, INC. OR APPROVED EQUAL.

SHEET NOTES:
(1) INSTALL ROD STIFFENER WHEN LENGTH EXCEEDS THE SCHEDULE LENGTH:

ROD SIZE	MAX. ROD LENGTH WITHOUT ROD STIFFENER	MAX. SPACING "L" BETWEEN ROD STIFFENERS
3/8"	19"	13"

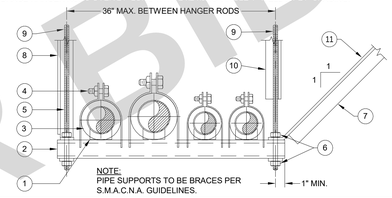
ROD STIFFENERS ARE REQUIRED AT EVERY BRACING POINT (10' O.C.) MAX



SIDE VIEW

PIPE SUPPORT DETAIL N.T.S 16

1. 3" LONG x 2" CHANNEL, WELD TO UNISTRUT (TYP. FOR INSULATED PIPE)
2. 1-5/8" P-1000 UNISTRUT CHANNEL
3. INSULATION (TYPICAL)
4. UNISTRUT P-1100 SERIES PIPE CLAMP (TYP.)
5. 5/8" ALL THREAD HANGER ROD
6. DOUBLE NUT
7. TRANSVERSE ANGLE BRACE(PER SCHEDULE BELOW)
8. LONGITUDINAL ANGLE BRACE EVERY 80'-0" MAX. SLOPE X2
9. SEE DRAWING 2/M6.4 FOR TYPE OF ATTACHMENT REQUIRED.
10. BRACE HANGER RODS OVER 24" LONG WITH 2"x2"x3/16" ANGLE 1" WELD AT 24" SPACING.



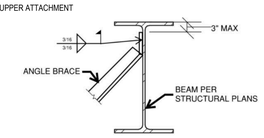
NOTE:
PIPE SUPPORTS TO BE BRACES PER S.M.A.C.N.A. GUIDELINES.

TYPICAL SEISMIC BRACING FOR PIPE

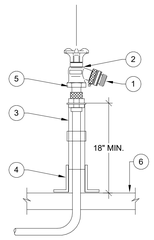
PIPE SIZE	* ANGLE BRACE	BOLT TO ANGLE	ANGLE CLIP	ANCHOR BOLT OR INSERT	SUPPORT SPACING MAX.
1/2" TO 1-1/2"	2" x 2" x 3/16"	3/8"	3" x 3" x 1/4"	3/8"	6'-0"
2" TO 2-1/2"	2" x 2" x 3/16"	3/8"	3" x 3" x 1/4"	3/8"	10'-0"
3", 4"	2-1/2" x 2-1/2" x 3/16"	3/8"	3" x 3" x 1/4"	1/2"	12'-0"
6"	2-1/2" x 2-1/2" x 3/16"	1/2"	5" x 3" x 1/2"	3/4"	14'-0"

* 1-5/8" x 1-5/8" x 12 GA. CHANNEL MAY BE USED

11. ANGLE UPPER ATTACHMENT

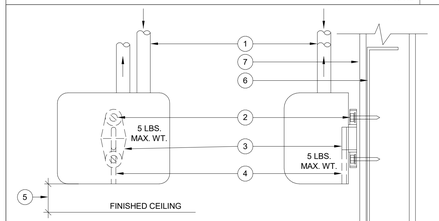


PIPE SEISMIC BRACING N.T.S 17



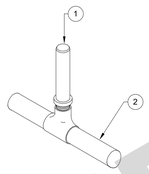
1. HOSE BIBB, SEE PLUMBING SCHEDULE.
2. 3/4" WROUGHT COPPER BULKHEAD FITTING CXC.
3. SCH. 40 STEEL SUPPORT PIPE.
4. ANGLE IRON MOUNTED TO ROOF
5. 3/16" STEEL END CAP(PLATE) WELLED TO SUPPORT PIPE. PROVIDE PROPER SIZE HOLE IN CENTER FOR BULKHEAD FITTING SEAL WATER TIGHT WITH SILICONE CAULK
6. FINISHED ROOF.

HOSE BIBB ON ROOF N.T.S 11



1. CONDENSATE DRAIN LINES.
2. MOUNTING BRACKET SECURE TO METAL WALL FRAMING ABOVE CEILING WITH (2) #10 X 1" LONG SMS.
3. UNIT MANUFACTURERS MOUNTING BRACKET.
4. PUMP SLIDES ONTO MOUNTING BRACKET PER MANUFACTURER'S RECOMMENDATION.
5. MOUNT ABOVE CEILING AT APPROPRIATE HEIGHT FOR PROPER DRAINAGE PER PUMP KIT MANUFACTURER'S INSTALLATION INSTRUCTION.
6. 8" X 16 GA. BACKING TRACK, SEE DET. 2/SX1.5.
7. METAL FRAMED WALL, SEE ARCHITECTURAL & STRUCTURAL DWGS.

CONDENSATE PUMP MOUNTING N.T.S 12



NOTES:
GROUP VALVES AND SIMILAR EQUIPMENT IN COMMON ACCESS PANELS WHEN APPLICABLE. ALL ITEMS SHALL BE FULLY OPERATIONAL AND SERVICEABLE.

FINAL SIZING AND MODEL SELECTION SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

WATER HAMMER ARRESTOR SHALL BE INSTALLED IN AN UPRIGHT POSITION.

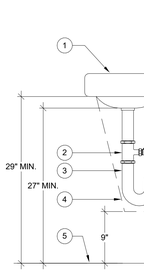
WATER HAMMER ARRESTOR SHALL BE INSTALLED AT EACH QUICK CLOSING FAUCET OR FLUSH VALVE UNLESS USED IN A BANK OF FIXTURE.

WHEN INSTALLING ON A BANK OF FIXTURES THE WATER HAMMER ARRESTOR SHALL BE INSTALLED BEFORE THE LAST FIXTURE ON THE BANK.

PIPE SIZING AND SELECTION TABLE		
PPP SIZE	FIXTURE UNITS	CROSS REF. PDI
1/2"	1-11	A
3/4"	12-32	B
1"	33-60	C
1-1/4"	61-113	D
1-1.2"	114-154	E
2"	155-330	F

1. WATER HAMMER ARRESTOR CONCEALED IN CEILING.
2. REFER TO PLANS FOR SIZE AND LOCATION OF PIPE.

WATER HAMMER ARRESTOR N.T.S 13

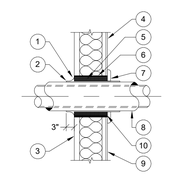


1. LAVATORY OR SINK.
2. SLIP-JOINT FITTING.
3. TRAP.
4. AREA CLEAR FOR ACCESS.
5. FINISHED FLOOR.
6. 3/4" CONDENSATE DRAIN IN WALL.
7. NEOPRENE HOSE & CLAMPS.
8. ESCUTCHEON PLATE.
9. WALL.
10. INSULATE SUPPLY AND DRAIN PER SPECIFICATIONS.

NOTE:
SEE ARCHITECT'S DRAWINGS FOR ACCESSIBLE REQUIREMENTS.

CONDENSATE TO TAILPIECE DETAIL N.T.S 14

NOTE:
PENETRATIONS IN WALL, FLOOR OR CEILING REQUIRING PROTECTION. OPENING SHALL BE FIRE STOPPED. FIRE STOPPING SHALL BE OF AN APPROVED MATERIAL. SECURITY INSTALLED AND CAPABLE OF MAINTAINING ITS INTEGRITY WHEN SUBJECTED TO THE TIME-TEMPERATURE CURVE OF STATE FIRE MARSHAL STANDARDS AND STANDARD MANUFACTURERS INSTALLATIONS INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTION AUTHORITY AND KEPT AT THE JOB SITE.

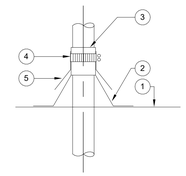


1. SEALANT-JOINT, 1/4" MIN. WIDTH BY 3/8" DEEP.
2. METAL JACKET ON INSULATED PIPE.
3. EXTERIOR FACE OF WALL.
4. FRAMED WALL.
5. BACKUP MATERIAL.
6. SLEEVE.
7. ESCUTCHEON.
8. INSULATION WHERE INDICATED.
9. INTERIOR FACE OF WALL.
10. THE HOLE SIZE SHALL BE 2" LARGER FOR PIPE SIZE 3.5" AND SMALLER AND 4" LARGER FOR PIPE SIZE 4" AND ABOVE. PIPE SHALL BE SUPPORTED WITHIN 12" OF EACH SIDE OF WALL.

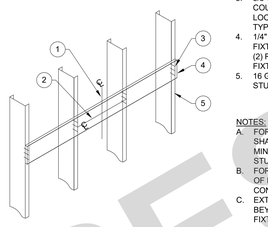
FIRE PROOFING MATERIALS:
U.L. 1479 (4 TH EDITION) 2023 TO ACHIEVE FIRE RATING NOTED ON DRAWINGS IN ACCORDANCE WITH THE UNDERWRITERS LABORATORIES INC. FIRE RESISTANCE DIRECTORY, THROUGH PENETRATION FIRE STOP SYSTEM NUMBER W-L-1167.

TYP. PIPE THRU FIRE RATED WALL N.T.S 15

1. FINISHED ROOF.
2. SHEET METAL FLASHING.
3. SILICONE SEAL ALL AROUND.
4. SCREW BAND.
5. COUNTERFLASHING.



PIPE THRU ROOF DETAIL N.T.S 06

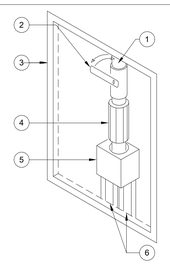


1. CENTERLINE OF FIXTURE.
2. CENTERLINE OF FIXTURE SUPPORT HANGER.
3. 3/8"-::x2" FLAT HEAD COUNTERSUNK BOLTS WITH LOCKNUT, (3) PER STUD, TYPICAL.
4. 1/4" x 8" STEEL PLATE FOR FIXTURE WALL BACKING PLATE, (2) REQUIRED FOR EACH FIXTURE.
5. 16 GA. HEAVY DUTY METAL STUDS.

NOTES:
A. FOR SINGLE FIXTURE, PLATE SHALL BE ANCHORED TO A MINIMUM OF (4) VERTICAL STUDS.
B. FOR CONDITIONS AT BATTERY OF FIXTURES, MOUNT ON A CONTINUOUS STEEL PLATE.
C. EXTEND PLATE (2) STUDS BEYOND CENTER OF END FIXTURE.

FIXTURE SUPPORT BACKING PLATE N.T.S 07

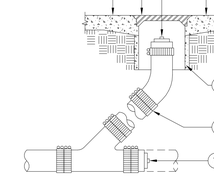
1. 1/2" SUPPLY CONNECTION. REFER TO THE FLOOR PLANS FOR CONTINUATION.
2. LINE SIZE SHUT OFF BALL VALVE. VALVE SHALL BE INSTALLED TO OPEN AND CLOSE IN ACCESS BOX. REMOVE HANDLE IN OPEN POSITION AFTER TESTING AND DISINFECTION ARE COMPLETED.
3. WALL MOUNTED STAINLESS STEEL ACCESS COVER PANEL WITH LOCK. SIZE OF ACCESS PANEL SHALL BE SUFFICIENT FOR THE REMOVAL & REPLACEMENT OF THE TRAP PRIMER AND ACCESSORIES BUT IN NO CASE SHALL BE SMALLER THAN 8"x8".
4. TRAP PRIMING VALVE BY PPP OR EQUAL.
5. DISTRIBUTION UNIT MODEL (DU-4) (WHEN REQUIRED).
6. 1/2" TRAP PRIMER LINES DOWN TO BELOW FLOOR SERVING FLOOR DRAIN/SINK.



DISTRIBUTION CHART (MFG. BY PRECISION PLUMBING PRODUCTS)		
NO. OF DRAINS	PRIMER MODEL	DISTRIBUTION UNIT IS
1	P-2	NOT REQUIRED
2	P-2	DU-4
3	P-1	DU-4
4	P-1	DU-4

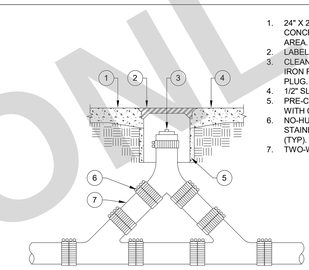
NOTE:
GROUP VALVES AND SIMILAR EQUIPMENT IN COMMON ACCESS PANELS WHEN APPLICABLE. ALL ITEMS SHALL BE FULLY OPERATIONAL AND SERVICEABLE.

TRAP PRIMER DETAIL N.T.S 10



1. 24" X 24" X 6" DEEP CAST CONCRETE IN UNPAVED AREA.
2. LABEL COVER "SEWER".
3. CLEANOUT PLUG. CAST IRON FERRULE & BRASS PLUG.
4. 1/2" SLOPE.
5. PRE-CAST CONCRETE BOX WITH CAST IRON COVER.
6. NO-HUB COUPLING WITH STAINLESS STEEL SHIELD (TYP).
7. PLUGGED WYE AT END OF RUNS.

SURFACE CLEANOUT (COTG) N.T.S 01

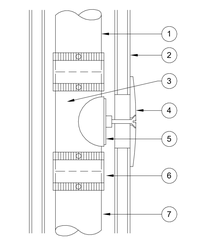


1. 24" X 24" X 6" DEEP CAST CONCRETE IN UNPAVED AREA.
2. LABEL COVER "SEWER".
3. CLEANOUT PLUG. CAST IRON FERRULE & BRASS PLUG.
4. 1/2" SLOPE.
5. PRE-CAST CONCRETE BOX WITH CAST IRON COVER.
6. NO-HUB COUPLING WITH STAINLESS STEEL SHIELD (TYP).
7. TWO-WAY COMBINATION.

SURFACE CLEANOUT (COTG) N.T.S 02

1. TOP OF CONCRETE FLOOR
2. ROUND ADJUSTABLE CAST IRON TOP, TRACTOR COVER. SET TOP FLUSH WITH FINISHED FLOOR.
3. C.I. 1/8 BEND
4. CAULK JOINT WITH LEAD NO WATER TO STAND ON LIP
5. C.I. DRAIN LINE

FLOOR CLEANOUT (FCO) N.T.S 03



NOTE:
USE MOUNTING BOLTS THRU BACKING PLATE PROVIDED WITH URINAL.

URINAL MOUNTING N.T.S 09

1. VENT STACK.
2. FACE OF WALL.
3. SANITARY TEE.
4. CHROME PLATED COVER & VANDAL PROOF SCREW.
5. THREADED PLUG.
6. NO-HUB COUPLING WITH STAINLESS STEEL CLAMP.
7. DRAIN LINE.

WALL CLEANOUT (WCO) N.T.S 04

1. FINISHED FLOOR OR SIDEWALK
2. PRE-CAST CONCRETE BOX WITH CAST IRON COVER. LABEL THE COVER "WATER".
3. 18"X18" CAST CONCRETE AROUND IN UNPAVED AREA
4. 1/2" SLOPE
5. FINISHED GRADE
6. VIT CLAY OR PVC EXTENSION SLEEVE
7. UNION
8. PROVIDE 1/8" VENT HOLE IN COVER AT GAS VALVES

BLDG. MAIN WATER SHUTOFF VALVE ASSEMBLY N.T.S 5

FOR BID PURPOSES ONLY

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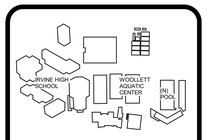
CLIENT LOGO
CITY OF IRVINE



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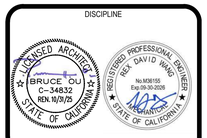


CLIENT
CITY OF IRVINE
DATE 08/07/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

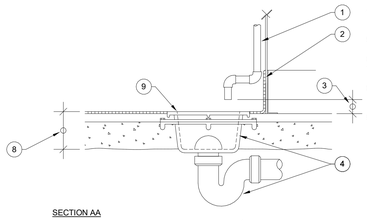
PLUMBING DETAILS

P6.1

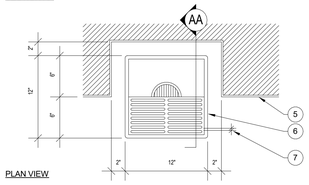
PLUMBING DETAILS
P6.2
FOR BLUEBEAM LABELING/OCR:

0"
1"

1. INDIRECT WASTE PIPING PER PLUMBING PLANS.
2. EQUIPMENT CURB FRAMING AND COVE BASE PER PLAN.
3. LEGAL AIR GAP (2 TIMES DIAMETER OF PIPE).
4. FLOOR SINK WITH P-TRAP. SEE PLUMBING PLANS FOR DRAIN. VENTS & CLEANOUTS.
5. EQUIPMENT CURB WITH COVE BASE (WHERE APPLIES).
6. FLOOR SINK PER PLANS.
7. 1/2" MAX. GRATING ALONG PATH OF THE TRAVEL (TYPICAL).
8. FINISH FLOOR & CONCRETE SLAB PER ARCHITECTURAL PLANS.
9. TOP OF FLOOR SINK TO BE FLUSH WITH TOP OF FINISH FLOOR.

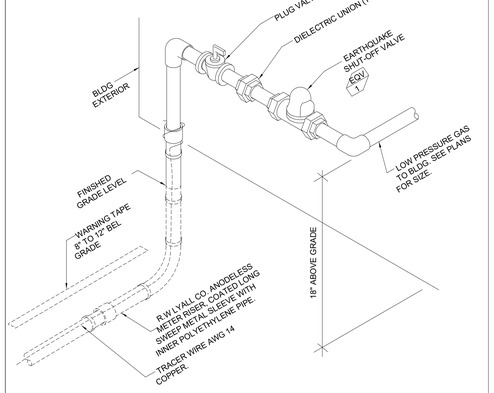


SECTION AA



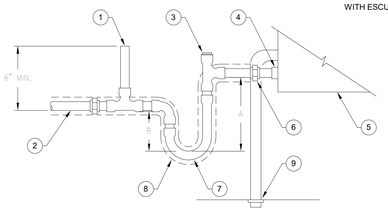
PLAN VIEW

CONDENSATE DRAIN DISCHARGE INTO FLOOR SINK DETAIL
N.T.S 09



BUILDING GAS PIPING SUPPLY DETAIL
N.T.S 06

1. VENT.
2. SLOPE 1/8" PER FOOT DOWN TOWARDS DRAIN.
3. THREADED PLUG (CLEANOUT).
4. DRAIN SHALL BE MINIMUM SAME SIZE AS THE NIPPLE ON DRAIN PAN.
5. DRAIN PAN.
6. INION (TYP).
7. TRAP.
8. INSULATION AT INTERIOR CONDENSATE DRAIN.
9. FULL SIZE OVERFLOW DRAIN, TERMINATE1" BELOW CEILING WITH ESCUTCHEON.



NOTE:
OFFSET LEG "A" 45° FROM LEG "B" TO CLEAR CLEANOUT.

UNIT TYPE	A	B
DRAW-THRU	2"	NOT LESS THAN 3"

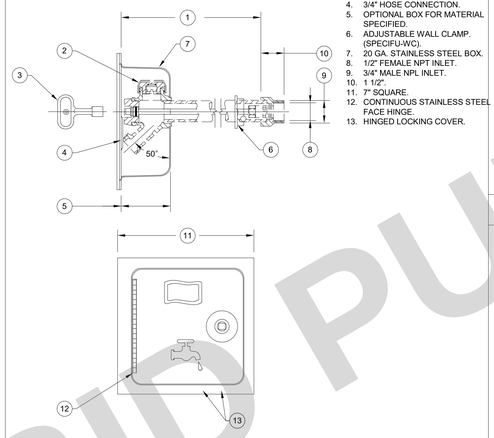
S.P. = SYSTEM STATIC PRESSURE - INCHES
"A" = T.S.P. x + 1"
"B" = T.S.P.(A) x + 3/4"

DRAIN LINE SHALL BE SIZED AS FOLLOWS: *	
0-20 TONS	3/4"
21-40 TONS	1"
41-90 TONS	1-1/2"

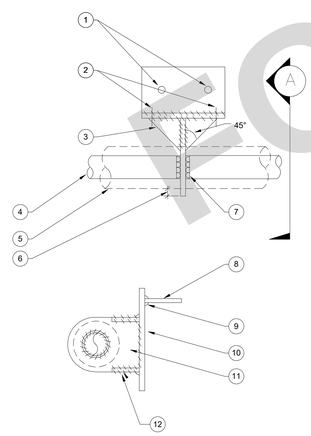
* BUT NOT LESS THAN FULL SIZE EQUIP. CONN.

CONDENSATE DRAIN DETAIL;
N.T.S 10

1. WALL THICKNEED.
2. INTEGRAL VACUUM BREAKER ASSEMBLY.
3. KEY.
4. 3/4" HOSE CONNECTION.
5. OPTIONAL BOX FOR MATERIAL SPECIFIED.
6. ADJUSTABLE WALL CLAMP. (SPECIFU-WC).
7. 20 GA. STAINLESS STEEL BOX.
8. 1/2" FEMALE NPT INLET.
9. 3/4" MALE NPL INLET.
10. 1 1/2".
11. 7" SQUARE.
12. CONTINUOUS STAINLESS STEEL FACE HINGE.
13. HINGED LOCKING COVER.

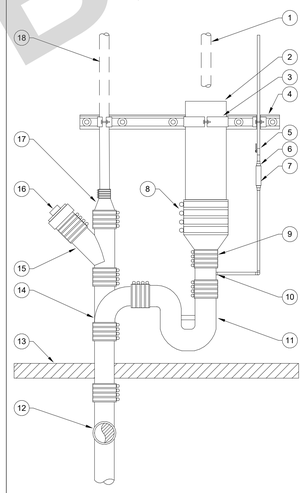


BOX TYPE WITH CONCEALED HOSE CONNECTION DETAIL
N.T.S 07



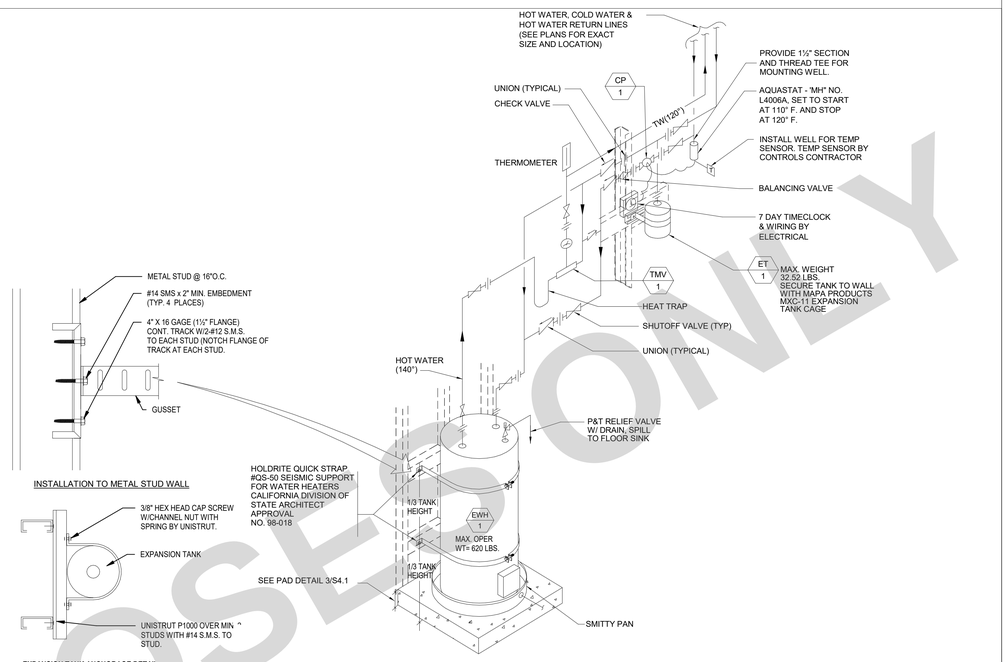
1. ATTACH HORIZONTAL PLATE TO PIER W/2 -1/2"□ THREADED STUDS, LOCK WASHERS & NUTS. (USED FOR ANCHOR A- ONLY).
2. ATTACH VERTICAL MOUNTING PLATE TO PER W/4 - 1/2"□ THREADED STUDS. LOCK WASHERS & NUTS. (USED FOR ANCHORS A-1& A-2, TOP & BOTTOM.
3. WELD BRACING PLATE TO VERTICAL MOUNTING PLATE & ANCHOR PLATE-TYPICAL TOP & BOTTOM.
4. 4" HPS.
5. INSULATION.
6. 1" MIN.
7. WELD ANCHOR PLATE TO 4" HPS.
8. HORIZONTAL PLATE WELD TO VERTICAL MOUNTING PLATE (USED FOR ANCHOR .
9. BRACING PLATE - WELD TO VERTICAL MOUNTING PLATE & ANCHOR.
10. VERTICAL MOUNTING PLATE.
11. ANCHOR PLATE - WELD VERTICAL MOUNTING PLATE.
12. BRACING PLATE - WELD TO VERTICAL MOUNTING PLATE & ANCHOR PLATE.

VERTICAL PIPE SUPPORT IN WALL DETAIL
N.T.S 11



1. 2" SPRINKLER SYSTEM DRAIN CENTERED OVER 6" NO-HUB PIPE.
2. 6" NO-HUB SOIL PIPE.
3. ANCHOR TO WALL (TYP).
4. UNISTRUT.
5. SHUT -OFF VALVE.
6. UNION.
7. ELECTRONIC TRAP PRIMER VALVE.
8. HUSKY SD4000 COUPLINGS (TYP).
9. 6" x 4" NO-HUB INCREASER.
10. TRAP PRIMER ADAPTER.
11. 4" NO-HUB DEEP SEAL P-TRAP.
12. 4" NO-HUB LONG SWEEP.
13. FINISH FLOOR.
14. 4" NO-HUB SANITARY TEE.
15. 4" NO-HUB WYE.
16. CLEANOUT.
17. 4"x2" NO-HUB REDUCER.
18. 2' SANITARY VENT.

FIRE SPRINKLER DRAIN
N.T.S 08



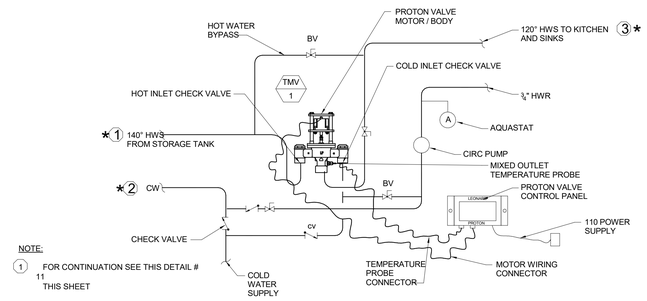
INSTALLATION NOTES:
1. MOUNT CHANNELS ON BLOCKING AS SHOWN.
2. INSTALL UPPER RESTRAINT 1/3 DOWN FROM TOP OF WATER HEATER AND LOWER RESTRAINT 4" ABOVE THE TOP OF CONTROLS.
3. INSTALL WATER HEATER TIGHT TO CHANNEL AND GUSSET ASSEMBLIES.
4. WATER HEATER MOUNTING CHANNEL SHALL SPAN MIN. (3) STUDS.

INSTALLATION NOTES:
1. INSTALL UPPER RESTRAINT 1/3 DOWN FROM TOP OF WATER HEATER AND LOWER RESTRAINT 4" ABOVE THE TOP OF CONTROLS.
2. INSTALL WATER HEATER TIGHT TO CHANNEL AND GUSSET ASSEMBLIES.
3. WATER HEATER MOUNTING CHANNEL SHALL SPAN MIN. (3) STUDS.

ELECTRIC WATER HEATER DETAIL
N.T.S 01

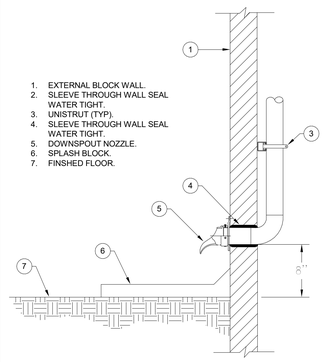
MINIMUM FLOW (GPM)	PRESSURE DROP										
	5	10	15	20	25	30	35	40	45	50	PSI
(1/MIN)	.3	.7	.97	1.4	1.7	2.1	2.4	2.8	3.1	3.4	BAR
0.25** (0.95**)	17	25	28	32	36	39	43	45	48	51	(GPM)
	64	95	106	121	136	148	163	170	182	193	(1/MIN)

N.T.S 02



NOTE:
1 FOR CONTINUATION SEE THIS DETAIL # 11 THIS SHEET

THERMOSTATIC MIXING VALVE PIPING DIAGRAM
N.T.S 05



1. EXTERNAL BLOCK WALL.
2. SLEEVE THROUGH WALL SEAL WATER TIGHT.
3. UNISTRUT (TYP).
4. SLEEVE THROUGH WALL SEAL WATER TIGHT.
5. DOWNSPOUT NOZZLE.
6. SPLASH BLOCK.
7. FINISHED FLOOR.

SPLASH BLOCK DETAIL
N.T.S 03

FOR BID PURPOSES ONLY

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1 PLUMBING DETAILS

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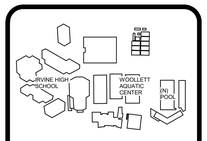


DISCIPLINE
LICENSED ARCHITECT BRUCE OLI C-34832 REN.10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER REF. DAVID WANG No.M36158 Exp.09-30-2026 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
08/07/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

PLUMBING DETAILS

P6.2

ELECTRICAL LEGEND & GENERAL NOTES

E0.0

FOR BLUEBEAM LABELING/OCR:

0"

1"

ELECTRICAL NOTES & SYMBOL LEGEND

SYMBOLS SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS

MEP COMPONENT ANCHORAGE NOTES

1. ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

   A. ALL PERMANENT EQUIPMENT AND COMPONENTS.

   B. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.

   C. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVETHE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

2. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BEPOSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE SEISMICCOMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALLHAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

   COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE
   A. ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

   COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND PER
   B. FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

   THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF
3. THE DESIGN PROFESSIONAL IN GENERALRESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

UL LISTINGS NOTE

ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATIES (UL) AND BEAR THEIR LABEL OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY.

ALL EQUIPMENT/DEVICES INSTALLED RECESSED IN FIRE RATED CEILINGS OR WALLS SHALL BE ENCLOSED WITH AN APPROVED UL LISTED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE CEILING OR WALL.

DEVICE LOCATION NOTE

THE LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS, DETAILS, OR SECTIONS PRIOR TOINSTALLATIONS. ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE RECESSED INWALLS UNLESS OTHERWISE NOTED. OUTLETS NOT INDICATED ON ARCHITECTURAL ELEVATIONS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ROUGH-IN. UNLESS OTHERWISE NOTED, ELECTRICAL DEVICES SHALL BE MOUNTED PER "ACCESSIBLE DEVICE MOUNTING HEIGHT" DETAIL.

COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT SUPPLY POWER AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON THE SINGLE LINE DIAGRAM, ELECTRICAL DRAWINGS, AND DRAWINGS OF OTHER TRADES. REVIEW THE DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, WIRING, CONTROLS, AND CONDUIT FOR MECHANICAL AND PLUMBING OPERATIONS SHALL BE PROVIDED THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS

ELECTRICAL POWER DISTRIBUTION

A. SERVICE ELECTRICAL METERING
   FOR NEWLY INSTALLED ELECTRICAL SERVICE IN NEWLY CONSTRUCTED BUILDINGS, SERVICE ELECTRICAL METERING IS REQUIRED ACCORDING TO SECTION 130.5(A).
   FOR NEW OR REPLACEMENT ELECTRICAL SERVICE EQUIPMENT IN EXISTING BUILDINGS, SERVICE ELECTRICAL BUILDINGS, SERVICE ELECTRICAL METERING IS REQUIRED ACCORDING TO SECTION 141.0(B)2PI.

B. SEPARATION OF ELECTRICAL CIRCUITS FOR ELECTRICAL ENERGY MONITORING
   ELECTRICAL POWER DISTRIBUTION SYSTEMS SHALL BE DESIGNED SO THAT MEASUREMENT DEVICES CAN MONITOR THE ELECTRICAL ENERGY USAGE OF LOAD TYPES ACCORDING TO TABLE 130.5-B.

C.
   THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.

D. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES
   IN ALL BUILDINGS, BOTH CONTROLLED AND UNCONTROLLED 120 VOLT RECEPTACLES SHALL BE PROVIDED IN OFFICE AREAS, LOBBIES, CONFERENCE ROOMS, KITCHEN AREAS IN OFFICE SPACES, AND COPY ROOMS. ADDITIONALLY, HOTEL/MOTEL GUEST ROOMS SHALL COMPLY WITH SECTION 130.5(D)4.CONTROLLED RECEPTACLES SHALL MEET THE FOLLOWING REQUIREMENTS, AS APPLICABLE:

   1. INSTALL A CONTROL CAPABLE OF AUTOMATICALLY SHUTTING OFF THE CONTROLLED RECEPTACLES WHEN THE SPACE IS TYPICALLY UNOCCUPIED, EITHER AT THE RECEPTACLE OR CIRCUIT LEVEL. WHEN AN AUTOMATIC TIME SWITCH CONTROL IS INSTALLED IT SHALL INCORPORATE AN OVERRIDE CONTROL THAT ALLOWS THE CONTROLLED RECEPTACLE TO REMAIN ON FOR NO MORE THAN 2 HOURS WHEN AN OVERRIDE IS INITIATED AND AN AUTOMATIC HOLIDAY "SHUT-OFF" FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS AND THEN RESUMES THE NORMALLY SCHEDULED OPERATION. COUNTDOWN TIMER SWITCHES SHALL NOT BE USED TO COMPLY WITH THE AUTOMATIC TIME SWITCH CONTROL REQUIREMENTS; AND

   2. INSTALL AT LEAST ONE CONTROLLED RECEPTACLE WITHIN 6 FEET FROM EACH UNCONTROLLED RECEPTACLE, OR INSTALL A SPLITWIRED RECEPTACLE WITH AT LEAST ONE CONTROLLED AND ONE UNCONTROLLED RECEPTACLE. WHERE RECEPTACLES ARE INSTALLED IN MODULAR FURNITURE IN OPEN OFFICE AREAS, AT LEAST ONE CONTROLLED RECEPTACLE SHALL BE INSTALLED AT EACH WORKSTATION;

   3. PROVIDE A PERMANENT AND DURABLE MARKING FOR CONTROLLED RECEPTACLES OR CIRCUITS TO DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES OR CIRCUITS.

MANDATORY INDOOR LIGHTING CONTROLS

A. MANUAL AREA CONTROLS
   EACH AREA ENCLOSED BY CEILING-HEIGHT PARTITIONS SHALL PROVIDE LIGHTING CONTROLS THAT ALLOW THE LIGHTING IN THAT AREA TO BE MANUALLY TURNED ON AND OFF. THE MANUAL CONTROL SHALL:
   1. BE READILY ACCESSIBLE; AND
   2. BE LOCATED IN THE SAME ENCLOSED AREA WITH THE LIGHTING IT CONTROLS.

B. MULTI-LEVEL LIGHTING CONTROLS
   THE GENERAL LIGHTING OF ANY ENCLOSED AREA 100 SQUARE FEET OR LARGER WITH A CONNECTED LIGHTING LOAD THAT EXCEEDS 0.5 WATTS PER SQUARE FOOT SHALL PROVIDE MULTI-LEVEL LIGHTING CONTROLS THAT ALLOW THE LEVEL OF LIGHTING TO BE ADJUSTED UP AND DOWN. THE MULTI-LEVEL CONTROLS SHALL PROVIDE THE NUMBER OF CONTROL STEPS AND MEET THE UNIFORMITY REQUIREMENTS SPECIFIED IN TABLE 130.1-A.

C.
   ALL INSTALLED INDOOR LIGHTING SHALL BE EQUIPPED WITH CONTROLS ABLE TO AUTOMATICALLY REDUCE LIGHTING POWER WHEN THE SPACE IS TYPICALLY UNOCCUPIED.
   1. ALL INSTALLED INDOOR LIGHTING SHALL BE EQUIPPED WITH CONTROLS THAT MEET THE FOLLOWING

      a. SHALL BE CONTROLLED WITH AN OCCUPANT SENSING CONTROL, AUTOMATIC TIME-SWITCH CONTROL, OR OTHER CONTROL CAPABLE OF AUTOMATICALLY SHUTTING OFF ALL OF THE LIGHTING WHEN THE SPACE IS TYPICALLY UNOCCUPIED; AND
      b. SEPARATE CONTROLS FOR THE LIGHTING ON EACH FLOOR, OTHER THAN LIGHTING IN STAIRWELLS; AND
      c. SEPARATE CONTROLS FOR A SPACE ENCLOSED BY CEILING HEIGHT PARTITIONS NOT EXCEEDING 5,000 SQUARE FEET; AND
      d. SEPARATE CONTROLS FOR GENERAL, DISPLAY, ORNAMENTAL, AND DISPLAY CASE LIGHTING; AND
      e. FOR AUTOMATIC TIME-SWITCH CONTROLS, MAY INCLUDE A MANUAL-ON MODE.

D. AUTOMATIC DAYLIGHTING CONTROLS
   THE GENERAL LIGHTING IN SKYLIT DAYLIT ZONES AND PRIMARY SIDELIT DAYLIT ZONES, AS WELL AS THE GENERAL LIGHTING IN THE COMBINED PRIMARY AND SECONDARY SIDELIT DAYLIT ZONES IN PARKING GARAGES, SHALL PROVIDE CONTROLS THAT AUTOMATICALLY ADJUST THE POWER OF THE INSTALLED LIGHTING UP AND DOWN TO KEEP THE TOTAL LIGHT LEVEL STABLE AS THE AMOUNT OF INCOMING DAYLIGHT CHANGES. FOR SKYLIGHT LOCATED IN AN ATRIUM. THE SKYLIT DAYLIT ZONE
   DEFINITION SHALL APPLY TO THE FLOOR AREA DIRECTLY UNDER THE ATRIUM AND THE TOP FLOOR AREA DIRECTLY ADJACENT TO THE ATRIUM.

CONTROLS FOR OUTDOOR LIGHTING
OUTDOOR LIGHTING SHALL BE INDEPENDENTLY CONTROLLED FROM OTHER ELECTRICAL LOADS, AND THE CONTROLS FOR OUTDOOR LIGHTING SHALL MEET THE FOLLOWING FUNCTIONAL REQUIREMENTS:

A.
   ALL INSTALLED OUTDOOR LIGHTING SHALL BE CONTROLLED BY A PHOTO CONTROL, ASTRONOMICAL TIME-SWITCH CONTROL, OR OTHER CONTROL CAPABLE OF AUTOMATICALLY SHUTTING OFF THE OUTDOOR LIGHTING WHEN DAYLIGHT IS AVAILABLE.

B. AUTOMATIC SCHEDULING CONTROLS
   1. AUTOMATIC SCHEDULING CONTROLS SHALL BE CAPABLE OF REDUCING THE OUTDOOR LIGHTING POWER BY AT LEAST 50 PERCENT AND NO MORE THAN 90 PERCENT, AND SEPARATELY CAPABLE OF TURNING THE LIGHTING OFF, DURING SCHEDULED UNOCCUPIED PERIODS.
   2. AUTOMATIC SCHEDULING CONTROLS SHALL ALLOW SCHEDULING OF A MINIMUM OF TWO NIGHTTIME PERIODS WITH INDEPENDENT LIGHTING LEVELS, AND MAY INCLUDE AN OVERRIDE FUNCTION THAT TURNS LIGHTING ON DURING ITS SCHEDULED DIM OR OFF STATE FOR NO MORE THAN TWO HOURS WHEN AN OVERRIDE IS INITIATED.
   3. AUTOMATIC SCHEDULING CONTROLS SHALL BE INSTALLED FOR ALL OUTDOOR LIGHTING, AND MAY BE INSTALLED IN COMBINATION WITH MOTION SENSING CONTROLS OR OTHER OUTDOOR LIGHTING CONTROLS.

C. MOTION SENSING CONTROLS
   1. MOTION SENSING CONTROLS SHALL BE CAPABLE OF REDUCING THE OUTDOOR LIGHTING POWER OF EACH CONTROLLED LUMINAIRE BY AT LEAST 50 PERCENT AND NO MORE THAN 90 PERCENT, AND SEPARATELY CAPABLE OF TURNING THE LUMINAIRE OFF, DURING UNOCCUPIED PERIODS.
   2. MOTION SENSING CONTROLS SHALL BE CAPABLE OF REDUCING THE LIGHTING TO ITS DIM OR OFF STATE NO LONGER THAN 15 MINUTES AFTER THE AREA HAS BEEN VACATED, AND OF RETURNING THE LIGHTING TO ITS ON STATE WHEN THE AREA BECOMES OCCUPIED.
   3. NO MORE THAN 1,500 WATTS OF LIGHTING POWER SHALL BE CONTROLLED BY A SINGLE SENSOR.
   4. MOTION SENSING CONTROLS SHALL BE INSTALLED FOR THE FOLLOWING LUMINAIRES, AND MAY BE INSTALLED FOR OTHER OUTDOOR LIGHTING AND IN COMBINATION WITH OTHER OUTDOOR LIGHTING

      a. OUTDOOR LUMINAIRES OTHER THAN BUILDING FAÇADE, ORNAMENTAL HARDSCAPE, OUTDOOR DINING, OR OUTDOOR SALES FRONTAGE LIGHTING, WHERE THE BOTTOM OF LUMINAIRE IS MOUNTED 24 FEET OR LESS ABOVE GRADE; AND,
      b. OUTDOOR WALL MOUNTED LUMINAIRES INSTALLED FOR BUILDING FAÇADE, ORNAMENTAL HARDSCAPE OR OUTDOOR DINING LIGHTING THAT HAVE A BILATERALLY SYMMETRIC DISTRIBUTION AS DESCRIBED IN THE IES HANDBOOK (TYPICALLY REFERRED TO AS "WALL PACKS") MOUNTED 24 FEET ABOVE GRADE OR

EXCEPTION 1 TO SECTION 130.2(c)3: LUMINAIRES WITH A MAXIMUM RATED WATTAGE OF 40 WATTS EACH ARE NOT REQUIRED TO HAVE MOTION SENSING CONTROLS.

GENERAL NOTES

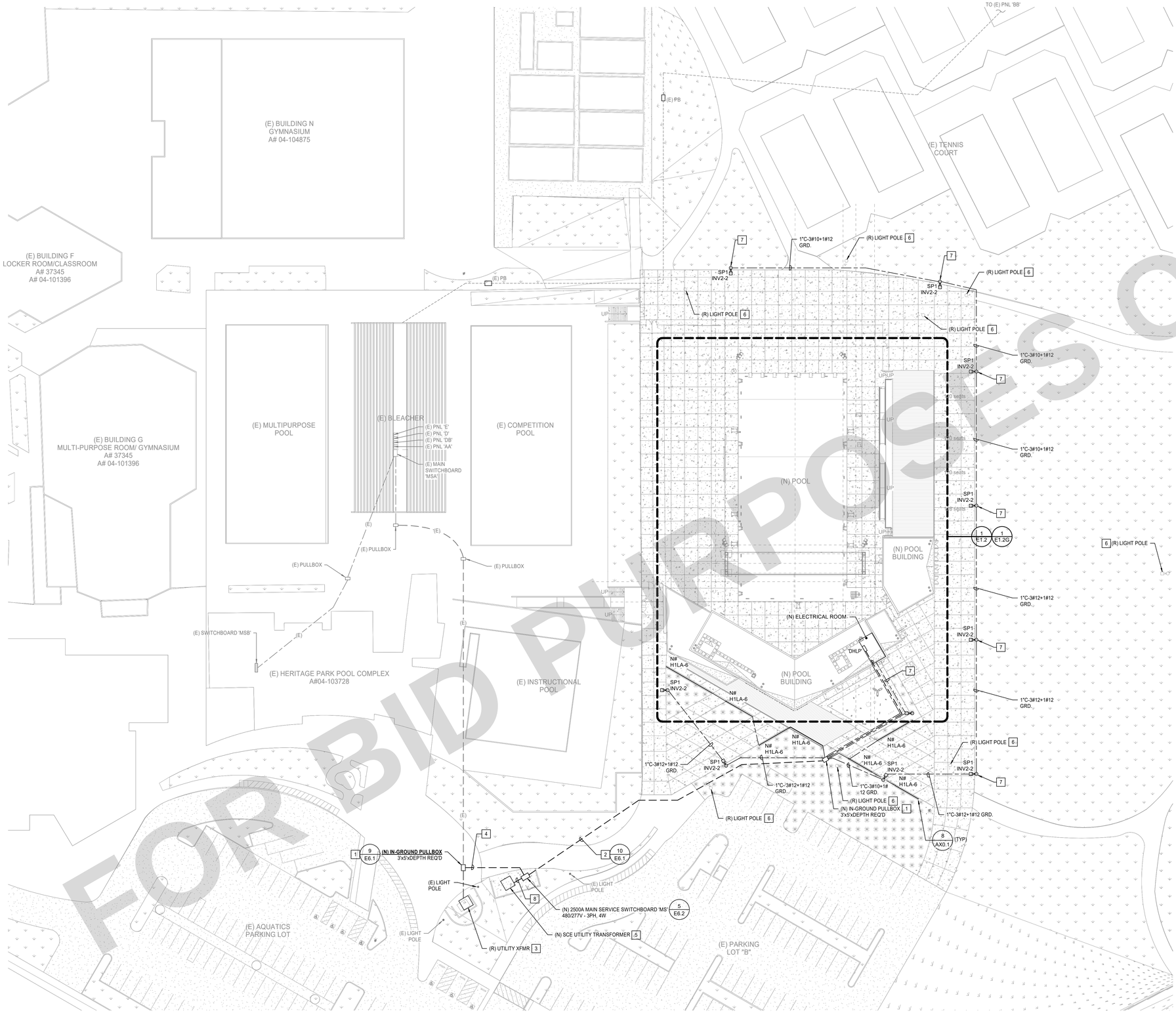
1. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BY SUBMITTING A BID, ACCEPTS THE CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK, AND SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, CEC, ALL STATE AND LOCAL CODES AND AMENDMENT
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS AND ADDENDA (DRAWINGS AND SPECIFICATIONS,) HE SHALL CHECK THE CONTRACT DOCUMENTS OF THE OTHER TRADES AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM COMPLETING ALL RESPONSIBLE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. THE CONTRACTOR SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES.
4. ALL ELECTRICAL WORK REFERENCED HEREIN SHALL BE COORDINATED WITH OTHER TRADES AND SITE CONDITIONS. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE CONTRACT DOCUMENTS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
5. PROVIDE TEMPORARY POWER FACILITIES AND CONNECTIONS FOR ALL FEEDERS, BRANCH CIRCUITS, OR SIGNAL AND COMMUNICATIONS SYSTEMS BEING DISCONNECTED TO MAINTAIN SYSTEMS IN OPERATION.
6. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE OWNER AND ENGINEER 14 DAYS PRIOR TO THE OUTAGE, AND OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID. WORK IN EXISTING SWITCHBOARDS OR PANEL BOARDS SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVING ACCESS PANELS OR DOORS.
7. AFTER ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNERS WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
8. FURNISH A ONE-YEAR WRITTEN GUARANTEE OF MATERIALS AND WORKMANSHIP FROM THE DATE OF PUNCH LIST COMPLETION.
9. ALL FINAL CONNECTIONS TO OWNER-FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.
10. THE EXACT METHOD AND LOCATION OF CONDUIT PENETRATION AND OPENINGS IN CONCRETE OR MASONRY WALLS, GRADE BEAMS, FLOORS, OR STRUCTURAL STEEL MEMBERS SHALL BE AS DIRECTED BY THE STRUCTURAL ENGINEER. PERFORM CORING, SAW CUTTING, PATCHING, AND REFINISHING OF WALLS AND SURFACES WHEREVER IT IS NECESSARY TO PENETRATE. OPENINGS SHALL BE SEALED IN AN APPROVED METHOD TO MEET THE FIRE RATING OF THE PARTICULAR WALL, FLOOR, OR CEILING. THE EXACT METHOD AND LOCATION OF CONDUIT PENETRATIONS AND OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE UL APPROVED.
11. FINAL CONNECTIONS TO VIBRATING EQUIPMENT AND AT SEISMIC SEPARATIONS SHALL BE FLEXIBLE STEEL CONDUIT IN DRY INTERIOR LOCATIONS, AND LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN AREAS EXPOSED TO WEATHER, DAMP LOCATIONS, CONNECTIONS TO TRANSFORMER ENCLOSURES, AND FINAL CONNECTIONS TO MOTORS.
12. EQUIPMENT OUTLETS, LIGHTING FIXTURES, CONDUIT, WIRE, AND CONNECTION METHODS IN HVAC AIR PLENUMS SHALL BE APPROVED FOR USE IN PLENUMS AND SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE.
13. ROUTE EXPOSED CONDUIT AND CONDUIT ABOVE ACCESSIBLE CEILING SPACES PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.
14. CONDUIT SHALL NOT BE INSTALLED IN ANY FLOOR SLAB. CONDUIT SHALL BE INSTALLED CONCEALED IN THE CEILING SPACE, CONCEALED WALLS, OR 24" MINIMUM BELOW SLAB ON GRADE UNLESS NOTED OTHERWISE.
15. LOCATE ELECTRICAL EQUIPMENT AND BOXES IN ACCESSIBLE CEILING SPACE OR PROVIDE AN ACCESS PANEL FOR INACCESSIBLE CEILING SYSTEMS. ACCESS DOORS SHALL BE A MINIMUM DIMENSION OF 24" X 24". ACCESS DOOR LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.
16. COORDINATE REQUIRED ACCESS DOORS IN NON-ACCESSIBLE CEILINGS TO SUIT FIELD CONDITIONS. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL BE PROVIDED IN OTHER SECTIONS OF THE SPECIFICATIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.
17. WHENEVER A DISCREPANCY OF ANY SYSTEM AND/OR EQUIPMENT ARISES ON THE CONTRACT DOCUMENTS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ARCHITECT/ENGINEER.
18. STRAIGHT FEEDER BRANCH CIRCUIT AND CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS.
19. PANEL SCHEDULES SHALL BE REVISED TO REFLECT FINAL ROOM NAMES AND NUMBERS USING THE OWNER'S ROOM NAMES AND NUMBERS DESIGNATIONS. CONTRACTOR TO PROVIDE FINAL PANEL SCHEDULE TO EEOR AT COMPLETION OF PROJECT.
20. WHERE OUTLETS OCCUR AT TACKABLE WALL PANELS OR OTHER WALL FINISHES, PROVIDE EXTENSION RINGS AS REQUIRED SO THAT NO SPACE WILL EXIST BETWEEN DEVICE PLATE AND BACKBOX PER CALIFORNIA ELECTRICAL CODE 314.20. SEE ARCHITECTURAL ELEVATIONS FOR WALL FINISHES AND LOCATIONS.
21. COORDINATE LOCATIONS OF ALL SEISMIC SEPARATIONS.
22. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF ALL LOW VOLTAGE / TECHNOLOGY SYSTEMS SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. CABLING CONTRACTOR SHALL COORDINATE ALL 120V POWER REQUIREMENTS AND LOCATIONS WITH ELECTRICAL CONTRACTOR FOR ALL EQUIPMENT.
23. ALL AC POWER CABLES ARE TO BE INSTALLED WITH A MINIMUM OF 12 INCHES OF SEPARATION FROM TECHNOLOGY LOW VOLTAGE CABLES, INTERCOM, FIRE ALARM, SECURITY CABLES IN ANY PARALLEL OPEN WIRE RUN.
24. CONTRACTOR SHALL PROVIDE AND INSTALL ALL SLEEVES REQUIRED TO INSTALL COMMUNICATION CABLING THROUGH RATED WALLS. ALL TECHNOLOGY SYSTEM CONDUIT SLEEVES SHALL HAVE PROTECTIVE BUSHING ON BOTH ENDS, BE DEDICATED FOR TECHNOLOGY SYSTEMS ONLY AND SHALL NOT SHARE WITH OTHER BUILDING TRADES.
25. CONTRACTOR SHALL MAINTAIN WALL RATING WITH PROPER FIRE BLOCKING METHODS.
26. ALL CONDUCTORS SHALL BE UL LISTED, COPPER #12 MINIMUM SIZE, TYPE THHN/THWN THERMOPLASTIC, 600 VOLT, 75 DEGREES CELSIUS WET AND 90 DEGREES CELSIUS DRY, UNLESS NOTED OTHERWISE.
27. ALL CABLING SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH MAXIMUM 40% CABLE FILL. MINIMUM CONDUIT SIZE SHALL BE 3/4" INTERIOR & 1" EXTERIOR.
28. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED.
29. COORDINATE MOUNTING HEIGHTS AND DETAILS OF ALL OUTLETS (POWER, SIGNAL, ETC.) WITH ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO DIVISION 26 ROUGH-IN. PROVIDE COORDINATION DRAWINGS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS WHERE CONFLICTS EXIST. OBTAIN APPROVAL FROM ARCHITECT BEFORE ELECTRICAL ROUGH-IN WHEN CONFLICTS ARISE.
30. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL HVAC AND PLUMBING EQUIPMENT.
31. CIRCUITING:
   A. BRANCH CIRCUITING IS SCHEMATIC IN NATURE AND IS INTENDED TO INDICATE CIRCUIT LOADING AND CONTROL, NOT METHODS OF INSTALLATION. REFER TO SPECIFICATIONS FOR METHODS OF INSTALLATION AND MATERIALS, INCLUDING WHETHER OR NOT BX IS ALLOWED AND WHETHER "THROUGH-FIXTURE" OR"OCTOPUS (EMT WITH FLEXIBLE WHIPS)" TYPE LIGHTING BRANCH CIRCUITING IS REQUIRED.
   B. WHERE WIRE SIZE AND CONDUIT SIZE IS NOT INDICATED ON THE DRAWINGS AND/OR PANELSCHEDULES, REFER TO SPECIFICATIONS FOR MINIMUM SIZE REQUIRED.
   C. BRANCH CIRCUITS ON THE DRAWINGS ARE GENERALLY NOT SHOWN GROUPED IN SINGLE RACEWAYS. HOWEVER, GROUPING IS ALLOWED UNDER CERTAIN CONDITIONS. REFER TO DIVISION 26 SPECIFICATIONS UNDER SECTION ENTITLED "ELECTRICAL WIRING" FOR REQUIREMENTS.
   D. THE DRAWINGS GENERALLY INDICATE QUANTITY OF CONDUCTORS ON BRANCH CIRCUIT HOME RUNS ONLY. ELSEWHERE WITHIN CIRCUITS, PROVIDE QUANTITY OF CONDUCTORS AS NEEDED TO ACCOMPLISH CIRCUITING AND SWITCHING REQUIREMENTS SHOWN.
32. WHEN REMOVING EXISTING ELECTRICAL WORK WHERE OTHER ITEMS REMAIN ON THE SAME CIRCUIT, THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO MAINTAIN CIRCUIT CONTINUITY.
33. ALL ITEMS NOTED TO BE REMOVED ARE TO REMAIN THE PROPERTY OF THE OWNER; HOWEVER, CONTRACTOR SHALL REMOVE FROM JOB SITE ALL MATERIAL NOT RETAINED BY OWNER.
34. FIELD VERIFY CONDITION OF, AND MODIFICATIONS AND ADDITIONS TO, ALL EXISTING ELECTRICAL FIXTURES, PANELS, WIRING, ETC.
35. CONTRACTOR SHALL FIELD VERIFY EXISTING BRANCH CIRCUIT LOADING WHEN MAKING MODIFICATIONS AND/OR ADDITIONS TO THAT CIRCUIT. IF NEW WORK WOULD OVERLOAD EXISTING CIRCUIT, CONTRACTOR SHALL LOCATE ANOTHER EXISTING CIRCUIT (THE CLOSEST), WHICH WOULD NOT BE OVERLOADED UPON ADDING NEW LOAD, AND SHALL TIE NEW LOAD INTO THAT CIRCUIT.
36. CONTRACTOR TO REFER TO ARCHITECTURAL PHASING PLANS AND HAVE A GOOD UNDERSTANDING OF SCOPE OF PROJECT PRIOR TO COMMENCEMENT OF WORK.
37. LUMINAIRE SUPPORT IN SUSPENDED CEILINGS:
   A. PROVIDE MEANS OF SUPPORT FOR LUMINAIRES PER NEC 410-16. T BAR CLIPS SHALL BE INSTALLED ON THE LUMINAIRE AND SHALL BE FIELD SECURED TO THE INVERTED CEILING TEES SO THAT THE LUMINAIRE IS SECURELY FASTENED TO THE CEILING SYSTEM FRAMING MEMBERS.
   B. CEILING TILES SHALL NOT BEAR THE WEIGHT OF LUMINAIRES. SURFACE MOUNT LUMINAIRES, RECESSED DOWNLIGHTS, LIGHT TRACK, EXIT SIGN, ETC. SHALL BE SUPPORTED BY PROPER FRAMES OR OTHER ATTACHMENT TO MAIN CEILING SYSTEM GRID OR BUILDING STRUCTURE ABOVE CEILING.
   C. LUMINAIRES SHALL BE CENTERED IN CEILING TILE.
   D. LUMINAIRE SHALL HAVE FLANGE OR TRIM RING FOR CLOSURE OF CEILING CUTOUT OR OPENING.
   E. FIRE-RATED CEILING ASSEMBLY: FOR LUMINAIRES TO BE FLUSH-MOUNTED INTO A FIRE-RATED CEILING OR SURFACE MOUNTED TO A FIRE-RAGED CEILING, INSTALL WITH INDEPENDENT, SECURE SUPPORT. RACEWAY, CABLE ASSEMBLIES, BOXES AND FITTINGS LOCATED ABOVE A FIRE-RATED FLOOR/CEILING OR ROOF CEILING ASSEMBLY SHALL NOT BE SECURED TO, OR SUPPORTED BY, THE CEILING ASSEMBLY INCLUDING THE CEILING SUPPORT WIRES. PROVIDE AN INDEPENDENT MEANS OF SECURE SUPPORT. INDEPENDENT SUPPORT WIRES SHALL BE DISTINGUISHABLE BY COLOR, TAGGING, OR OTHER EFFECTIVE MEANS FROM THOSE THAT ARE PART OF THE FIRE-RATED DESIGN.
38. CONTRACTOR SHALL FIELD VERIFY ANY EXISTING UNDERGROUND PIPING, WIRING OR OTHER FACILITIES PRIOR TO TRENCHING, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY INSTALLATION OF NEW WORK.

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A OR AMP	AMPERES	LV	LOW VOLTAGE
ABV	ABOVE	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MCA	MINIMUM CIRCUIT AMPS
AFG	ABOVE FINISH GRADE	MCC	MOTOR CONTROL CENTER
AIC	AMPERE INTERRUPTING CAPACITY	MFR	MANUFACTURER
AL	ALUMINUM	MH	MANHOLE
AS	DISCONNECT SWITCH SIZE RATING	MOCP	MAXIMUM OVERCURRENT PROTECTION
ATS	AUTOMATIC TRANSFER SWITCH	MTD	MOUNTED
AUX	AUXILIARY	MTG	MOUNTING
AWG	AMERICAN WIRE GAUGE	MV	MEDIUM VOLTAGE
B.S.	BARE STRANDED	NAC	NOTIFICATION APPLIANCE CIRCUIT
BKBD	BACKBOARD	NC	NORMALLY CLOSED
BKR	BREAKER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	NF	NON-FUSED
C	CONDUIT	NIC	NOT IN CONTRACT
C.O.	CONDUIT ONLY WITH PULL WIRE	NO.	NUMBER
CB	CIRCUIT BREAKER	OC	ON CENTER
CKT	CIRCUIT	OD	OUTSIDE DIAMETER
CL	CENTER LINE	PB	PULL BOX
CLG.	CEILING	PC	PHOTOCELL
COL	COLUMN	PH OR Ø	PHASE
CU	COPPER	PIV	POST INDICATING VALVE
DIS	DISCONNECT	PNL	PANEL
DP	DISTRIBUTION PANEL	POC	POINT OF CONNECTION
DWG	DRAWING	PRI.	PRIMARY
EA	EACH	PVC	POLY-VINYL CHLORIDE
ELEC.	ELECTRICAL	PWR	POWER
EMH	ELECTRICAL MANHOLE	REC/RECEPT	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	REQ'D	REQUIRED
EPO	EMERGENCY POWER OFF	RGS	RIGID GALVANIZED STEEL
EQ

ELECTRICAL SITE PLAN
E1.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



GENERAL NOTES

1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.

KEY NOTES

1. PROVIDE NEW IN-GROUND HEAVY DUTY TRAFFIC RATED PULLBOX LABELED "ELECTRICAL".
2. REFER TO SINGLE LINE DIAGRAM ON SHEET E6.1 FOR SIZING AND ANY ADDITIONAL INFORMATION.
3. DEMOLISH EXISTING UTILITY TRANSFORMER, CONTRACTOR SHALL COORDINATE ALL WORK EFFORTS WITH SCE PRIOR TO DEMOLITION WORK.
4. INTERCEPT AND EXTEND EXISTING FEEDERS SERVING EXISTING 'MSA' VIA THE NEW IN-GROUND PULLBOX. ROUTE NEW FEEDERS FROM 'MSA' TO NEW MAIN SERVICE SWITCHBOARD 'MS'. REFER TO SINGLE LINE DIAGRAM ON SHEET E7.1 FOR SIZING AND ANY ADDITIONAL INFORMATION.
5. NEW SCE UTILITY TRANSFORMER, CONTRACTOR TO COORDINATE ALL WORK EFFORTS WITH SCE REPRESENTATIVE AND OWNER. SCE SHALL BE RESPONSIBLE FOR PROVIDING A DESIGN AND REQUIREMENTS FOR INSTALL OF THE NEW TRANSFORMER.
6. DISCONNECT AND REMOVE LIGHT POLE. DEMOLISH EXISTING WIRING BACK TO SOURCE. REMOVE CONDUIT BACK TO NEAREST IN-GROUND PULLBOX, SEAL AND CAP. PROVIDE PULLSTRINGS FOR ANY FUTURE USE. CONTRACTOR TO MAINTAIN LIGHTING CIRCUIT CONTINUITY OF ALL ADJACENT AND/OR DOWNSTREAM LIGHTING FIXTURES/DEVICES TO REMAIN.
7. NEW LED LIGHT FIXTURE. SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION. ROUTE CIRCUITS THRU LIGHTING INVERTER AS SHOWN.
8. NEW CABLE TRENCH FOR SCE SECONDARY CABLES PER SCE REQUIREMENTS. CONTRACTOR TO COORINDATE SIZING OF TRENCH AND QUANTITY WITH SCE REPRESENTATIVE.

FOR BID PURPOSES ONLY

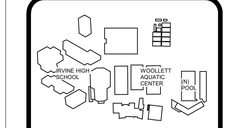
1 ELECTRICAL SITE PLAN
1" = 30'-0"

PBK
ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

CONSULTANT LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

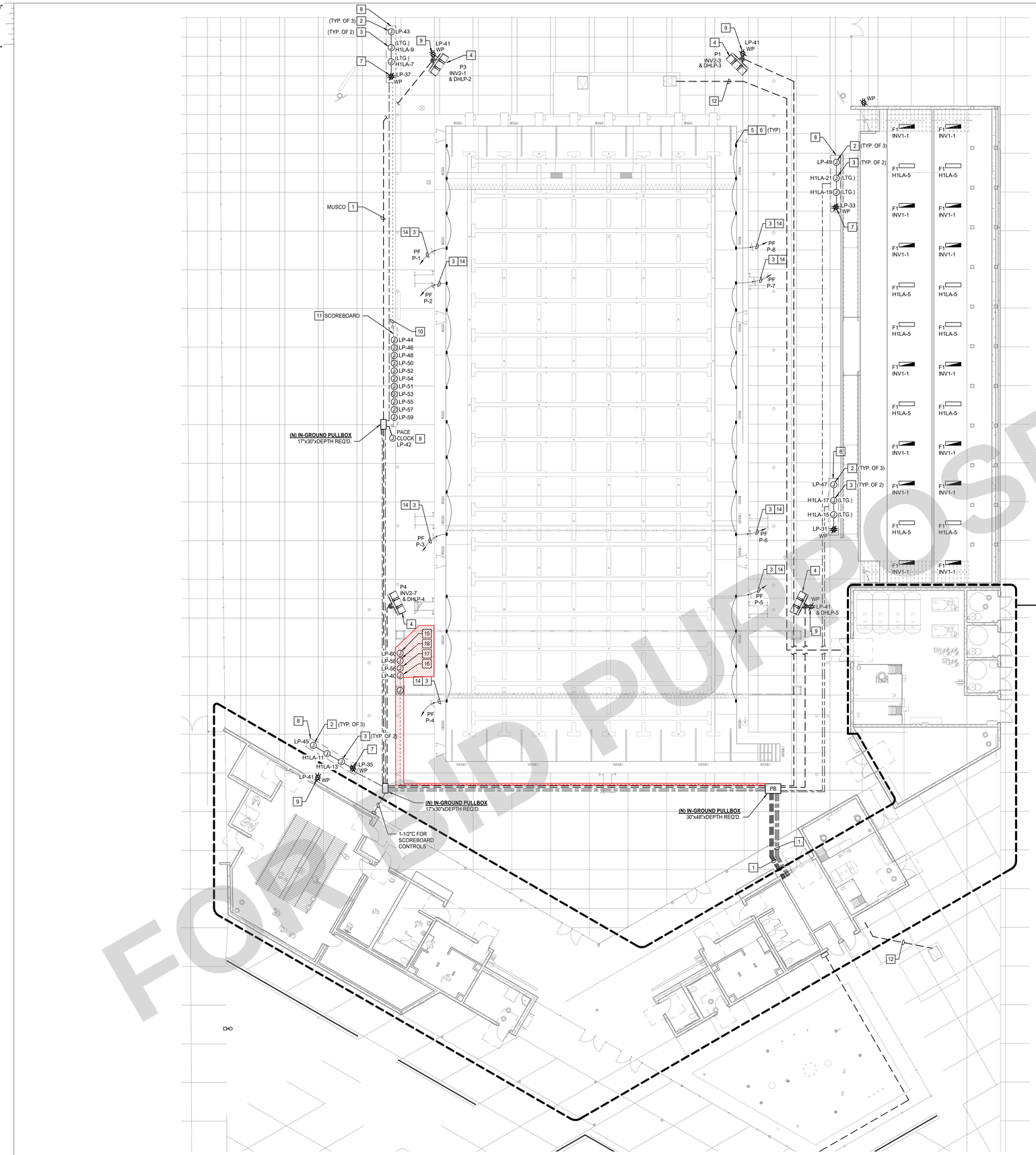
BUILDING NUMBER

ELECTRICAL SITE PLAN

E1.1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_E23_Central.rvt
CHECKED BY: Checker
DRAWN BY: Author
PLOT STAMP: 12/17/2025 5:25:23 PM

ENLARGED POOL AREA PLAN
E1.2
FOR BLUEBEAM LABELING/OCR:



GENERAL NOTES

1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.
3. ALL POOL REINFORCING STEEL, METAL FITTINGS, EQUIPMENT WITHIN 5'-0" OF POOL EDGE AND ANY METAL PARTS OF POOL MECHANICAL EQUIPMENT IN CONTACT WITH POOL RECIRCULATION SYSTEM MUST BE BONDED PER ARTICLE 680 OF THE NATIONAL ELECTRICAL CODE.
4. SEE AQUATIC DRAWINGS FOR FUTHER INFORMATION ON POOL EQUIPMENT.

(XX) AQUATIC CONSULANT EQUIPMENT TAG

KEY NOTES

1. REFER TO SINGLE LINE DIAGRAM ON SHEET E6.1 FOR ADDITIONAL INFORMATION.
2. U.L. LISTED APPROVED. SWIMMING POOL JUNCTION BOX WITH GROUND BUS, HUBS AND NON-CORROSIVE MATERIAL MOUNT ON WALL 8" ABOVE WATER LINE.
3. HOMERUN 3/4" PVC CONDUIT - ROUTE CONDUIT THRU LIGHTING CONTROL CONTACTORS.
4. MUSCO LIGHT FIXTURE, SEE SINGLE LINE DIAGRAM ON SHEET E7.1 FOR CONDUIT AND WIRE SIZING
5. UNDERWATER LIGHT FIXTURE, J & J ELECTRONICS PUREWHITE # LPL-F5W-120-100-P LED POOL LIGHTS, 120 VOLT WITH 100' CORD.
6. LIGHT FIXTURE 3/C CABLE WITH 1#8 INS GROUND CONDUCTION TO RESPECTIVE JUNCTION BOX PEDESTAL IN 3/4" PVC CONDUIT.
7. MASONARY BOX WITH QUAD GFCI DEVICE WITH LOCKABLE WATERPROOF COVER. REFER TO AQ2.5 FOR ADDITIONAL INFORMATION.
8. THREE (3) JUNCTION BOX PEDESTAL. TWO (2) JUNCTION BOXES FOR POOL LIGHTING AND (1) ONE FOR TIMING SYSTEM. REFER TO AQUATICS DRAWINGS FOR THE DETAILS AND EXACT LOCATION AND DIMENSIONS OF JUNCTION BOX PEDESTALS.
9. PROVIDE 120V POWER FOR PACE CLOCK. REFER TO POOL CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION AND EXACT MOUNTING HEIGHT.
10. PROVIDE 1-1/2"C.O. FROM TOMBSTONE TO SCOREBOARD, WIRING PER POOL CONTRACTOR.
11. PROVIDE (11) DEDICATED 120V CIRCUITS AT SCOREBOARD. (11) 1"C - 2#12 +1#12 GRD.
12. PROVIDE 1-1/2"C.O. FROM WATER LEVEL CONTROLLER TO SENSOR, WIRING PER POOL CONTRACTOR.
13. MASONARY BOX WITH 1 BLANK FACE GFCI DEVICE WITH LOCKABLE WATERPROOF COVER. REFER TO AQ2.5 FOR ADDITIONAL INFORMATION.
14. POOL LIGHTING CONTROLS - CONNECT POOL LIGHT FIXTURES TO CONTROLS SHOWN ON PLAN 2/E2.1.
15. NINJA CROSS STRUCTURE, PROVIDE 120V/20A DEDICATED CIRCUIT TO SCOREBOARD. ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED JUNCTION BOXES PER MANUFACTURER REQUIREMENTS. COORDINATE EXACT LOCATION AND INSTALLATION REQUIREMENTS PER MANUFACTURER PRIOR TO ROUGH-IN. 1"C - 2#12 +1#12 GRD.
16. NINJA CROSS STRUCTURE, PROVIDE 120V/20A DEDICATED CIRCUIT TO TIMER DISPLAY. ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED JUNCTION BOXES PER MANUFACTURER REQUIREMENTS. COORDINATE EXACT LOCATION AND INSTALLATION REQUIREMENTS PER MANUFACTURER PRIOR TO ROUGH-IN. 1"C - 2#12 +1#12 GRD.
17. NINJA CROSS STRUCTURE, PROVIDE 120V/20A DEDICATED CIRCUIT TO WINCH. ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED JUNCTION BOXES PER MANUFACTURER REQUIREMENTS. COORDINATE EXACT LOCATION AND INSTALLATION REQUIREMENTS PER MANUFACTURER PRIOR TO ROUGH-IN. 1"C - 2#12 +1#12 GRD.
18. NINJA CROSS STRUCTURE, PROVIDE 120V/20A DEDICATED CIRCUIT TO MASTER CONTROL BOX. ELECTRICAL CONTRACTOR TO PROVIDE ALL REQUIRED JUNCTION BOXES PER MANUFACTURER REQUIREMENTS. COORDINATE EXACT LOCATION AND INSTALLATION REQUIREMENTS PER MANUFACTURER PRIOR TO ROUGH-IN. 1"C - 2#12 + 1#12 GRD.

Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.

1 ENLARGED PLAN - POOL AREA
3/32" = 1'-0"

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CLIENT LOGO
CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 EXP. 11/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEPHEN C. MUSSER NO. E-19817 EXP. 12/31/25 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/16/2024
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

ENLARGED POOL AREA PLAN

E1.2

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_E23_Central.rvt
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0"

1"

ENLARGED POOL AREA GROUNDING PLAN

E1.2G

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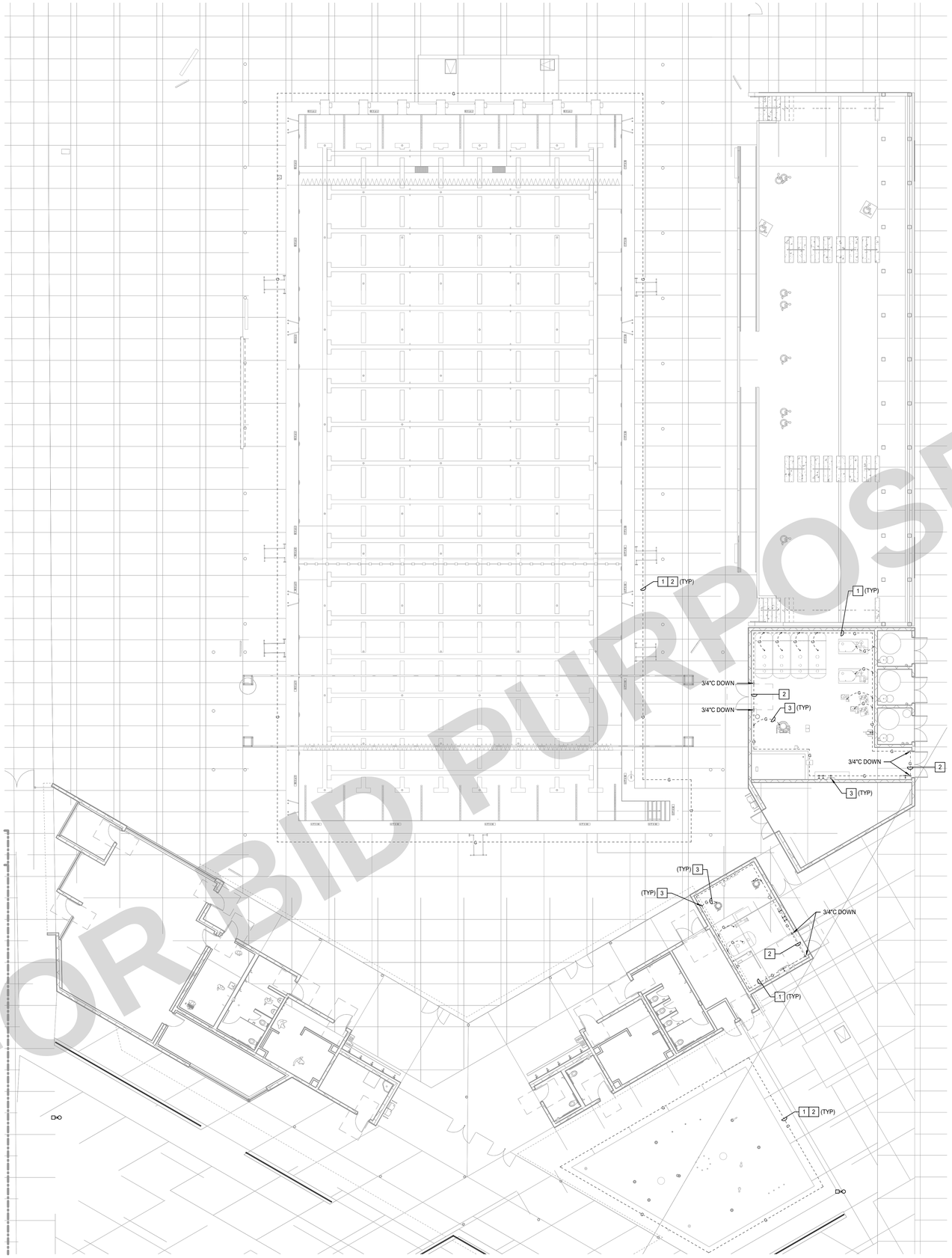

GENERAL NOTES

1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.
3. ALL POOL REINFORCING STEEL, METAL FITTINGS, EQUIPMENT WITHIN 5'-0" OF POOL EDGE AND ANY METAL PARTS OF POOL MECHANICAL EQUIPMENT IN CONTACT WITH POOL RECIRCULATION SYSTEM MUST BE BONDED PER ARTICLE 680 OF THE NATIONAL ELECTRICAL CODE.
4. SEE AQUATIC DRAWINGS FOR FUTHER INFORMATION ON POOL EQUIPMENT.

⟨XX⟩ AQUATIC CONSULANT EQUIPMENT TAG

KEY NOTES

1. PROVIDE 1#6 BARE COPPER WIRE INSTALLED ON WALL 12"AFF.
2. CONDUIT AND CONDUCTORS SHALL BE RAN UNDERGROUND AT THIS LOCATION.
3. PROVIDE 1#8 BARE COPPER TO EQUIPMENT.

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1 ENLARGED PLAN - GROUNDING PLAN
3/32" = 1'-0"

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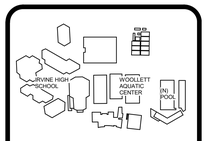
CITY OF IRVINE



KEY PLAN
NORTH: N PLAN N TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE GU
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RDN. 11/31/25
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REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MERCER
No. E-19817
Ex. 3/31/26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

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BUILDING NUMBER

ENLARGED POOL AREA GROUNDING PLAN

E1.2G

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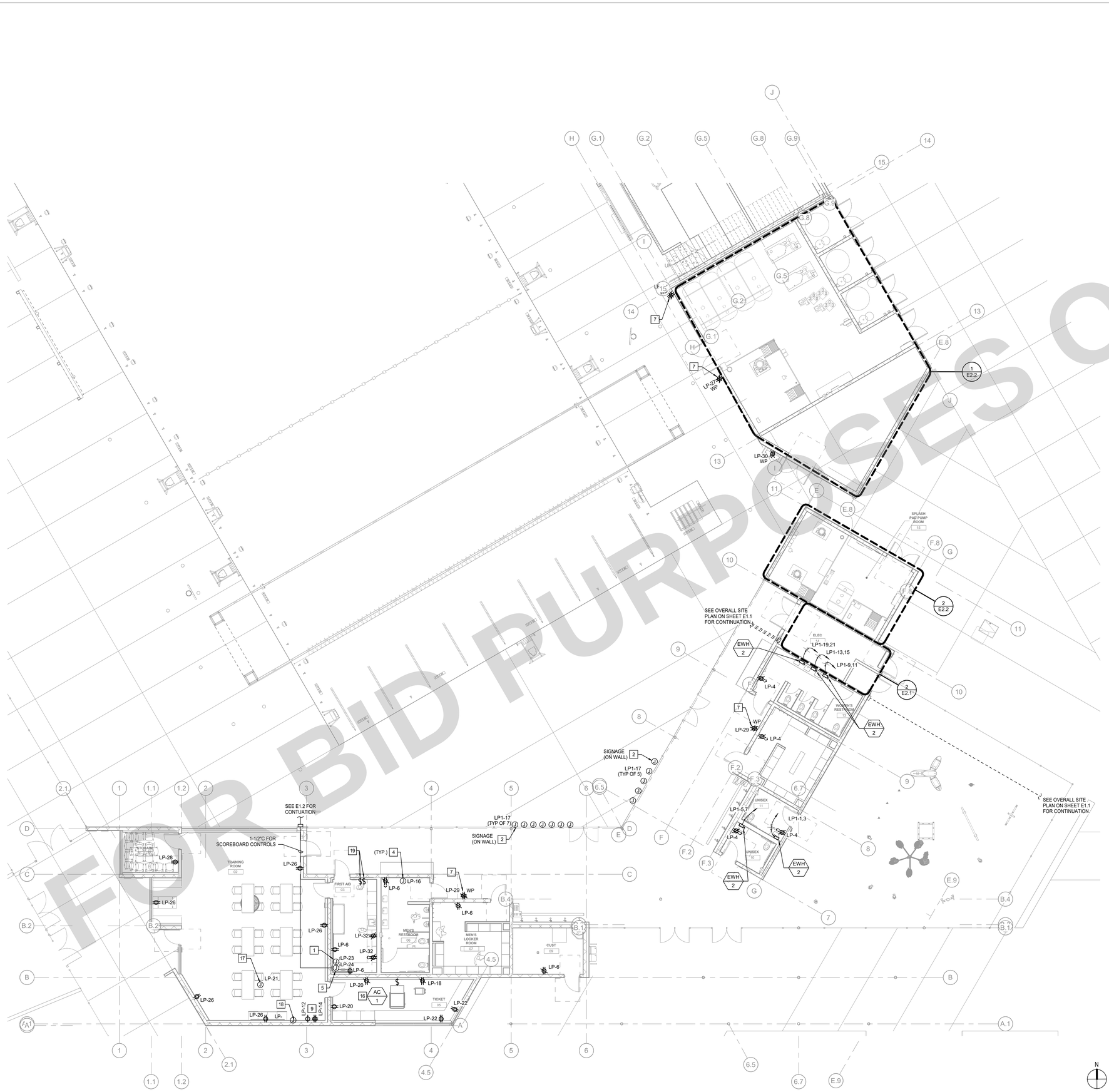
POWER PLAN
E2.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



FOR BID PURPOSES ONLY

1 POWER PLAN
1/8" = 1'-0"

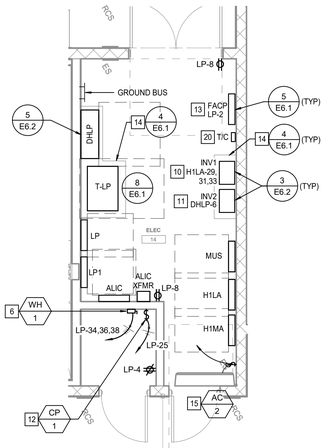
GENERAL NOTES

1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPLEX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C, WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.

2. MOUNT CONDUITS OF LESS THAN 2-1/2" WITHIN 12" OF STRUCTURE.

KEY NOTES

1. JUNCTION BOX FOR TIMING SYSTEM. REFER TO AQUATICS DRAWINGS FOR THE DETAILS AND EXACT LOCATION.
2. PROVIDE DEDICATED POWER CONNECTION TO SIGNAGE. COORDINATE WITH ARCHITECTURAL PLANS FOR EXACT LOCATION.
3. PROVIDE POWER TO WATER LEVEL CONTROLLER. REFER TO SHEET AQ6.1 FOR ADDITIONAL INFORMATION.
4. PROVIDE DEDICATED 120V POWER CONNECTION TO HAND DRYER.
5. SCOREBOARD CONTROLS - PROVIDE 120V POWER CONNECTION. COORDINATE WITH SCOREBOARD MANUFACTURER FOR ANY ADDITIONAL REQUIREMENTS.
6. PROVIDE 208V-60A3P DISCONNECT SWITCH FOR EQUIPMENT INDICATED. (1*C - 3#6 & 1#10G.)
7. 12" X 12" X 6" PVC JUNCTION BOX WITH 120V QUAD OUTLET AND ETHERNET CONNECTION MOUNTED AT 18" AFF EXTERIOR AND ABOVE COUNTER WHERE INTERIOR.
8. PROVIDE CONNECTION FOR REFRIGERATOR.
9. PROVIDE CONNECTION FOR IDF RACK. COORDINATE INSTALLATION REQUIREMENTS PRIOR TO ROUGH-IN.
10. EMERGENCY LIGHTING INVERTER - MYERS #7-IE-02-S-ND2012-2YM.
11. EMERGENCY LIGHTING INVERTER - MYERS #7-IE-05-S-ND2012-2YM.
12. PROVIDE 20A MOTOR-RATED TOGGLE SWITCH FOR PLUMBING EQUIPMENT INDICATED. COORDINATE INSTALLATION REQUIREMENTS PRIOR TO ROUGH-IN.
13. PROVIDE CONNECTION FOR FACP. PROVIDE RED, LOCK-ON CIRCUIT BREAKER AT PANEL.
14. PROVIDE 6" HOUSEKEEPING PAD FOR EQUIPMENT.
15. PROVIDE MOTOR RATED TOGGLE SWITCH FOR EQUIPMENT INDICATED. POWER SOURCE VIA CORRESPONDING UNIT LOCATED ON ROOF. (1*C - 3#10 & 1#10G.)
16. PROVIDE MOTOR RATED TOGGLE SWITCH FOR EQUIPMENT INDICATED IN ACCESSIBLE CEILING SPACE. POWER SOURCE VIA CORRESPONDING UNIT LOCATED ON ROOF. (1*C - 3#10 & 1#10G.).
17. PROVIDE CONNECTION FOR CEILING MOUNTED PROJECTOR. COORDINATED EXACT LOCATION WITH CAMPUS REPRESENTATIVE PRIOR TO ROUGH-IN.
18. PROVIDE CONNECTION FOR EXTRON PANEL.
19. POOL LIGHTING CONTROLS - PROVIDE THE FOLLOWING:
    - (1) ON/OFF SWITCH
    - (1) TIMER SWITCH
20. 365-DAYS ASTRONOMICAL TIME CLOCK SWITCH. PROVIDE A PHOTOCELL SENSOR AT ROOF LEVEL FACING NORTH.
21. PROVIDE DEDICATED 120V POWER CONNECTION TO SPRAY GROUND CONTROLLER. CONTRACTOR TO COORDINATE ALL WORK EFFORTS WITH AQUATICS PLANS FOR EXACT LOCATION AND MOUNTING HEIGHT.



2 ENLARGED AREA PLAN
1/4" = 1'-0"

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CITY OF IRVINE

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 RN 11/9/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEVEN C. MISNER E-19817 12-31-26 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

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BUILDING NUMBER

POWER PLAN

E2.1

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0"

1"

ENLARGED POOL ROOM PLANS
E2.2
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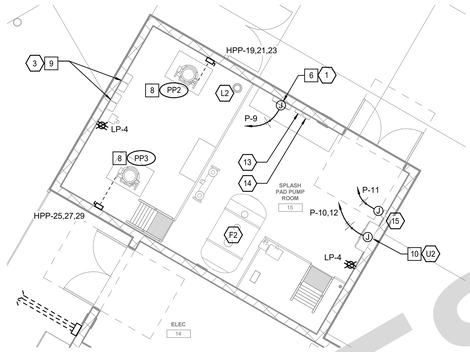
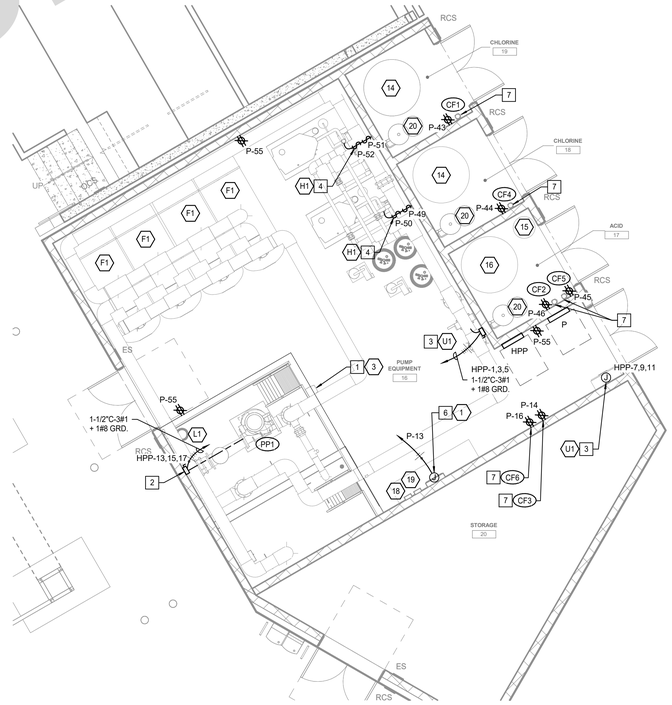


2 ENLARGED SPLASH PAD PUMP ROOM
3/16" = 1'-0"



1 ENLARGED PLAN - POOL ROOM
3/16" = 1'-0"

GENERAL NOTES

1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.
3. ALL POOL REINFORCING STEEL, METAL FITTINGS, EQUIPMENT WITHIN 5'-0" OF POOL EDGE AND ANY METAL PARTS OF POOL MECHANICAL EQUIPMENT IN CONTACT WITH POOL RECIRCULATION SYSTEM MUST BE BONDED PER ARTICLE 680 OF THE NATIONAL ELECTRICAL CODE.
4. SEE AQUATIC DRAWINGS FOR FUTHER INFORMATION ON POOL EQUIPMENT.

XX AQUATIC CONSULANT EQUIPMENT TAG

KEY NOTES

1 VARIABLE FREQUENCY DRIVE AND BYPASS PANEL. REFER TO SHEET AQ6.1 FOR ADDITIONAL INFORMATION.

2 CIRCULATING PUMP 'PP1'. PROVIDE 480V/3PH POWER AND FUSIBLE DISCONNECT. COORDINATE FINAL LOCATION WITH POOL CONTRACTOR PRIOR TO ROUGH-IN. SEE PUMP SCHEDULE ON SHEET 'AQ6.0' FOR ADDITIONAL INFORMATION. SEE SINGLE LINE DIAGRAM ON SHEET E7.1 FOR CONDUIT AND WIRE TO PUMPS.

3 UV TREATMENT 'U1' PROVIDE 480V/3PH, 30A/3P POWER CONNECTION. COORDINATE FINAL LOCATION WITH POOL CONTRACTOR PRIOR TO ROUGH-IN. SEE UV TREATMENT SYSTEMS SCHEDULE ON SHEET 'AQ6.0' FOR ADDITIONAL INFORMATION. SEE SINGLE LINE DIAGRAM ON SHEET E7.1 FOR CONDUIT AND WIRE TO PUMPS.

4 HEATER PUMP, PROVIDE (2) 120V POWER CONNECTIONS AND (2) 30AS/20AF DISCONNECTS. COORDINATE FINAL LOCATION WITH POOL CONTRACTOR PRIOR TO INSTALL. SEE HEATER SCHEDULE ON SHEET 'AQ6.0' FOR ADDITIONAL INFORMATION.

5 PROVIDE POWER TO WATER LEVEL CONTROLLER. REFER TO SHEET AQ6.1 FOR ADDITIONAL INFORMATION.

6 PROVIDE 120V/30A POWER CONNECTION TO CHEMICAL CONTROLLER. REFER TO SHEET AQ6.1 FOR ADDITIONAL INFORMATION.

7 PROVIDE 120V/1PH POWER CONNECTION TO CHEMICAL OR CO2 FEED EQUIPMENT. ROUTE CIRCUITS THRU ASSOCIATED CHEMICAL OR CO2 CONTROL PANEL. SEE CHEMICAL AND CO2 FEED SCHEDULE ON SHEET 'AQ6.0' FOR ADDITIONAL INFORMATION.

8 CIRCULATING PUMP 'PP1', 'PP2', 'PP3'. PROVIDE 480V/3PH POWER AND FUSIBLE DISCONNECT. SEE SINGLE LINE DIAGRAM ON SHEET E7.1 FOR CONDUIT AND WIRE TO PUMPS. COORDINATE FINAL LOCATION WITH POOL CONTRACTOR PRIOR TO ROUGH-IN. SEE PUMP SCHEDULE ON SHEET 'AQ6.0' FOR ADDITIONAL INFORMATION.

9 VARIABLE FREQUENCY DRIVE AND BYPASS PANEL. REFER TO SHEET AQ6.1 FOR ADDITIONAL INFORMATION.

10 UV TREATMENT 'U2' PROVIDE 208V/3PH, 20A/2P POWER CONNECTION. SEE SINGLE LINE DIAGRAM ON SHEET E7.1 FOR CONDUIT AND WIRE TO PUMPS. COORDINATE FINAL LOCATION WITH POOL CONTRACTOR PRIOR TO ROUGH-IN. SEE UV TREATMENT SYSTEMS SCHEDULE ON SHEET 'AQ6.0' FOR ADDITIONAL INFORMATION.

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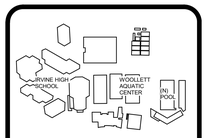

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE GU
C-34832
REN. 11/9/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MOSER
NO. E-19817
Exp. 3/31/25
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STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

ENLARGED POOL ROOM PLANS

E2.2

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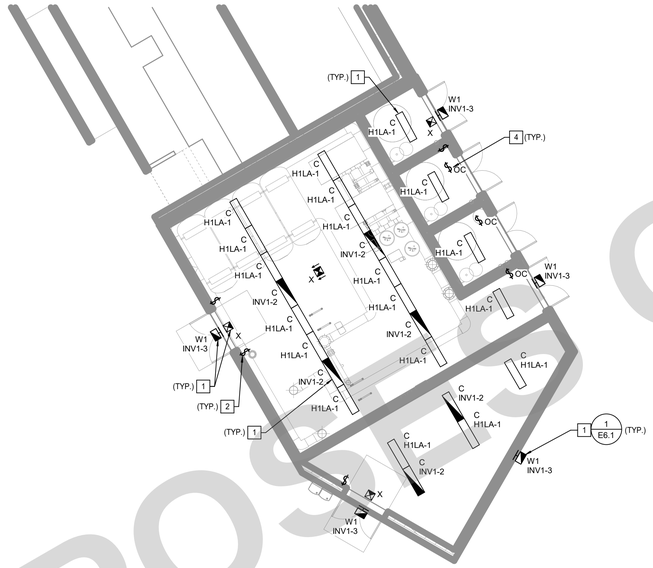
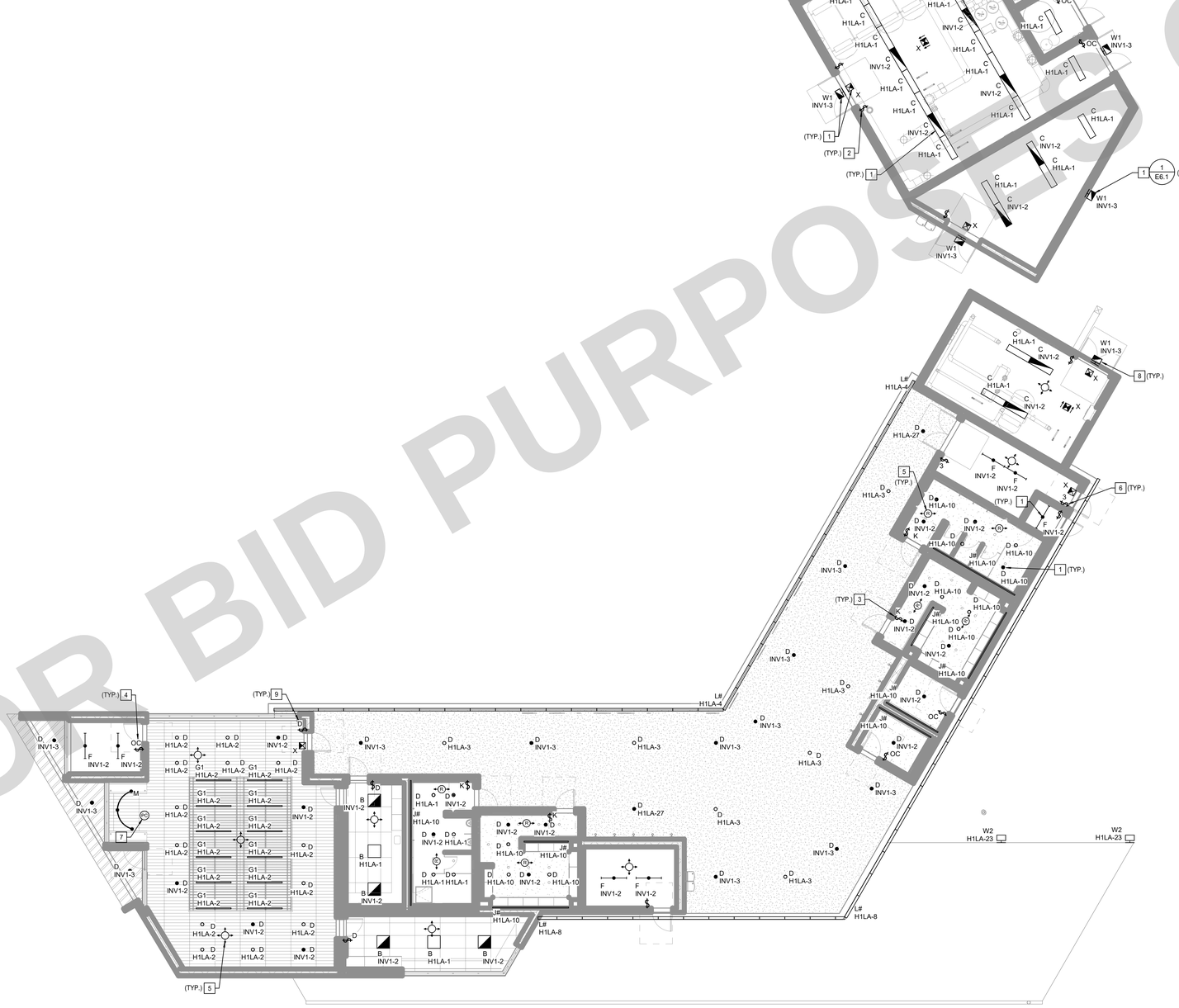
0"
1"

LIGHTING PLAN
E3.1
FOR BLUEBEAM LABELING/OCR:

LIGHT FIXTURE SCHEDULE

FIXTURE DESIGNATION	DESCRIPTION	MANUFACTURER	MODEL NO.	MOUNTING	LED DATA (COLOR, LUMENS, CRI)	WATTAGE	VOLTAGE	NOTES
B	2'x2' TROFFER	LITHONIA	STAKP 2x2 4000LM 80CRI 40K COL MIN10 ZR MVOLT	RECESSED	4000K,2000LM, 80 CRI	22W	UNV	PROVIDE 'E10W' BATTERY PACK FOR EMERGENCY FIXTURES
C	4' LINEAR	LITHONIA	VPF4-4FT-MIN10-40K-MVOLT-CLP	SURFACE	4000K, 1200LM, 80 CRI	32W	UNV	PROVIDE 'EMB310' EM BATTERY PACK FOR EMERGENCY FIXTURES
D	6" DOWNLIGHT	LITHONIA	LDN6 6" DOWNLIGHT 40/20 L06WR LSS MVOLT GZ0	RECESSED	4000K,2000LM, 80 CRI	22W	UNV	PROVIDE 'E10WCP' BATTERY PACK FOR EMERGENCY FIXTURES
F	1'x4' LINEAR	LITHONIA	CPX 1X4 ALO7 80CRI SWW7 SWL MVOLT	SUSPENDED	4000K, 1200LM, 80 CRI	38W	UNV	PROVIDE 'E10W' BATTERY PACK FOR EMERGECY FIXTURES
F1	1'x4' LINEAR	LUMINAIRE	VPF4-4FT-MIN1-NLIGHT-40W-40K-MVOLT-CLP-FINISH*	SUSPENDED	4000K,3063LM,80CRI	25W	UNV	PROVIDE 'EMB310' BATTERY PACK FOR EMERGENCY FIXTURES
G1	TRAINING ROOM LINEAR	ALIGHT	GS- **-LH-40K- -U-HE-G-FINISH-D	SUSPENDED	4000K,80CRI	12W/FT	UNV	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING
J#	INTERIOR COVE	ECOSENSE	L30-I-*PER PLANS*-08-40-90-mult-120	RECESSED	4000K,738LM/FT,80CRI	8.5W/ft	UNV	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING
L#	PERFORMANCE LINEAR FIXTURE	INSIGHT LIGHTING	ME-HO-RGB40-Q-D-2060-SM-48-277-DMXSY-FINISH TBD BY ARCH.	SURFACE	4000K, 1223LM/FT,80CRI	9W/FT	277V	USE nLIGHT FRESCO FOR COLOR CHANGE CONTROL
M	TRAINING ROOM PENDANT	G LIGHTING	F-#####-40.-750.-500.-**-7	SUSPENDED	4000K,80CRI	-	UNV	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING
N#	EXTRIOR SEAT LIGHT	LUMINII	455-407-FH-MO-DWSO-40-08-EXX-XX	RECESSED	4000K,92CRI	3.5W/FT.	277V	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING
SP1	LIGHT POLE	MESTER LED	MPL01-87W-27V-B-P0-M-D-	POST TOP	4000K,10600LM, 80 CRI	87W	277V	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING, PROVIDE POLE 'RSS 20 4-5B DM19AS *'*'
W1	WALL PACK - EMERGENCY	LITHONIA	WDGE2-LED-P2-40K-80CRI-TFTM-MVOLT-SRM-PIR1FCV-E20WC	WALL	4000K, 1000LM, 80 CRI	18W	UNV	PROVIDE' E20WC' EM BATTERY PACK & 'WDGE2PBBW DDBXD U'
W2	FLOODLIGHT	LITHONIA	HLF1 LED P2 40K WFL MVOLT YKC64 **	SURFACE	4000K, 28,827LM, 80 CRI	142W	UNV	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING
X	EXIT SIGN	BEGHELLI	CYC-SA-SG-PER PLANS-MIR-WCS-FINISH	SURFACE	-	3W	INV	FINISH TBD BY CAMPUS REPRESNTATIVE PRIOR TO ORDERING





N

1 LIGHTING PLAN
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECT'S REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
2. PROVIDE EMERGENCY BATTERY PACKS FOR ALL LIGHTING FIXTURES DESIGNATED TO BE ON EMERGENCY POWER AND EXIT SIGNS. PROVIDE UNSWITCHED HOT TO BATTERY SO THAT LAMPS CAN BE SWITCHED OFF AND ON WITHOUT DRAINING BATTERY. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE 20A UNSWITCHED BRANCH CIRCUIT (2#12, 1#12G, 3/4"C) FROM LIGHTING PANEL TO ALL EXIT SIGNS IN THIS AREA.
3. MOUNT CONDUITS OF LESS THAN 2-1/2" WITHIN 12" OF STRUCTURE.

KEY NOTES

1. NEW LED LIGHT FIXTURE. SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
2. LOW VOLTAGE WALL ON/OFF MANUAL SWITCH.
3. LOW VOLTAGE WALL ON/OFF MANUAL KEYED SWITCH.
4. LOW VOLTAGE WALL ON/OFF SWITCH WITH DIMMING AND OCCUPANCY SENSOR.
5. LOW VOLTAGE CEILING MOUNTED OCCUPANCY SENSOR, nLIGHT NCM-PDT-9.
6. LOW VOLTAGE WALL ON/OFF MANUAL 3-WAY SWITCH.
7. LOW VOLTAGE CEILING MOUNTED DAYLIGHT HARVESTING SENSOR WITH DIMMING.
8. ROUTE WALLPACK FIXTURE CIRCUIT/S THRU ASTRONOMICAL TIMECLOCK. REFER TO E2.1 FOR LOCATION OF TIMECLOCK.
9. LOW VOLTAGE WALL ON/OFF SWITCH WITH DIMMING.

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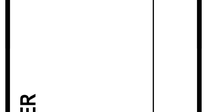
CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

LIGHTING PLAN

E3.1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_E23_Central.rvt
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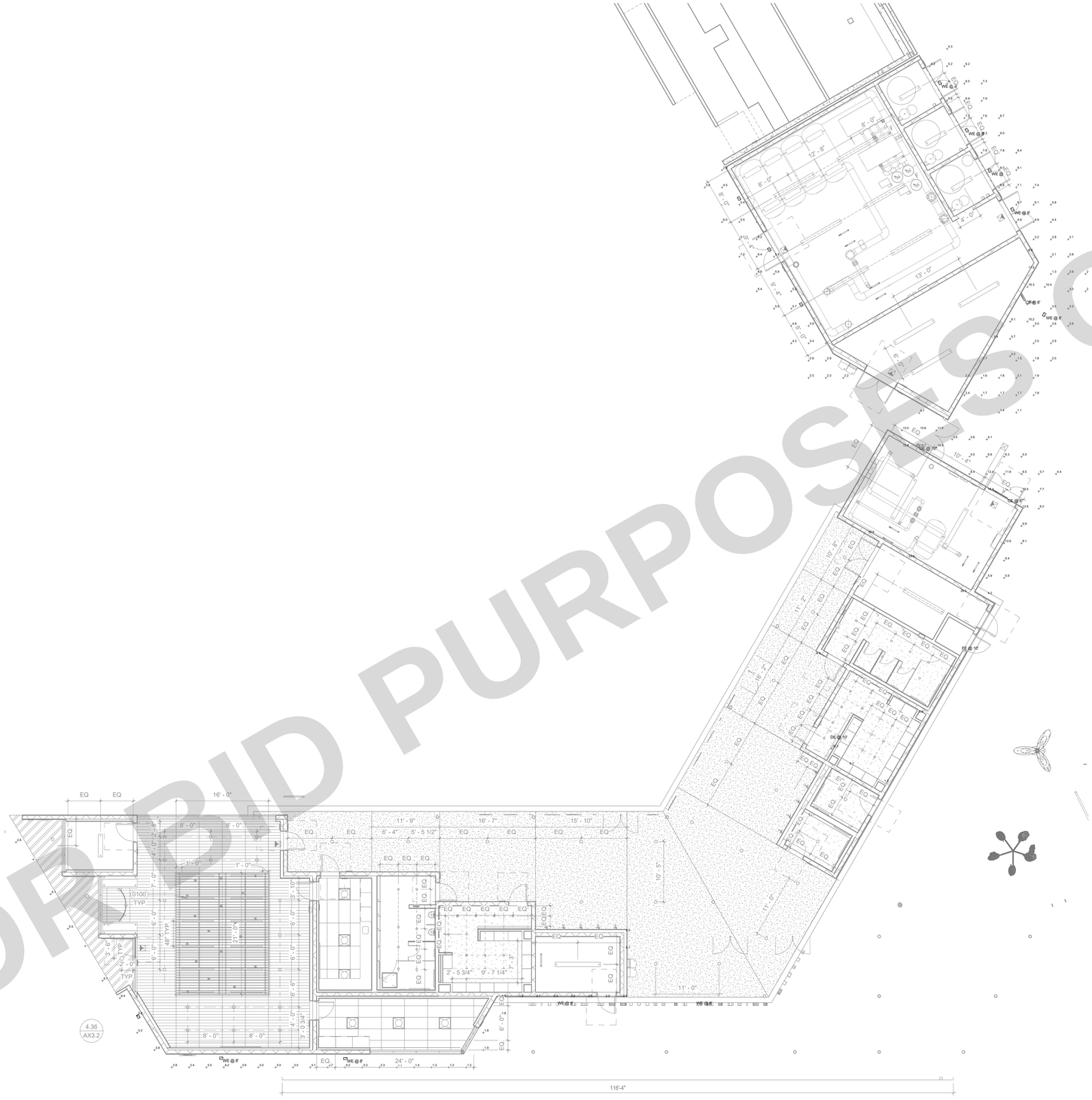
EMERGENCY PHOTOMETRIC PLAN
E3.1P
FOR BLUEBEAM LABELING/OCR:

0"
1"

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
01 OFFICE	+	14.2 fc	18.1 fc	9.8 fc	1.8:1	1.4:1
02 TRAINING RM	+	8.3 fc	16.3 fc	1.9 fc	8.6:1	4.4:1
03 FIRST AID	+	16.1 fc	18.5 fc	14.9 fc	1.2:1	1.1:1
06 MENS RESTROOM	+	15.5 fc	26.3 fc	2.6 fc	10.1:1	6.0:1
07 MENS LOCKER RM	+	11.0 fc	18.7 fc	2.0 fc	9.4:1	5.5:1
11 UNISEX	+	16.0 fc	25.0 fc	9.8 fc	2.6:1	1.6:1
12 WOMENS LOCKER ROOM	+	12.2 fc	22.1 fc	1.3 fc	17.0:1	9.4:1
13 WOMENS RESTROOM	+	13.8 fc	27.1 fc	1.7 fc	15.9:1	8.1:1
14 ELECTRICAL	+	29.0 fc	37.2 fc	18.0 fc	2.1:1	1.6:1
15 SPLASH PAD PUMP ROOM	+	8.6 fc	18.0 fc	2.8 fc	6.4:1	3.1:1
16 PUMP EQUIPMENT	+	6.7 fc	16.6 fc	1.2 fc	13.8:1	5.6:1
20 STORAGE	+	8.2 fc	15.7 fc	3.3 fc	4.8:1	2.5:1
EXTERIOR	+	3.6 fc	7.4 fc	1.1 fc	6.7:1	3.3:1
EXTERIOR	+	4.2 fc	9.0 fc	1.1 fc	8.2:1	3.8:1
OPEN AREA	+	10.8 fc	25.2 fc	1.0 fc	25.2:1	10.8:1
UNISEX RESTROOM	+	16.2 fc	25.9 fc	8.9 fc	2.9:1	1.8:1



N

1 EMERGENCY PHOTOMETRIC PLAN
1/8" = 1'-0"

FOR BID PURPOSES ONLY

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_E23_Central.rvt
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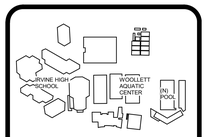
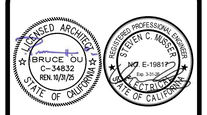
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

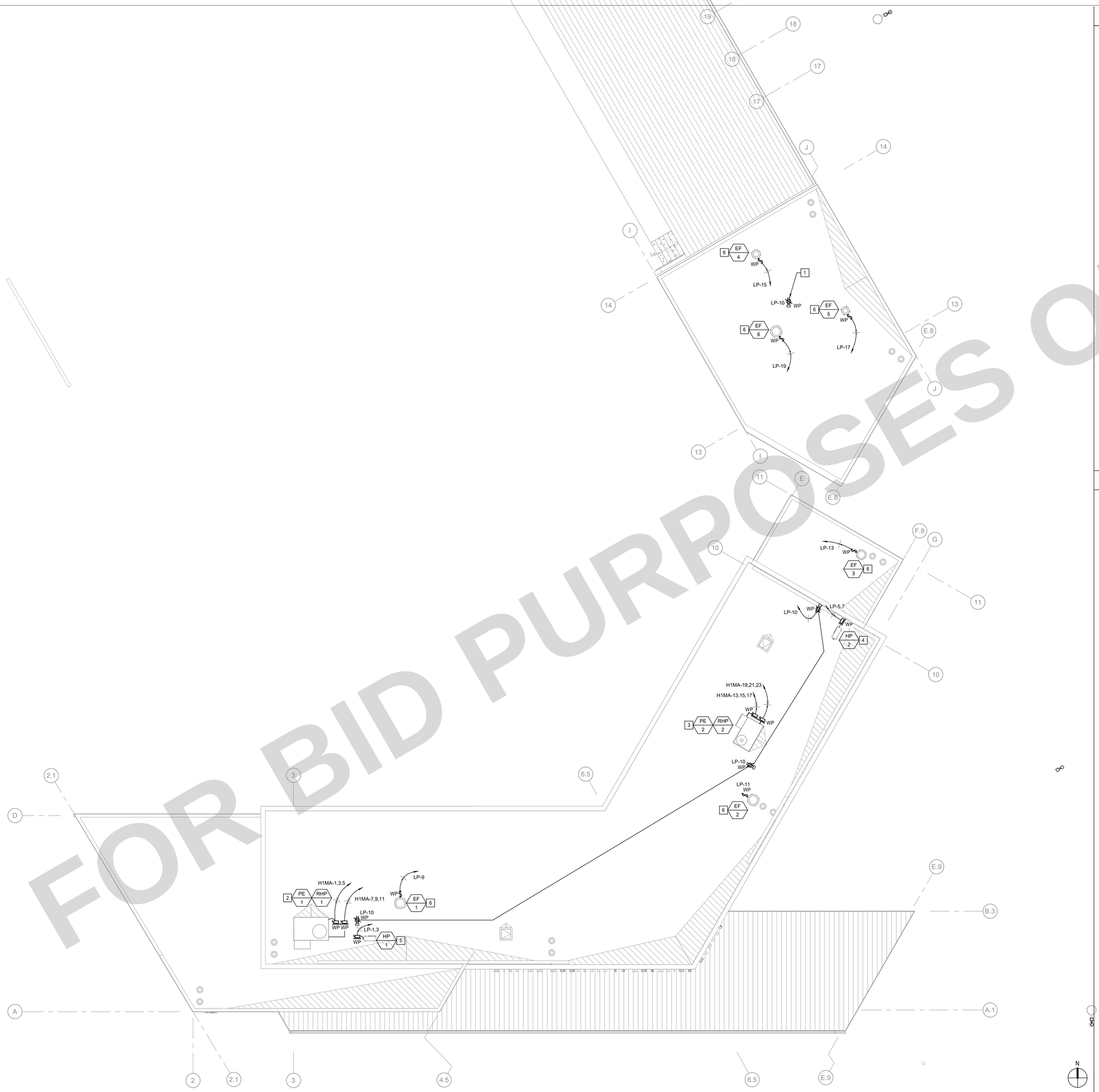
100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

EMERGENCY PHOTOMETRIC PLAN

E3.1P

ROOF PLAN
E4.1
FOR BLUEBEAM LABELING/OCR:



1 ROOF PLAN
1/8" = 1'-0"

GENERAL NOTES

1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.

KEY NOTES

1. PROVIDE WEATHERPROOF, GFCI-TYPE RECEPTACLE. CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED AND DURABLOK SUPPORTS AS REQUIRED PER NEC REQUIREMENTS.
2. ROOFTOP MECHANICAL EQUIPMENT - PROVIDE THE FOLLOWING:
   - (1) WEATHERPROOF, 480V-60A/3P/60AF DISCONNECT SWITCH FOR EQUIPMENT INDICATED. (1-1/2"C, 3#4, 1#10G.).
   - (1) WEATHERPROOF, 480V-30A3P/20AF DISCONNECT SWITCH FOR POWER EXHAUST. (1"C - 3#10 & 1#10G.).
   - CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED AND DURABLOK SUPPORTS AS REQUIRED PER NEC REQUIREMENTS.
3. ROOFTOP MECHANICAL EQUIPMENT - PROVIDE THE FOLLOWING:
   - (1) WEATHERPROOF, 480V-60A/3P/35AF DISCONNECT SWITCH FOR EQUIPMENT INDICATED. (1-1/2"C, 3#4, 1#10G.).
   - (1) WEATHERPROOF, 480V-30A3P/20AF DISCONNECT SWITCH FOR POWER EXHAUST. (1"C - 3#10 & 1#10G.).
   - CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED AND DURABLOK SUPPORTS AS REQUIRED PER NEC REQUIREMENTS.
4. ROOFTOP MECHANICAL EQUIPMENT - PROVIDE THE FOLLOWING:
   - (1) WEATHERPROOF, 208V-60A2P/40AF DISCONNECT SWITCH FOR EQUIPMENT INDICATED. (1-1/2"C, 2#4, 1#10G.).
   - CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED AND DURABLOK SUPPORTS AS REQUIRED PER NEC REQUIREMENTS.
5. ROOFTOP MECHANICAL EQUIPMENT - PROVIDE THE FOLLOWING:
   - (1) WEATHERPROOF, 208V-30A2P/25AF DISCONNECT SWITCH FOR EQUIPMENT INDICATED. (1"C - 3#10 & 1#10G.).
   - CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED AND DURABLOK SUPPORTS AS REQUIRED PER NEC REQUIREMENTS.
6. PROVIDE WEATHERPROOF, 20A MOTOR-RATED TOGGLE SWITCH FOR MECHANICAL EQUIPMENT INDICATED. CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED AND DURABLOK SUPPORTS AS REQUIRED PER NEC REQUIREMENTS.

FOR BID PURPOSES ONLY

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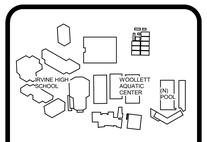
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

ROOF PLAN

E4.1

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatics Center_E23_Central.rvt
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PANEL SCHEDULES
E5.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

Switchboard: DHLP

Location: ELEC 14 | **Volts:** 480Y/277V, 3PH, 4W | **A.I.C. Rating:** SEE SHEET E7.1
Supply From: | **Phases:** 3 | **Mains Type:** 400 A
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure:

Circuit Description	Load	Remarks
PANEL 'LP' - VIA XFMR 'T-LP'	98635 VA	
MUSCO 'P3' LIGHT POLE	3510 VA	
MUSCO 'P1' LIGHT POLE	3510 VA	
MUSCO 'P4' LIGHT POLE	3510 VA	
MUSCO 'P2' LIGHT POLE	3510 VA	
EMERGENCY LIGHTING INVERTER 'INV-2'	14823 VA	
PANEL 'H1MA'	68503 VA	
PANEL 'H1LA'	13629 VA	
PANEL 'HPP'	55750 VA	
SPACE	--	
SPACE	--	
SPACE	--	
SPACE	--	
	265380 VA	
	319 A	

Load Classifications:	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	11419 VA	100.00%	11419 VA	
Motor	175353 VA	100.00%	175353 VA	**Total Conn. Load:** 265380 VA
Other	65988 VA	100.00%	65988 VA	**Total Est. Demand:** 264070 VA
Receptacle	12620 VA	89.62%	11310 VA	**Total Conn. Current:** 319 A
				Total Est. Demand Current: 318 A

Emergency Inverter: INV1

VOLTAGE: 277V
SIZE: 2.25KVA

LOCATION: ELEC 14

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1	BLEACHERS EM LIGHTING	20 A	1		350	928						1	20 A	INTERIOR EM LIGHTING	2
3	EXTERIOR EM LIGHTING	20 A	1				372	0			--	1	20 A	SPARE	4
5	SPARE	20 A	1	--					0	0	--	1	20 A	SPARE	6
7	SPARE	20 A	1	--	0	0					--	1	20 A	SPARE	8
9	SPARE	20 A	1	--			0	0			--	1	20 A	SPARE	10
11	SPARE	20 A	1	--					0	0	--	1	20 A	SPARE	12

CONNECTED LOAD BY PHASE (VA)		CONNECTED		REMARKS:
A:	1278	1650	VA	
B:	372	2	3PH AMPS	
C:	0	DEMAND LOAD		
		2	3PH AMPS	

Emergency Inverter: INV2

VOLTAGE: 277V
SIZE: 15KVA

LOCATION: ELEC 14

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1	POOL POLE LIGHTS	20 A	1		3510	783						1	20 A	EXT. EGRESS POLE LIGHTS	2
3	POOL POLE LIGHTS	20 A	1				3510	0				1	20 A	T-ALIC	4
5	POOL POLE LIGHTS	20 A	1						3510	0	--	1	20 A	SPARE	6
7	POOL POLE LIGHTS	20 A	1		3510	0					--	1	20 A	SPARE	8
9	SPARE	20 A	1	--			0	0			--	1	20 A	SPARE	10
11	SPARE	20 A	1	--					0	0	--	1	20 A	SPARE	12

CONNECTED LOAD BY PHASE (VA)		CONNECTED		REMARKS:
A:	7803	14823	VA	
B:	3510	18	3PH AMPS	
C:	3510	DEMAND LOAD		
		18	3PH AMPS	

Branch Panel: H1MA

NEUTRAL BUS: Yes | **VOLTAGE:** 480Y/277V, 3PH, 4W
NEUTRAL RATING: 100% | **MAIN BUS:** 225 A
GROUND BUS: Yes | **MCB:** 225 A
LOCATION: ELEC 14 | **MOUNTING:** SURFACE | **AIC RATING:** SEE SHEET E7.1

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1					17736	0					--	1	20 A	SPARE	2
3	RHP-1	60 A	3				17736	0			--	1	20 A	SPARE	4
5									17736	0	--	1	20 A	SPARE	6
7					526	0					--	1	20 A	SPARE	8
9	PE-1 (RHP-1)	30 A	3				526	0			--	1	20 A	SPARE	10
11									526	0	--	1	20 A	SPARE	12
13					3602	0					--	1	20 A	SPARE	14
15	RHP-2	60 A	3				3602	0			--	1	20 A	SPARE	16
17									3602	0	--	1	20 A	SPARE	18
19					970	0					--	1	20 A	SPARE	20
21	PE-2 (RHP-2)	30 A	3				970	0			--	1	20 A	SPARE	22
23									970	0	--	1	20 A	SPARE	24
25	SPARE	20 A	1	--	0	0					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0	0			--	1	20 A	SPARE	28
29	SPACE	--	1	--					--	0	--	1	20 A	SPACE	30
31	SPACE	--	1	--	--	--					--	1	--	SPACE	32
33	SPACE	--	1	--			--	--			--	1	--	SPACE	34
35	SPACE	--	1	--					--	--	--	1	--	SPACE	36
37	SPACE	--	1	--	--	--					--	1	--	SPACE	38
39	SPACE	--	1	--			--	--			--	1	--	SPACE	40
41	SPACE	--	1	--					--	--	--	1	--	SPACE	42

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
RED LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE		CONNECTED		REMARKS:
A:	22834	68503	VA	
B:	22834	82	3PH AMPS	
C:	22834	DEMAND LOAD		
		82	3PH AMPS	

Branch Panel: H1LA

NEUTRAL BUS: Yes | **VOLTAGE:** 480Y/277V, 3PH, 4W
NEUTRAL RATING: 100% | **MAIN BUS:** 100 A
GROUND BUS: Yes | **MCB:** 100 A
LOCATION: ELEC 14 | **MOUNTING:** SURFACE | **AIC RATING:** SEE SHEET E-7.1

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1	LIGHTING - INTERIOR	20 A	1		804	1286						1	20 A	LIGHTING - INTERIOR	2
3	LIGHTING - EXTERIOR	20 A	1				176	1179				1	20 A	LIGHTING - INTERIOR	4
5	LIGHTING - EXT. CANOPY	20 A	1						250	4395		1	20 A	LIGHTING - EXTERIOR SEAT	6
7	POOL - PEDESTAL	20 A	1		250	1157						1	20 A	LIGHTING - INTERIOR	8
9	POOL - PEDESTAL	20 A	1				250	631				1	20 A	LIGHTING - INTERIOR	10
11	POOL - PEDESTAL	20 A	1						250	--	--	1	--	SPACE	12
13	POOL - PEDESTAL	20 A	1		250	--					--	1	--	SPACE	14
15	POOL - PEDESTAL	20 A	1				250	--			--	1	--	SPACE	16
17	POOL - PEDESTAL	20 A	1						250	--	--	1	--	SPACE	18
19	POOL - PEDESTAL	20 A	1		250	--					--	1	--	SPACE	20
21	POOL - PEDESTAL	20 A	1				250	--			--	1	--	SPACE	22
23	LIGHTING - EXTERIOR	20 A	1						36	--	--	1	--	SPACE	24
25						--					--	1	--	SPACE	26
27	LIGHTING - EXTERIOR	20 A	1				66	--			--	1	--	SPACE	28
29									1278	--	--	1	--	SPACE	30
31	EMERGENCY LIGHTING INVERTER 'INV-1'	20 A	3		372	--					--	1	--	SPACE	32
33							0	--			--	1	--	SPACE	34
35	SPACE	--	1	--					--	--	--	1	--	SPACE	36
37	SPACE	--	1	--	--	--					--	1	--	SPACE	38
39	SPACE	--	1	--			--	--			--	1	--	SPACE	40
41	SPACE	--	1	--					--	--	--	1	--	SPACE	42

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE		CONNECTED		REMARKS:
A:	4368	13629	VA	
B:	2802	16	3PH AMPS	
C:	6459	DEMAND LOAD		
		16	3PH AMPS	

Branch Panel: P

NEUTRAL BUS: Yes | **VOLTAGE:** 208Y/120V, 3PH, 4W
NEUTRAL RATING: 100% | **MAIN BUS:** 125 A
GROUND BUS: Yes | **w/Feed-thru Lugs**
LOCATION: PUMP EQUIPMENT 16 | **MOUNTING:** SURFACE | **AIC RATING:** SEE SHEET E7.1

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1	POOL LIGHTS	20 A	1		1600	1600						1	20 A	POOL LIGHTS	2
3	POOL LIGHTS	20 A	1				1600	1600				1	20 A	POOL LIGHTS	4
5	POOL LIGHTS	20 A	1						1600	1600		1	20 A	POOL LIGHTS	6
7	POOL LIGHTS	20 A	1		1600	1600						1	20 A	POOL LIGHTS	8
9	POOL - CHEMICAL CONTROLLER	30 A	1				3600	750				2	20 A	SPLASH PAD - UV TREATMENT	10
11	POOL - SPRAY GROUND CONTROLLER	20 A	1						1500	750					12
13	POOL - CHEMICAL CONTROLLER	20 A	1		3600	180						1	20 A	POOL - CF-3	14
15	SPARE	20 A	1	--			0	180				1	20 A	POOL - CF-6	16
17	SPARE	20 A	1	--					0	0	--	1	20 A	SPARE	18
19	SPARE	20 A	1	--	0	0					--	1	20 A	SPARE	20
21	SPARE	20 A	1	--			0	0			--	1	20 A	SPARE	22
23	SPARE	20 A	1	--					0	0	--	1	20 A	SPARE	24
25	SPARE	20 A	1	--	0	0					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0	0			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0	0	--	1	20 A	SPARE	30
31	SPACE	--	1	--	--	--					--	1	--	SPACE	32
33	SPACE	--	1	--			--	--			--	1	--	SPACE	34
35	SPACE	--	1	--					--	--	--	1	--	SPACE	36
37	SPACE	--	1	--	--	--					--	1	--	SPACE	38
39	SPACE	--	1	--			--	--			--	1	--	SPACE	40
41	SPACE	--	1	--					--	--	--	1	--	SPACE	42

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
RED LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE		CONNECTED		REMARKS:
A:	11080	24620	KVA	
B:	8090	68	3PH AMPS	
C:	5450	DEMAND LOAD		
		68	3PH AMPS	

Branch Panel: HPP

NEUTRAL BUS: Yes | **VOLTAGE:** 480Y/277V, 3PH, 4W
NEUTRAL RATING: 100% | **MAIN BUS:** 175 A
GROUND BUS: Yes | **MCB:** 175 A
LOCATION: PUMP EQUIPMENT 16 | **MOUNTING:** | **AIC RATING:** SEE SHEET E-XXX

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1					167	--					--	1	--	SPACE	2
3	POOL UV-1 PANEL	30 A	3				167	--			--	1	--	SPACE	4
5									167	--	--	1	--	SPACE	6
7					83	--					--	1	--	SPACE	8
9	POOL - UV TREATMENT U1	20 A	3				83	--			--	1	--	SPACE	10
11									83	--	--	1	--	SPACE	12
13					18000	--					--	1	--	SPACE	14
15	POOL - PP1	100 A	3				18000	--			--	1	--	SPACE	16
17									18000	--	--	1	--	SPACE	18
19					167	--					--	1	--	SPACE	20
21	POOL - PP2	20 A	3				167	--			--	1	--	SPACE	22
23									167	--	--	1	--	SPACE	24
25					167	--					--	1	--	SPACE	26
27	POOL - PP3	20 A	3				167	--			--	1	--	SPACE	28
29									167	--	--	1	--	SPACE	30
31	SPARE	20 A	1	--	0	--					--	1	--	SPACE	32
33	SPARE	20 A	1	--			0	--			--	1	--	SPACE	34
35	SPARE	20 A	1	--					0	--	--	1	--	SPACE	36
37	SPACE	--	1	--	--	--					--	1	--	SPACE	38
39	SPACE	--	1	--			--	--			--	1	--	SPACE	40
41	SPACE	--	1	--					--	--	--	1	--	SPACE	42

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE		CONNECTED		REMARKS:
A:	18583	55750	KVA	
B:	18583	67	3PH AMPS	
C:	18583	DEMAND LOAD		
		67	3PH AMPS	

Branch Panel: LP

NEUTRAL BUS: Yes | **VOLTAGE:** 208Y/120V, 3PH, 4W
NEUTRAL RATING: 100% | **MAIN BUS:** 400A
GROUND BUS: Yes | **MCB:** 400 A
LOCATION: ELEC 14 | **MOUNTING:** SURFACE | **AIC RATING:** SEE SHEET E7.1

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1	HP-1/AC-1	30 A	2		2522	250						1	20 A	FACP #	2
3							2522	1260				1	20 A	RECEPTS - PUMP/RR/LOCKER ROOMS	4
5	HP-2/AC-2	60 A	2						5404	900		1	20 A	RECEPTS - PUMP/RR/LOCKER ROOMS	6
7					5404	360						1	20 A	RECEPTS - ELECTRICAL ROOM	8
9	EF-1	20 A	1				900	720				1	20 A	RECEPTS - ROOF	10
11	EF-2	20 A	1						900	1000		1	20 A	IDF RACK	12
13	EF-3	20 A	1		600	1000						1	20 A	IDF RACK	14
15	EF-4	20 A	1				415	250				1	20 A	RECEPTS - TICKET	16
17	EF-5	20 A	1						600	180		1	20 A	RECEPTS - TICKET	18
19	EF-6	20 A	1		900	360						1	20 A	RECEPTS - TICKET	20
21	CEILING PROJECTOR	20 A	1				600	360				1	20 A	RECEPTS - TICKET	22
23	TIMING SYSTEM	20 A	1						250	250		1	20 A	RECEPTS - TICKET	24
25	CP-1	20 A	1		50	900						1	20 A	RECEPTS - TRAINING	26
27	RECEPTS - EXTERIOR	20 A	1				720	180				1	20 A	RECEPTS - OFFICE	28
29	RECEPTS - EXTERIOR	20 A	1						360	180		1	20 A	RECEPTS - EXTERIOR	30
31	RECEPTS - EXTERIOR	20 A	1		360	360						1	20 A	REFRIGERATOR	32
33	RECEPTS - EXTERIOR	20 A	1				360	6000							34
35	RECEPTS - EXTERIOR	20 A	1						360	6000	3	60 A		WH-1	36
37	RECEPTS - EXTERIOR	20 A	1		360	6000									38
39	EXTRON CONTOLLER	20 A	1				100	250				1	20 A	NINJA OBSTACLE - TIMER DISPLY	40
41	POOL PACE TIMERS	20 A	1						720	250		1	20 A	PACE CLOCK	42
43	POOL TIMING SYSTEM	20 A	1		250	250						1	20 A	SCOREBOARD	44
45	POOL TIMING SYSTEM	20 A	1				250	250				1	20 A	SCOREBOARD	46
47	POOL TIMING SYSTEM	20 A	1						250	250		1	20 A	SCOREBOARD	48
49	POOL TIMING SYSTEM	20 A	1		250	250						1	20 A	SCOREBOARD	50
51	SCOREBOARD	20 A	1				250	250				1	20 A	SCOREBOARD	52
53	SCOREBOARD	20 A	1						250	250		1	20 A	SCOREBOARD	54
55	SCOREBOARD	20 A	1		250	250						1	20 A	NINJA OBSTACLE - WINCH	56
57	SCOREBOARD	20 A	1				250	250				1	20 A	NINJA OBSTACLE - MASTER CONTROL...	58
59	SCOREBOARD	20 A	1						250	250		1	20 A	NINJA OBSTACLE - SCOREBOARD	60
61					11080	7000									62
63	PANEL 'P' SUBFEED	125 A	3				8090	7000			3	125 A		PANEL 'LP1'	64
65									5450	4100					66

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
RED LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE (VA)		CONNECTED		REMARKS:
A:	39005	98635	VA	
B:	31227	274	3PH AMPS	
C:	28404	DEMAND LOAD		
		270	3PH AMPS	

Branch Panel: LP1

NEUTRAL BUS: Yes | **VOLTAGE:** 208Y/120V, 3PH, 4W
NEUTRAL RATING: 100% | **MAIN BUS:** 125 A
GROUND BUS: Yes | **w/Feed-thru Lugs**
LOCATION: ELEC 14 | **MOUNTING:** SURFACE | **AIC RATING:** SEE SHEET E-XXX

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1					1750	--					--	1	--	SPACE	2
3	EWH-2 - UNISEX RESTROOM	20 A	2				1750	--			--	1	--	SPACE	4
5									1750	--	--	1	--	SPACE	6
7					1750	--					--	1	--	SPACE	8
9	EWH-2 - WOMEN'S RESTROOM	20 A	2				1750	--			--	1	--	SPACE	10
11									1750	--	--	1	--	SPACE	12
13					1750	--					--	1	--	SPACE	14
15	EWH-2 - WOMEN'S RESTROOM	20 A	2				1750	--			--	1	--	SPACE	16
17	SIGNAGE ON ROOF	20 A	1						600	--	--	1	--	SPACE	18
19					1750	--					--	1	--	SPACE	20
21	EWH-2 - WOMEN'S RESTROOM	20 A	2				1750	--			--	1	--	SPACE	22
23	SPARE	20 A	1	--					0	--	--	1	--	SPACE	24
25	SPARE	20 A	1	--	0	--					--	1	--	SPACE	26
27	SPARE	20 A	1	--			0	--			--	1	--	SPACE	28
29	SPARE	20 A	1	--					0	--	--	1	--	SPACE	30
31	SPARE	20 A	1	--	0	--					--	1	--	SPACE	32
33	SPARE	20 A	1	--			0	--			--	1	--	SPACE	34
35	SPARE	20 A	1	--					0	--	--	1	--	SPACE	36
37	SPARE	20 A	1	--	0	--					--	1	--	SPACE	38
39	SPARE	20 A	1	--			0	--			--	1	--	SPACE	40
41	SPARE	20 A	1	--					0	--	--	1	--	SPACE	42

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
RED LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE		CONNECTED		REMARKS:
A:	7000	18100	KVA	
B:	7000	50	3PH AMPS	
C:	4100	DEMAND LOAD		
		50	3PH AMPS	

FOR BID ONLY

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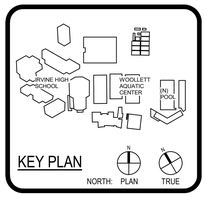
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 EXP. 11/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEPHEN C. MISSER NO. E-19817 EXP. 12/31/25 ELECTRICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/16/2024 | PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

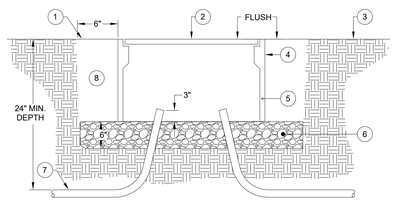
PANEL SCHEDULES

E5.1

ELECTRICAL DETAILS
E6.1
FOR BLUEBEAM LABELING/OCR:

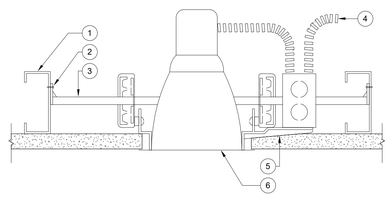
0"
1"

1. SET BOX FLUSH WITH FINISHED GRADE. WHERE EXISTING SURFACE IMPROVEMENTS (CONCRETE, PAVEMENT, LANDSCAPING, TURF, ETC.) HAVE BEEN REMOVED OR DISTURBED. REPAIR OR REPLACE TO MATCH SURROUNDING CONDITIONS.
2. TRAFFIC RATED COVER WHERE APPLICABLE, NON-TRAFFIC RATED REINFORCED CONCRETE COVER OTHERWISE. COVER MARKED OR INSCRIBED WITH INTENDED USE.
3. FINISHED GRADE.
4. REINFORCED CONCRETE PULLBOX. QTY AND SIZE AS SHOWN ON PLANS.
5. PROVIDE BOX EXTENSION RINGS AS REQUIRED.
6. CRUSHED GRAVEL DRAIN BASE BEDDING.
7. TYPICAL UNDERGROUND CONDUIT PER PLANS. DEPTH MIN. 24", SEE TYPICAL TRENCH DETAIL.
8. EXCAVATE A MINIMUM WIDTH EQUAL TO THE DIMENSIONS OF THE BOX PULS 6" ON ALL SIDES. BACKFILL WITH ROCK-FREE NATIVE SOIL AT 90% COMPACTION.

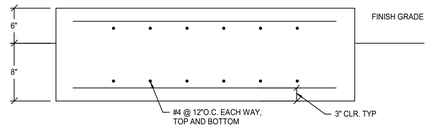


9 UNDERGROUND PULLBOX DETAIL
NOT TO SCALE

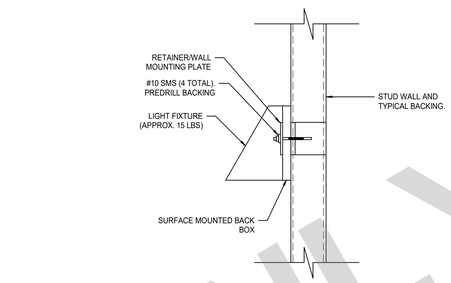
1. BUILDING STRUCTURE.
2. (2) 1-1/2" SELF-TAPPING SCREWS, TYP
3. EXPANDABLE MOUNTING BAR.
4. FEED.
5. OUTLET BOX BRACKET (PART OF FIXTURE BODY).
6. FIXTURE BODY.



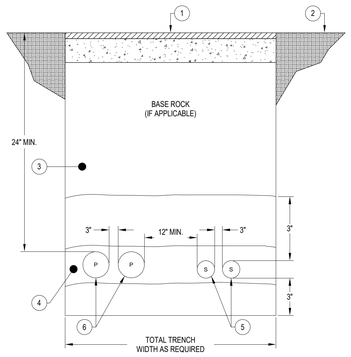
7 DOWNLIGHT IN HARD CEILING
NOT TO SCALE



4 CONCRETE HOUSE KEEPING PAD DETAIL
NOT TO SCALE

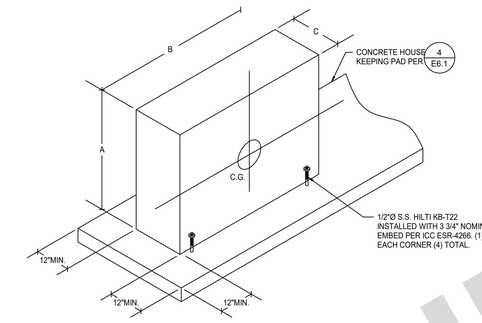


1 WALL MOUNTED FIXTURE DETAIL
NOT TO SCALE



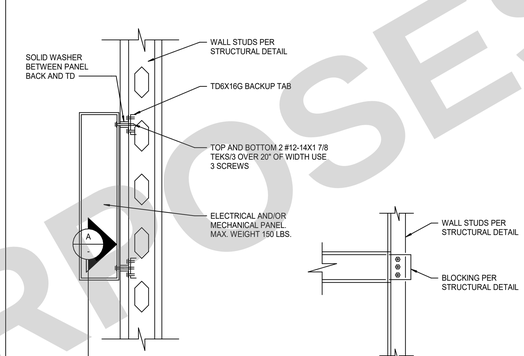
1. SAWCUT AND REMOVE CONCRETE OR PAVING WHERE APPLICABLE. WHERE EXISTING SURFACE IMPROVEMENTS (CONCRETE, PAVING, LANDSCAPING, TURF, ETC.) HAVE BEEN REMOVED OR DISTURBED, REPAIR OR REPLACE TO MATCH SURROUNDING CONDITIONS.
2. FINISHED GRADE.
3. ROCK FREE NATIVE BACKFILL 90% COMPACTION.
4. #4 MINIMUM SALT-FREE SAND.
5. S = SIGNAL (INCLUDES TELECOM, CATV, FIRE ALARM, SECURITY OR SIMILAR CABLING. QTY. AND SIZE AS SHOWN ON PLANS.
6. P = POWER (THIS DETAIL APPLIES TO CONDUITS CARRYING 600V OR BELOW CONDUCTORS. HIGHER VOLTAGE HAS DIFFERENT REQUIREMENTS. QTY. AND SIZE AS SHOWN ON PLANS

10 TRENCH DETAIL
NOT TO SCALE



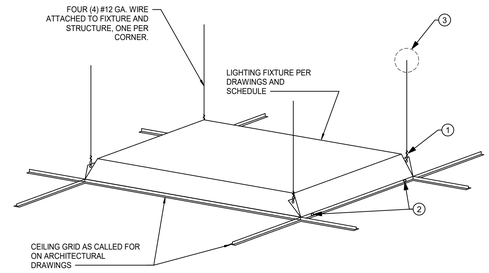
SYMBOL	A	B	C	WEIGHT	MIN. NO ANCHORS	SIZE OF ANCHORS	MINIMUM EMBEDMENT
"T-LP"	43"	31"	24"	675	4	1/2∅	3 1/2"

8 TRANSFORMER MOUNTING DETAIL
NOT TO SCALE



5 SURFACE MOUNTED PANEL/CABINET STEEL FRAMING DETAIL
NOT TO SCALE

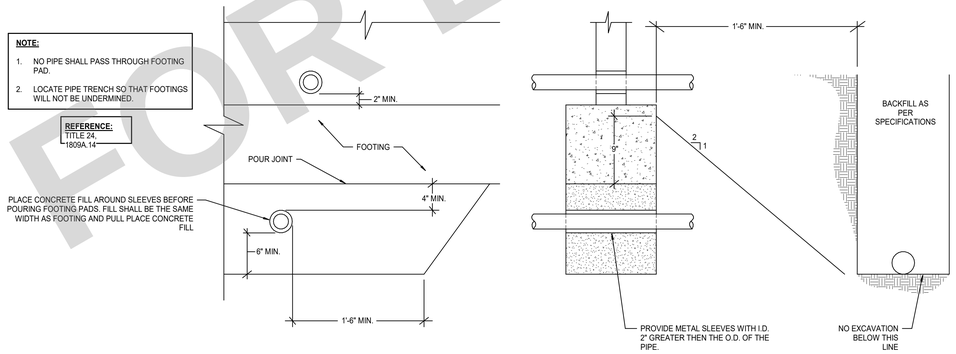
KEY NOTES:
1. ATTACH WIRE TO FIXTURE (3 TIGHT TURNS MIN. IN 1½" MAX.)
2. MIN #8 "TEK" SCREW GRID TO FIXTURE @ EACH CORNER.
3. ATTACH HANGER WIRES TO STRUCTURE AS PER ARCHITECTURAL DETAIL 2.80/AX3.2.



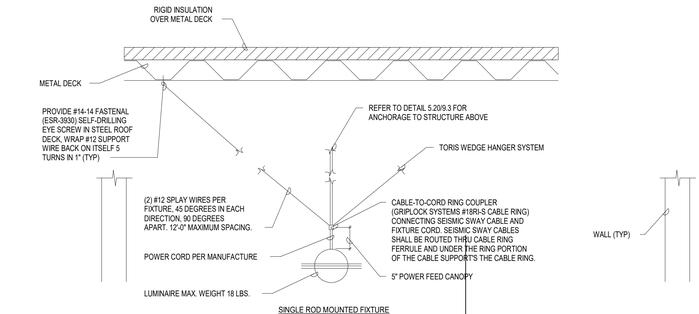
2 RECESSED FIXTURE IN LAY-IN GRID DETAIL
NOT TO SCALE

NOTE:
1. NO PIPE SHALL PASS THROUGH FOOTING PAD.
2. LOCATE PIPE TRENCH SO THAT FOOTINGS WILL NOT BE UNDERMINED.

REFERENCE:
TITLE 24,
1809A.14



6 TYPICAL CONDUIT TRENCH/FOOTING DETAIL
NOT TO SCALE



NOTES:

1. SUSPENSION SYSTEMS FOR LIGHT FIXTURES WHICH HAVE PASSED SHAKING TABLE TESTS PPROVED BY D.S.A., OR WHICH, AS INSTALLED, ARE FREE TO SWING A MINIMUM OF 45 DEGREES FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT CONTACTING OBSTRUCTIONS SHALL BE ASSUMED TO COMPLY WITH THE LATERAL–FORCE REQUIREMENTS OF 2022 C.B.C. SECTION 1617A.1.18 & CHAPTER 13, ASCE 7-16. IF FIXTURES CANNOT SWING A MINIMUM OF 45 DEGREES FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT CONTACTING OBSTRUCTIONS. PROVIDE ALL COMPONENTS NECESSARY AND APPROVED FOR A COMPLETE CODE–COMPLIANT AIRCRAFT CABLE–BASED FIXTURE SEISMIC BRACING SYSTEM TO LIMIT MOVEMENT OF CABLE/CORD HUNG FIXTURES. CABLE BRACING SYSTEM SHALL NOT BE DRAWN TAUT TO AVOID DAMAGING THE BRACING SYSTEM DURING WALL MOVEMENT CAUSED BY EARTHQUAKES. ADJUST TENSION PER BRACING SYSTEM MANUFACTURER RECOMMENDATIONS.

2. CONTRACTOR TO VERIFY AIRCRAFT CABLE LENGTHS AND FIXTURE MOUNTING HEIGHTS ABOVE FINISH FLOOR. INCLUDE ALL COSTS IN BASE TO PROVIDE FIXTURE SEISMIC SWAY BRACING SYSTEM DESCRIBED IN NOTE 1 ABOVE AS REQUIRED.

3. SUPPORT TYPICAL FOR FEED A NON FEED POINT (WITHOUT J–BOX AND FLEX) SHOULD A CONFLICT OCCUR BETWEEN FIXTURE SUPPORT DETAIL AND HVAC DUCT ROUTING OR OTHER SUCH OBSTRUCTIONS.
ELECTRICAL CONTRACOTR WILL INCLUDE ALL COSTS IN BASE BID TO PROVIDE A UNISTRUT "TRAPEZE" WITH 3/8" DIA THREADED ROD HANGERS AROUND THE HVAC DUCT OR OTHER OBSTRUCTION. TRAPEZE SHALL BE SUBMITTED TO PROJECT STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION OR ORDERING TRAPEZE MATERIAL.

4. MOUNT FIXTURE CANOPY AS HIGH AS POSSIBLE OR TO UNISTRUT IF NECESSARY. UNISTRUT SHOWN PARALLEL TO FIXTURE FOR EASE OF DEPICTION. PROVIDE UNISTRUT LENGTH AND ORIENTATION AS REQUIRED FOR COMPLETE–APPROVED FIXTURE INSTALLATION.

5. MOUNTING OF PENDANT MOUNTED LIGHTING FIXTURES SHALL BE IN COMPLIANCE WITH DSA IR 16–9.

6. PROVIDE ALL COMPONENTS NECESSARY AND APPROVED FOR A COMPLETE CODE–COMPLIANT AIRCRAFT CABLE SEISMIC BRACING SYSTEM TO LIMIT MOVEMENT OF CABLE HUNG FIXTURES. CABLE BRACING SYSTEM SHALL NOT BE DRAWN TAUT TO AVOID DAMAGING THE BRACING SYSTEM DURING WALL MOVEMENT WHICH COULD OCCUR DURING A SEISMIC EVENT. ADJUST TENSION PER BRACING SYSTEM MFGR RECOMMENDATIONS.

3 PENDANT MOUNTED FIXTURE AND SEISMIC BRACING DETAIL (METAL STUD)
NOT TO SCALE

FOR BID PURPOSES ONLY

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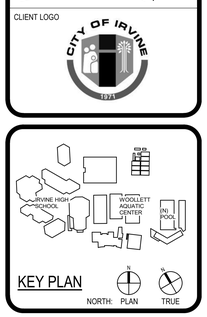


DISCIPLINE
LICENSED ARCHITECT BRUCE SU C-34832 REN. 11/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEVEN C. MOSER M E-19817 Exp. 6-30-27 STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 12/16/2024
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

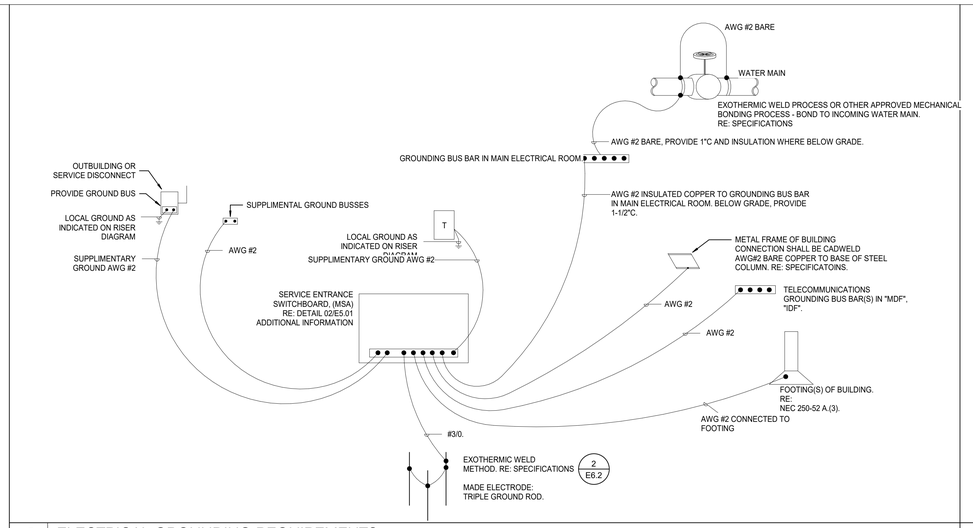
100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

ELECTRICAL DETAILS

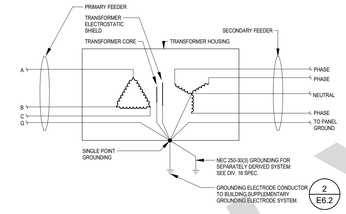
E6.1

ELECTRICAL DETAILS
E6.2
FOR BLUEBEAM LABELING/OCR:

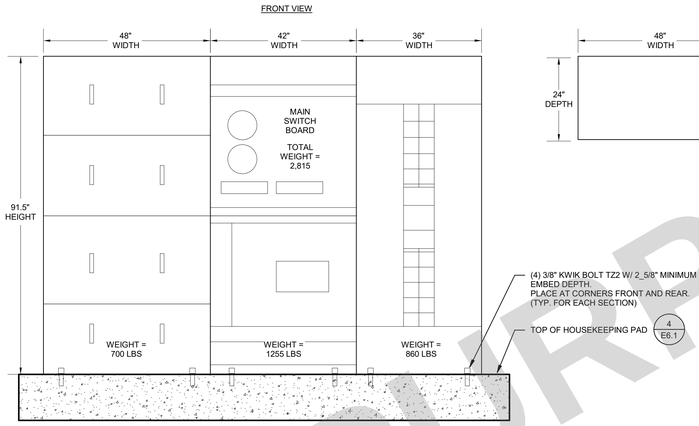
0"
1"



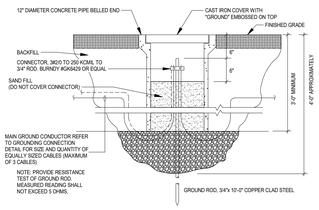
4 ELECTRICAL GROUNDING REQUIREMENTS
1/8" = 1'-0"



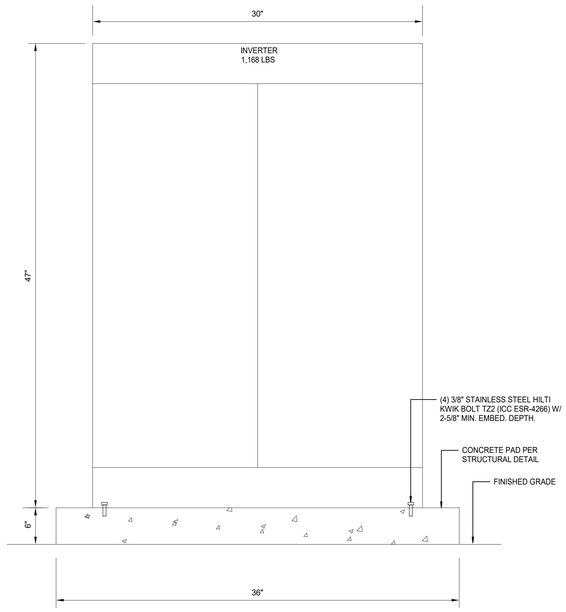
1 DELTA-WYE TRANSFORMER SCHEMATIC
NOT TO SCALE



5 SWITCHBOARD MOUNTING DETAIL
NOT TO SCALE



2 GROUND WELL ASSEMBLY
NOT TO SCALE



3 INVERTER MOUNTING DETAIL
NOT TO SCALE

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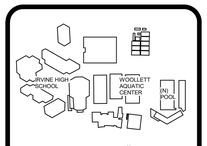
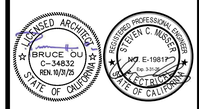
CITY OF IRVINE



DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

ELECTRICAL DETAILS

E6.2

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0"

1"

SINGLE LINE DIAGRAM

E7.1

FOR BLUEBEAM LABELING/OCR:

FEEDER SCHEDULE				
TAG NUMBER	CONDUCTOR QUANTITY AND SIZE	CONDUIT SIZE	SETS	COMMENTS
30	3#10, 1#10G	1"	1	
30N	4#10, 1#10G	1"	1	
50N	4#6, 1#10G	1"	1	
60N	4#6, 1#10G	1"	1	
100	3#1, 1#8G	1 1/2"	1	
100N	4#1, 1#8G	1 1/2"	1	
125	3#1, 1#6G	1 1/2"	1	
125N	4#1, 1#6G	2"	1	
150	3#1/0, 1#6G	1 1/2"	1	
150N	4#1/0, 1#6G	2"	1	
175	3#2/0, 1#6G	2"	1	
175N	4#2/0, 1#6G	2"	1	
200	3#3/0, 1#6G	2"	1	
200N	4#3/0, 1#6G	2"	1	
225	3#4/0, 1#4G	2"	1	
225N	4#4/0, 1#4G	2 1/2"	1	
250	3#250, 1#4G	2 1/2"	1	
250N	4#250, 1#4G	3"	1	
300	3#350, 1#4G	3"	1	
300N	4#350, 1#4G	3"	1	
400	3#3/0, 1#3G	2"	2	
400N	4#3/0, 1#3G	2"	2	
400S	4#500	3 1/2"	1	
600	3#350, 1#1G	3"	2	
600N	4#350, 1#1G	3"	2	
600S	4#350	3"	2	
800	3#500, 1#1/0G	3"	2	
800N	4#500, 1#1/0G	3 1/2"	2	
800S	4#500	3 1/2"	2	
1000	3#4/0, 1#2/0G	3"	3	
1000N	4#400, 1#2/0G	3"	3	
1000S	4#400	3"	3	
1200	3#350, 1#3/0G	3"	4	
1200N	4#350, 1#3/0G	3"	4	
1200S	4#350	3"	4	
1600S	4#400	3"	5	
2000S	4#400	3"	6	
2500S	4#500	3 1/2"	7	
3000S	4#5/00	3 1/2"	8	
4000S	4#500	3 1/2"	11	

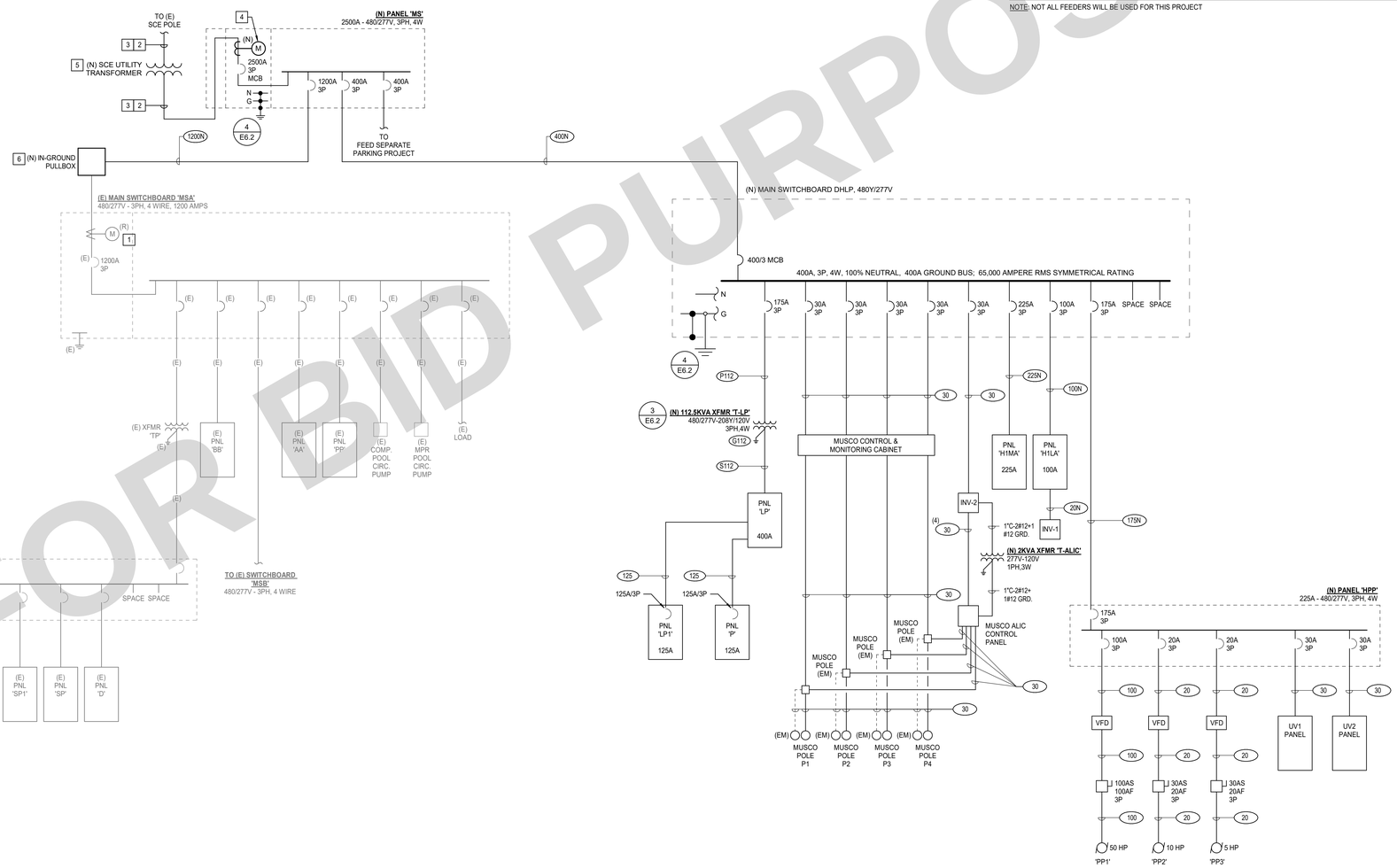
NOTE: NOT ALL FEEDERS WILL BE USED FOR THIS PROJECT

TRANSFORMER FEEDER SCHEDULE				
TAG NUMBER	CONDUCTOR QUANTITY AND SIZE	CONDUIT SIZE	SETS	COMMENTS
P15	3#10, 1#10G	3/4"	1	
S15	4#6, 1#8G	1"	1	
K15	3#4, 1#6N, 1#8G	1 1/4"	1	
G15	1#8G	1/2"	1	
P15	2#8, 1#10G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
S15	3#4, 1#6G	1 1/2"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G15	1#6G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P25	2#6, 1#10G	1"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
D25	3#1, 1#6G	1 1/2"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G25	1#6G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P30	3#6, 1#10G	3/4"	1	
S30	4#1, 1#6G	1 1/2"	1	
K30	3 #1/0, 1#2/0N, 1#6G	2"	1	
G30	1#6G	1/2"	1	
P37	2#1, 1#6G	1 1/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
D37	3#3/0, 1#4G	3"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G37	1#4G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P45	3#4, 1#8G	1"	1	
S45	4#1/0, 1#6G	1 1/2"	1	
K45	3#2/0, 1#250, 1#4G	2"	1	
G45	1#6G	1/2"	1	
P50	2#1, 1#6G	1 1/4"	1	
S50	3#3/0, 1#3G	2"	1	
G50	1#3G	3/4"	1	
P75	3#1, 1#8G	1 1/2"	1	
S75	4#4/0, 1#2G	2 1/2"	1	
K75	3#4/0, 1#3/0N, 1#2G	2 1/2"	1	
G75	1#1/0G	1/2"	1	
P75	2#3/0, 1#6G	2"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
S75	3#3/0, 1#4G	2"	2	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G75	1#4G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P75A	3#1, 1#8G	1 1/2"	1	FOR 480 3Ø: 120/240 3Ø TRANSFORMERS
S75A	4#4/0, 1#2G	2 1/2"	1	FOR 480 3Ø: 120/240 3Ø TRANSFORMERS
G75A	1#2G	1/2"	1	FOR 480 3Ø: 120/240 3Ø TRANSFORMERS
P112	3#2/0, #6G	2"	1	
S112	4#3/0, 1#1/0G	2"	2	
K112	3#4/0, 1#350N, 1#1/0G	2 1/2"	2	
G112	1#1/0G	3/4"	1	
P150	3#250, 1#4G	2 1/2"	1	
S150	4#350, 1#2/0G	3"	2	
K150	3#350, 2#3/0N, 1#2/0G	3"	2	
G150	1#2/0G	3/4"	1	
P167	2#4/0, 1#2/0G	2"	2	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
S167	3#350, 1#3/0G	3"	3	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G167	1#3/0G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P225	3#500, 3#3G	3"	1	
S225	4#300, 1#2/0G	3"	1	
K225	3#350, 2#3/0, 1#1G	3 1/2"	3	
G225	1#2/0G	3/4"	1	

NOTE: NOT ALL FEEDERS WILL BE USED FOR THIS PROJECT

KEY NOTES

1. EDISON SHALL REMOVE AND DISCONNECT EXISTING MAIN SWITCHBOARD METER. CONTRACTOR SHALL COORDINATE ALL WORK EFFORTS WITH ANY ASSISTANCE SCE MAY REQUIRE.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CABLE TRENCH PER EDISON REQUIREMENTS AND SUBMITTED DRAWINGS FROM EDISON REPRESENTATIVE. ALL FEEDERS FROM POLE TO METER SHALL BE PROVIDED AND INSTALLED BY EDISON.
3. ELECTRICAL CONTRACTOR TO COORDINATE ALL UNDERGROUND ROUTING AND LOCATIONS FOR UTILITY EQUIPMENT WITH EDISON PRIOR TO ROUGH-IN.
4. NEW METER SHALL BE PROVIDED AND INSTALLED BY EDISON.
5. NEW UTILITY TRANSFORMER SHALL BE PROVIDED AND INSTALLED BY EDISON. CONTRACTOR TO COORDINATE PAD WITH EDISION PRIOR TO ROUGH-IN.
6. INTERCEPT AND EXTEND FROM EXISTING MAIN SWITCHBOARD 'MSA' AND RE-FEED EXISTING SWITCHBOARD TO NEW MAIN SWITCHBOARD 'MS'. INSTALL 1200A/3P BREAKER IN NEW SWITCHBOARD 'MS' TO FEED EXISTING SWITCHBOARD 'MSA'. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND WIRE SIZING.



1 SINGLE LINE DIAGRAM
NOT TO SCALE

FOR BID PURPOSES ONLY

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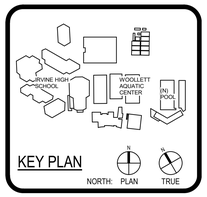
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
12/16/2024	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

SINGLE LINE DIAGRAM

E7.1

FOR BLUEBEAM LABELING/DOCR:

230538 ECO.1 ENERGY COMPLIANCE SHEET INDEX & NOTES

0"

1"

ELECTRICAL TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS

ELECTRICAL POWER DISTRIBUTION

A. SERVICE ELECTRICAL METERING FOR NEWLY INSTALLED ELECTRICAL SERVICE IN NEWLY CONSTRUCTED BUILDINGS, SERVICE ELECTRICAL METERING IS REQUIRED ACCORDING TO SECTION 130.5(A). FOR NEW OR REPLACEMENT ELECTRICAL SERVICE EQUIPMENT IN EXISTING BUILDINGS, SERVICE ELECTRICAL BUILDINGS, SERVICE ELECTRICAL METERING IS REQUIRED ACCORDING TO SECTION 141.0(B)2PI.

B. SEPARATION OF ELECTRICAL CIRCUITS FOR ELECTRICAL ENERGY MONITORING ELECTRICAL POWER DISTRIBUTION SYSTEMS SHALL BE DESIGNED SO THAT MEASUREMENT DEVICES CAN MONITOR THE ELECTRICAL ENERGY USAGE OF LOAD TYPES ACCORDING TO TABLE 130.5-B.

C. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.

D. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES IN ALL BUILDINGS, BOTH CONTROLLED AND UNCONTROLLED 120 VOLT RECEPTACLES SHALL BE PROVIDED IN OFFICE AREAS, LOBBIES, CONFERENCE ROOMS, KITCHEN AREAS IN OFFICE SPACES, AND COPY ROOMS. ADDITIONALLY, HOTEL/MOTEL GUEST ROOMS SHALL COMPLY WITH SECTION 130.5(D)4.CONTROLLED RECEPTACLES SHALL MEET THE FOLLOWING REQUIREMENTS, AS APPLICABLE:

1. INSTALL A CONTROL CAPABLE OF AUTOMATICALLY SHUTTING OFF THE CONTROLLED RECEPTACLES WHEN THE SPACE IS TYPICALLY UNOCCUPIED, EITHER AT THE RECEPTACLE OR CIRCUIT LEVEL. WHEN AN AUTOMATIC TIME SWITCH CONTROL IS INSTALLED IT SHALL INCORPORATE AN OVERRIDE CONTROL THAT ALLOWS THE CONTROLLED RECEPTACLE TO REMAIN ON FOR NO MORE THAN 2 HOURS WHEN AN OVERRIDE IS INITIATED AND AN AUTOMATIC HOLIDAY " SHUT-OFF " FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS AND THEN RESUMES THE NORMALLY SCHEDULED OPERATION. COUNTDOWN TIMER SWITCHES SHALL NOT BE USED TO COMPLY WITH THE AUTOMATIC TIME SWITCH CONTROL REQUIREMENTS; AND
2. INSTALL AT LEAST ONE CONTROLLED RECEPTACLE WITHIN 6 FEET FROM EACH UNCONTROLLED RECEPTACLE, OR INSTALL A SPLITWIRED RECEPTACLE WITH AT LEAST ONE CONTROLLED AND ONE UNCONTROLLED RECEPTACLE. WHERE RECEPTACLES ARE INSTALLED IN MODULAR FURNITURE IN OPEN OFFICE AREAS, AT LEAST ONE CONTROLLED RECEPTACLE SHALL BE INSTALLED AT EACH WORKSTATION;
3. PROVIDE A PERMANENT AND DURABLE MARKING FOR CONTROLLED RECEPTACLES OR CIRCUITS TO DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES OR CIRCUITS.

MANDATORY INDOOR LIGHTING CONTROLS

A. MANUAL AREA CONTROLS EACH AREA ENCLOSED BY CEILING-HEIGHT PARTITIONS SHALL PROVIDE LIGHTING CONTROLS THAT ALLOW THE LIGHTING IN THAT AREA TO BE MANUALLY TURNED ON AND OFF. THE MANUAL CONTROL SHALL:

1. BE READILY ACCESSIBLE; AND
2. BE LOCATED IN THE SAME ENCLOSED AREA WITH THE LIGHTING IT CONTROLS.

B. MULTI-LEVEL LIGHTING CONTROLS THE GENERAL LIGHTING OF ANY ENCLOSED AREA 100 SQUARE FEET OR LARGER WITH A CONNECTED LIGHTING LOAD THAT EXCEEDS 0.5 WATTS PER SQUARE FOOT SHALL PROVIDE MULTI-LEVEL LIGHTING CONTROLS THAT ALLOW THE LEVEL OF LIGHTING TO BE ADJUSTED UP AND DOWN. THE MULTI-LEVEL CONTROLS SHALL PROVIDE THE NUMBER OF CONTROL STEPS AND MEET THE UNIFORMITY REQUIREMENTS SPECIFIED IN TABLE 130.1-A.

C. ALL INSTALLED INDOOR LIGHTING SHALL BE EQUIPPED WITH CONTROLS ABLE TO AUTOMATICALLY REDUCE LIGHTING POWER WHEN THE SPACE IS TYPICALLY UNOCCUPIED.

1. ALL INSTALLED INDOOR LIGHTING SHALL BE EQUIPPED WITH CONTROLS THAT MEET THE FOLLOWING
   a. SHALL BE CONTROLLED WITH AN OCCUPANT SENSING CONTROL, AUTOMATIC TIME-SWITCH CONTROL, OR OTHER CONTROL CAPABLE OF AUTOMATICALLY SHUTTING OFF ALL OF THE LIGHTING WHEN SPACE IS TYPICALLY UNOCCUPIED;
   b. SEPARATE CONTROLS FOR THE LIGHTING ON EACH FLOOR, OTHER THAN LIGHTING IN STAIRWELLS; AND
   c. SEPARATE CONTROLS FOR A SPACE ENCLOSED BY CEILING HEIGHT PARTITIONS NOT EXCEEDING 5,000 SQUARE FEET; AND
   d. SEPARATE CONTROLS FOR GENERAL, DISPLAY, ORNAMENTAL, AND DISPLAY CASE LIGHTING; AND
   e. FOR AUTOMATIC TIME-SWITCH CONTROLS, MAY INCLUDE A MANUAL-ON MODE.

D. AUTOMATIC DAYLIGHTING CONTROLS THE GENERAL LIGHTING IN SKYLIT DAYLIT ZONES AND PRIMARY SIDELIT DAYLIT ZONES, AS WELL AS THE GENERAL LIGHTING IN THE COMBINED PRIMARY AND SECONDARY SIDELIT DAYLIT ZONES IN PARKING GARAGES, SHALL PROVIDE CONTROLS THAT AUTOMATICALLY ADJUST THE POWER OF THE INSTALLED LIGHTING UP AND DOWN TO KEEP THE TOTAL LIGHT LEVEL STABLE AS THE AMOUNT OF INCOMING DAYLIGHT CHANGES. FOR SKYLIGHT LOCATED IN AN ATRIUM, THE SKYLIT DAYLIT ZONE DEFINITION SHALL APPLY TO THE FLOOR AREA DIRECTLY UNDER THE ATRIUM AND THE TOP FLOOR AREA DIRECTLY ADJACENT TO THE ATRIUM.

CONTROLS FOR OUTDOOR LIGHTING OUTDOOR LIGHTING SHALL BE INDEPENDENTLY CONTROLLED FROM OTHER ELECTRICAL LOADS, AND THE CONTROLS FOR OUTDOOR LIGHTING SHALL MEET THE FOLLOWING FUNCTIONAL REQUIREMENTS:

A. ALL INSTALLED OUTDOOR LIGHTING SHALL BE CONTROLLED BY A PHOTO CONTROL, ASTRONOMICAL TIME-SWITCH CONTROL, OR OTHER CONTROL CAPABLE OF AUTOMATICALLY SHUTTING OFF THE OUTDOOR LIGHTING WHEN DAYLIGHT IS AVAILABLE.

B. AUTOMATIC SCHEDULING CONTROLS

1. AUTOMATIC SCHEDULING CONTROLS SHALL BE CAPABLE OF REDUCING THE OUTDOOR LIGHTING POWER BY AT LEAST 50 PERCENT AND NO MORE THAN 90 PERCENT, AND SEPARATELY CAPABLE OF TURNING THE LIGHTING OFF, DURING SCHEDULED UNOCCUPIED PERIODS.
2. AUTOMATIC SCHEDULING CONTROLS SHALL ALLOW SCHEDULING OF A MINIMUM OF TWO NIGHTTIME PERIODS WITH INDEPENDENT LIGHTING LEVELS, AND MAY INCLUDE AN OVERRIDE FUNCTION THAT TURNS LIGHTING ON DURING ITS SCHEDULED DIM OR OFF STATE FOR NO MORE THAN TWO HOURS WHEN AN OVERRIDE IS INITIATED.
3. AUTOMATIC SCHEDULING CONTROLS SHALL BE INSTALLED FOR ALL OUTDOOR LIGHTING, AND MAY BE INSTALLED IN COMBINATION WITH MOTION SENSING CONTROLS OR OTHER OUTDOOR LIGHTING CONTROLS.

C. MOTION SENSING CONTROLS

1. MOTION SENSING CONTROLS SHALL BE CAPABLE OF REDUCING THE OUTDOOR LIGHTING POWER OF EACH CONTROLLED LUMINAIRE BY AT LEAST 50 PERCENT AND NO MORE THAN 90 PERCENT, AND SEPARATELY CAPABLE OF TURNING THE LUMINAIRE OFF, DURING UNOCCUPIED PERIODS.
2. MOTION SENSING CONTROLS SHALL BE CAPABLE OF REDUCING THE LIGHTING TO ITS DIM OR OFF STATE NO LONGER THAN 15 MINUTES AFTER THE AREA HAS BEEN VACATED, AND OF RETURNING THE LIGHTING TO ITS ON STATE WHEN THE AREA BECOMES OCCUPIED.
3. NO MORE THAN 1,500 WATTS OF LIGHTING POWER SHALL BE CONTROLLED BY A SINGLE SENSOR.
4. MOTION SENSING CONTROLS SHALL BE INSTALLED FOR THE FOLLOWING LUMINAIRES, AND MAY BE INSTALLED FOR OTHER OUTDOOR LIGHTING AND IN COMBINATION WITH OTHER OUTDOOR LIGHTING
   a. OUTDOOR LUMINAIRES OTHER THAN BUILDING FAÇADE, ORNAMENTAL HARDSCAPE, OUTDOOR DINING, OR OUTDOOR SALES FRONTAGE LIGHTING, WHERE THE BOTTOM OF LUMINAIRE IS MOUNTED 24 FEET OR LESS ABOVE GRADE; AND,
   b. OUTDOOR WALL MOUNTED LUMINAIRES INSTALLED FOR BUILDING FAÇADE, ORNAMENTAL HARDSCAPE OR OUTDOOR DINING LIGHTING THAT HAVE A BILATERALLY SYMMETRIC DISTRIBUTION AS DESCRIBED IN THE IES HANDBOOK (TYPICALLY REFERRED TO AS " WALL PACKS ") MOUNTED 24 FEET ABOVE GRADE OR

EXCEPTION 1 TO SECTION 130.2(c)3: LUMINAIRES WITH A MAXIMUM RATED WATTAGE OF 40 WATTS EACH ARE NOT REQUIRED TO HAVE MOTION SENSING CONTROLS.

MECHANICAL TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

1. EQUIPMENT SHALL MEET EFFICIENCY REQUIREMENTS OF TABLES 110.2-A THROUGH 110.2-N.
2. ALL AIR-COOLED, UNITARY, DX UNITS (PACKAGED, SPLIT-SYSTEM, HEAT PUMPS AND VRF) WITH COOLING CAPACITY GREATER THAN 33,000 BTU/HR AND ECONOMIZERS SHALL BE EQUIPPED WITH FAULT DETECTION AND DIAGNOSTICS SYSTEMS.
3. PIPE INSULATION FOR SPACE CONDITIONING AND SERVICE WATER-HEATING WITH FLUID TEMPERATURES LISTED IN TABLE 120.3-A SHALL HAVE INSULATION LEVELS AS SPECIFIED IN SUBSECTION (A) AND (B).
4. MECHANICAL HEATING AND COOLING EQUIPMENT SHALL BE THE SMALLEST SIZE, WITHIN THE AVAILABLE OPTIONS OF THE DESIRED EQUIPMENT LINE, NECESSARY TO MEET THE DESIGN HEATING AND COOLING LOADS OF THE BUILDING, AS CALCULATED ACCORDING TO THE REQUIREMENTS OF SECTION 140.4(A)1.
5. HVAC MOTORS FOR FANS THAT ARE LESS THAN 1 HP AND 1/12 HP OR GREATER SHALL BE ECM OR HAVE A MINIMUM MOTOR EFFICIENCY OF 70%. MOTORS SHALL ALSO HAVE MEANS TO ADJUST MOTOR SPEED FOR BALANCING OR REMOTE CONTROL AS SPECIFIED IN SECTION 140.4(C).
6. ELECTRIC RESISTANCE HEATING SYSTEMS ARE NOT PROVIDED FOR SPACE HEATING.
7. ZONE EACH AIR HANDLER TO SERVE ONLY AREAS WITH COMPARABLE LOADS TO ALLOW MORE AGGRESSIVE CONTROL STRATEGIES AND IMPROVE COMFORT. HAVE DIFFERENT AHU'S SERVING CORE VS. PERIMETER AREAS.
8. THE DESIGN ACCOMMODATES PARTIAL OCCUPANCY ENERGY SAVINGS WHEN THE OWNER'S REQUIREMENTS OR NARRATIVE DESCRIBE ANY POSSIBILITY OF PARTIAL OCCUPANCY, BY ZONING AIR HANDLERS BY FLOOR OR BY PART OF A FLOOR, OR BY INCORPORATING CONTROLLED FLOOR DAMPERS, OR VAV AIR TERMINALS GOING TOTALLY SHUT WHEN NOT OCCUPIED, ETC.
9. EACH ZONE IS CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL. CONTROLS SHALL BE CAPABLE OF SETTING TEMPERATURES TO 55°F FOR HEATING AND 85°F FOR COOLING AND PROVIDE A TEMPERATURE DEADBAND OF AT LEAST 5°F IF CONTROLLING BOTH HEATING AND COOLING PER SECTION 120.2 (A), (B) AND (C).
10. EACH SPACE CONDITIONING SYSTEM SHALL BE EQUIPPED WITH CONTROLS TO SHUT THE SYSTEM OFF DURING PERIODS OF NONUSE AND WILL TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN SETBACK HEATING TEMPERATURES WHILE KEEPING VENTILATION DAMPERS CLOSED.
11. DCV IS REQUIRED FOR USE ON SYSTEMS THAT HAVE AN OUTDOOR AIR ECONOMIZER, AND SERVE A SPACE WITH DESIGN OCCUPANT DENSITY (OR MAXIMUM OCCUPANT LOAD FACTOR FOR EGRESS PURPOSES) GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SQ FT (40 SQ FT PER PERSON), ACCORDING TO §120.1(c)3 DCV IS ALSO ALLOWED AS AN EXCEPTIONS THE CONCEPT IN WHICH THE AMOUNT OF OUTDOOR AIR USED TO PURGE ONE OR MORE OFFENDING POLLUTANTS FROM A BUILDING TO FOR THE PURGE IS A FUNCTION OF THE MEASURED LEVEL OF THE POLLUTANT(S).
12. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.
13. HVAC SYSTEMS WITH DDC TO THE ZONE LEVEL SHALL BE PROGRAMMED TO ALLOW CENTRALIZED DEMAND SHED FOR NON-CRITICAL ZONES PER §110.12.
14. ZONE CONTROLS PREVENT REHEATING, RECOOLING OR SIMULTANEOUS HEATING AND COOLING IN COMPUTER ROOMS PER §120.6(J)1.
15. EACH WALL MOUNTED THERMOSTAT SHALL BE LOCATED AWAY FROM POTENTIAL SOURCES THAT WOULD ADVERSELY AFFECT THE READING (CLOSE TO COPIERS, DIRECT SUNLIGHT, BELOW OR ABOVE A SUPPLY AIR DIFFUSER OR CONVECTOR, ETC.). ANY THERMOSTATS MOUNTED ON BATTERY BOARDS SHALL BE INSTALLED IN SEALED AND INSULATED JUNCTION BOXES.
16. CORNER OFFICE SHALL ALWAYS HAVE THEIR OWN THERMOSTATS, AIR TERMINAL BOXES OR FIN-TUBE RADIATORS.
17. CONTROL SEQUENCES SHALL BE LISTED FOR EQUIPMENT OPERATED BY STAND-ALONE PACKAGED CONTROLS. UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
18. CONTROL SEQUENCES SHALL BE PROVIDED FOR EACH PIECE OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE THAT IS MONITORED OR CONTROLLED BY THE BUILDING AUTOMATION SYSTEM (BAS). UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
19. OUTSIDE AIR TEMPERATURE SENSORS SHALL BE IN A COMMERCIALLY DESIGNED SOLAR SHIELD LOCATED ON A NORTH WALL OR SOME OTHER LOCATION OUT OF DIRECT SUNLIGHT AND AWAY FROM HEAT EXHAUST OR HEAT REJECTION EQUIPMENT.
20. THE OUTDOOR AIR-VENTILATION RATE AND AIR-DISTRIBUTION ASSUMPTIONS MADE IN THE DESIGN OF THE VENTILATING SYSTEM ARE CLEARLY IDENTIFIED ON THE PLANS.
21. EACH SPACE IS DESIGNED TO HAVE NATURAL VENTILATION OR MECHANICAL VENTILATION THAT IS NO LESS THAN THE LARGER OF CONDITIONED FLOOR AREA TIMES THE REQUIREMENTS IN TABLE 120.1-A OR 15 CFM TIMES THE EXPECTED NUMBER OF OCCUPANTS.
22. THE MINIMUM AND MAXIMUM OUTDOOR AIR RATES FOR EACH AIR HANDLER ARE LISTED ON THE EQUIPMENT SCHEDULES.
23. THE OUTDOOR AIR-VENTILATION RATES ARE BASED ON PLANNED OWNER OCCUPANCY AS DEFINED IN OWNER'S DESIGN INTENT AND ARE NOT BASED ON MAXIMUM EGRESS OCCUPANCY RATES.
24. HVAC SYSTEMS THAT HAVE AN ECONOMIZER, SERVE A SPACE WITH A DESIGN OCCUPANT DENSITY GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SF, AND ARE EITHER A SINGLE ZONE SYSTEM WITH ANY CONTROLS OR MULTIPLE ZONE SYSTEM WITH DDC CONTROLS TO THE ZONE LEVEL MUST HAVE DEMAND CONTROL VENTILATION CONTROLS. THE FOLLOWING MUST BE MET:
   A. CO2 SENSORS INSTALLED IN EACH ROOM SERVED BY SYSTEMS WITH DCV CONTROLS.
   B. CO2 SENSORS ARE LOCATED BETWEEN 3 FT AND 6 FT ABOVE THE FLOOR.
   C. CO2 CONCENTRATIONS MAINTAINED AT LESS THAN OR EQUAL TO 600 PPM PLUS OUTDOOR PPM.
   D. DURING HOURS OF EXPECTED OCCUPANCY, CONTROLS MAINTAIN MORE THAN THE MINIMUM VENTILATION RATE REQUIRED BY §120.1(c)3.
   E. THE SYSTEM SHALL ALWAYS PROVIDE A MINIMUM VENTILATION OF THE SUM OF THE MINIMUM AIR RATE FOR DCV WITH DCV AND THE MINIMUM AIR RATE FOR ALL OTHER SPACES SERVED BY THE SYSTEM.
   F. THE CO2 SENSORS SHALL BE FACTORY-CERTIFIED TO HAVE AN ACCURACY WITHIN PLUS OR MINUS 75 PPM AT 600 AND 1000 PPM CONCENTRATION WHEN MEASURED AT SEA LEVEL.
   G. WHEN A SENSOR FAILURE IS DETECTED, THE SYSTEM MUST PROVIDE A SIGNAL TO RESET THE SYSTEM TO PROVIDE THE MINIMUM QUANTITY OF OUTSIDE AIR LEVELS REQUIRED BY §120.1(C)3 TO THE ZONES SERVED BY THE SENSOR AT ALL TIMES THAT THE ZONE IS OCCUPIED.
   H. FOR SYSTEMS WITH EQUIPPED WITH DDC TO THE ZONE LEVEL, THE CO2 SENSOR(S) READING FOR EACH ZONE MUST BE DISPLAYED CONTINUOUSLY AND RECORDED.
25. EACH COOLING FAN SYSTEM THAT HAS A DESIGN MECHANICAL COOLING CAPACITY OVER 33,000 BTU/H SHALL HAVE AN AIR ECONOMIZER OR A WATER ECONOMIZER. AIR ECONOMIZERS MUST COMPLY WITH THE HIGH LIMIT SHUTOFF CONTROLS SHOWN IN TABLE 140.4-G.
26. INTEGRATED ECONOMIZER CONTROLS SHALL BE SET UP SUCH THAT PARTIAL COOLING IS PROVIDED BY THE ECONOMIZER EVEN WHEN ADDITIONAL MECHANICAL COOLING IS REQUIRED.
27. ECONOMIZER DAMPERS SHALL BE DRIVEN BY DIRECT DRIVE ACTUATORS RATHER THAN ROD LINKAGES, WHICH CAN BE A MAJOR CAUSE OF ECONOMIZER MALFUNCTION.
28. BAROMETRIC RELIEF IS USED, IF POSSIBLE. IF NOT, RELIEF FANS (RATHER THAN RETURN FANS) SHALL BE USED IN MOST CASES.
29. OUTDOOR AND RETURN AIR SENSORS SHALL BE PROPERLY SELECTED, PROPERLY LOCATED TO PROVIDE ACCURATE AND REPEATABLE MEASUREMENTS FOR CONTROLLING ECONOMIZER OPERATION. AVERAGING SENSORS COVER THE ENTIRE DUCT OR COIL FACE AREAS.
30. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS MUST BE INSTALLED, SEALED AND INSULATED AS REQUIRED BY §120.4(A) AND §160.3(C)2B.
31. DUCT SEALING SHALL COMPLY WITH SUBSECTION A OR B BELOW:
   A. NEW DUCT SYSTEMS THAT MEET THE CRITERIA IN SUBSECTIONS A,B, C, AND D BELOW SHALL BE SEALED TO A LEAKAGE RATE NOT TO EXCEED 6 PERCENT OF THE NOMINAL AIR HANDLER AIR FLOW RATE AS CONFIRMED THROUGH HERS FIELD VERIFICATION AND DIAGNOSTIC TESTING IN ACCORDANCE WITH REFERENCE NONRESIDENTIAL APPENDIX NA7.5.3;
      a. THE DUCT SYSTEM DOES NOT SERVE A HEALTH CARE FACILITY; AND
      b. THE DUCT SYSTEM PROVIDES CONDITIONED AIR TO AN OCCIPITAL SPACE FOR A CONSTANT VOLUME, SINGLE ZONE, SPACE CONDITIONING SYSTEM; AND
      c. THE SPACE CONDITIONING SYSTEM SERVES LESS THAN 5,000 SQUARE FEET OF CONDITIONED FLOOR AREA; AND
      d. THE COMBINED SURFACE AREA OF THE DUCTS LOCATED OUTDOORS OR IN UNCONDITIONED SPACE IS MORE THAN 25 PERCENT OF THE TOTAL SURFACE AREA OF THE ENTIRE DUCT SYSTEM.
   B. NEW DUCT SYSTEMS THAT ARE NOT SUBJECT TO TESTING UNDER SECTION 120.4(G)1 SHALL INSTEAD MEET THE DUCT LEAKAGE TESTING REQUIREMENTS OF CMC SECTION 603.10.
32. NEW DUCT SYSTEMS HAVE NEW TESTING REQUIREMENTS WHICH MUST EITHER:
   A. BE TESTED PER REFERENCE NONRESIDENTIAL APPENDIX NA7.5.3 TO VERIFY THAT THERE IS NO MORE THAN 6% LEAKAGE OF THE NOMINAL AIR HANDLER AIR FLOW RATE OF A CONSTANT VOLUME, SINGLE ZONE SYSTEM THAT SERVES < 5,000 FT2 AND HAS MORE THAN 25% OF THE DUCT SURFACE OUTSIDE OF THE CONDITIONED SPACE AND IS NOT SERVING A HEALTH CARE FACILITY; OR
   B. MEET THE CALIFORNIA MECHANICAL CODE REQUIREMENTS OF §603.9.2 IF THEY CANNOT MEET THE REQUIREMENTS ABOVE.
33. DUCTS SHALL UTILIZE LOW STATIC PRESSURE DESIGN. IDENTIFY THE MOST RESTRICTIVE BRANCH FROM THE FAN TO THE LAST AIR TERMINAL UNIT. IDENTIFY POSSIBLE MEANS OF SIGNIFICANTLY REDUCING THE PRESSURE DROP. BRANCH DUCT SYSTEMS SHALL DESIGNED FOR EQUAL PRESSURE DROP, WHEN POSSIBLE.
34. DUCT BRANCHES WITH SIGNIFICANTLY DIFFERING STATIC PRESSURE REQUIREMENTS SHALL HAVE VOLUME CONTROL STRATEGICALLY PLACED TO AID IN TAB WORK.
35. FANS SHALL DISCHARGE INTO DUCT SECTIONS THAT REMAIN STRAIGHT FOR AS LONG AS POSSIBLE (IDEALLY 10 DUCT DIAMETERS) TO REDUCE FAN INEFFICIENCIES FROM SYSTEM EFFECTS.
36. DUCT VELOCITIES SHALL GENERALLY BE BELOW 2,000 FPM FOR DUCTS IN CEILING PLENUMS, 1500 FPM FOR EXPOSED DUCTS AND 3500 FPM IN MECHANICAL ROOMS AND NON-NOISE SENSITIVE SHAFTS AND DO NOT REDUCE ANY DUCT SIZES LISTED ON PLANS.
37. DUCT FRICTION RATES SHALL GENERALLY BE LESS THAN 0.25" WC PER 100 LINEAL FEET NEARER THE FAN, 0.15 TO 0.20" IN THE MAIN DUCTS AND 0.08 TO 0.12" WC/100' NEARER THE END OF THE SYSTEM. DESIGNS OVER THESE RATES SHALL BE QUESTIONED. VERY ENERGY EFFICIENT DESIGN CAN LOWER THESE VALUES BY UP TO 40%.
38. CONTRACTOR SHOP DRAWINGS SHALL BE SUFFICIENTLY DETAILED TO ENSURE THAT DISTRIBUTION SYSTEM DESIGN INTENT IS ADEQUATELY CONVEYED TO MATCH PLANS. IF SUFFICIENT DETAIL IS NOT INCLUDED IN DRAWINGS, INSTALLATIONS MAY RESULT IN SIGNIFICANTLY HIGHER PRESSURE DROPS AND HENCE HIGHER ENERGY CONSUMPTION AND OTHER OPERATING ISSUES.
39. ACCEPTANCE REQUIREMENTS ARE CLEARLY IDENTIFIED IN CONSTRUCTION DOCUMENTS.
40. COMMISSIONING MEASURES OR REQUIREMENTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
41. REQUIREMENTS FOR FUNCTIONAL PERFORMANCE TESTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
42. COOLING SYSTEMS IDENTIFIED IN TABLE 140.4-D SHALL HAVE FAN CONTROLS TO VARY THE INDOOR FAN AIRFLOW AS A FUNCTION OF LOAD:
   A. DX AND CHILLED WATER COOLING SYSTEMS THAT CONTROL CAPACITY BASED ON OCCUPIED SPACE TEMPERATURE SHALL HAVE A MINIMUM OF 2 STAGES OF CONTROL.
   B. SYSTEMS THAT CONTROL SPACE TEMPERATURE BY MODULATING AIRFLOW TO THE SPACE SHALL HAVE PROPORTIONAL FAN CONTROL.
   C. SYSTEMS WITH AIR SIDE ECONOMIZER SHALL HAVE A MINIMUM OF 2 SPEEDS OF FAN CONTROL DURING ECONOMIZER OPERATION.
42. FAN CABINET ENCLOSURE AND INTERNAL COMPONENTS SHALL BE SELECTED TO MINIMIZE PRESSURE DROP, E.G. FACE VELOCITY IS LESS THAN 500 FPM, LOW PRESSURE DROP COILS, FILTERS, ETC.
43. FAN WHEEL SHALL BE SELECTED FOR EFFICIENT OPERATION, E.G. LARGER DIAMETER ROTATING AT LOWER SPEED.
44. SYSTEMS THAT SERVE MULTIPLE ZONES SHALL HAVE CONTROLS THAT AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE. ZONES WITH HIGH INTERNAL LOADS WITH NEAR CONSTANT AIRFLOW SHALL BE DESIGNED FOR THE ELEVATED RESET SUPPLY AIR TEMPERATURE. RESET CONTROLS SHALL BE IN RESPONSE TO BUILDING LOADS OR TO OUTDOOR AIR TEMPERATURE AND SHALL BE AT LEAST 25% OF THE DIFFERENCE BETWEEN SUPPLY AIR AND DESIGN ROOM AIR TEMPERATURE. CONTROL SEQUENCES ARE IDENTIFIED IN CONSTRUCTION DOCUMENTS.
45. SAT RESET SHALL BE ESTABLISHED WITH AN AGGRESSIVE RESET SCHEDULE OF 10F, E.G. 55F DURING WARM WEATHER AND 65F DURING COOL WEATHER.

SHEET INDEX

EC0.1	ENERGY COMPLIANCE SHEET INDEX & NOTES
EC1.1	ENERGY COMPLIANCE - ENV. & MECH.
EC1.2	ENERGY COMPLIANCE - ENV. & MECH.
EC2.1	ENERGY COMPLIANCE - ELECTRICAL
EC2.2	ENERGY COMPLIANCE - ELECTRICAL

PLUMBING TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

MANDATORY MEASURES FOR ALL DOMESTIC HOT WATER DISTRIBUTION SYSTEMS

1. EQUIPMENT SHALL MEET THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS (SECTION 110.3(B)1).
2. UNFIRED STORAGE TANKS ARE INSULATED WITH AN EXTERNAL R-12 OR COMBINATION OF R-16 INTERNAL AND EXTERNAL INSULATION. (SECTION 110.3(C)4).
3. PIPE INSULATION
   - ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED AS SPECIFIED IN SECTION 609.11 OF THE CALIFORNIA PLUMBING CODE. IN ADDITION, THE FOLLOWING PIPING CONDITIONS SHALL HAVE A MINIMUM INSULATION WALL THICKNESS OF 1 INCH OR A MINIMUM INSULATION R-VALUE OF 7.7;.
   - THE FIRST 5 FEET (1.5 METERS) OF COLD WATER PIPES FROM THE STORAGE TANK,
   - ALL PIPING WITH A NOMINAL DIAMETER OF 3/4 INCH (19 MILLIMETER) AND LESS THAN 1 INCH.
   - ALL HOT WATER WITH A NOMINAL DIAMETER LESS THAN ¾ INCH THAT IS:,
     - ASSOCIATED WITH A DOMESTIC HOT WATER RECIRCULATION SYSTEM.
     - FROM THE HEATING SOURCE TO THE KITCHEN FIXTURES.
     - FROM THE HEATING SOURCE TO STORAGE TANK OR BETWEEN TANKS.
     - BURIED BELOW GRADE.
   - PIPING THAT PENETRATES FRAMING MEMBERS SHALL NOT BE REQUIRED TO HAVE PIPE INSULATION FOR THE DISTANCE OF THE FRAMING PENETRATION. PIPING THAT PENETRATES METAL FRAMING SHALL USE GROMMETS, PLUGS, WRAPPING OR OTHER INSULATING MATERIAL TO ASSURE THAT NO CONTACT IS MADE WITH THE METAL FRAMING. INSULATION SHALL BUTT SECURELY AGAINST ALL FRAMING MEMBERS.
   - PIPING INSTALLED IN INTERIOR OR EXTERIOR WALLS THAT IS SURROUNDED ON ALL SIDES BY AT LEAST 1 INCH OF INSULATION.
   - PIPING INSTALLED IN CRAWLSPACE WITH A MINIMUM OF 2 INCHES (5 CM) OF CRAWLSPACE INSULATION ABOVE AND BELOW.
   - PIPING INSTALLED IN ATTICS WITH A MINIMUM OF 4 INCHES (10 CM) OF ATTIC INSULATION ON TOP
4. PIPE INSULATION SHALL MEET THE INSULATION PROTECTION REQUIREMENTS OF SECTION 120.3(B)
   - INSULATION EXPOSED TO WEATHER SHALL BE SHIELDED FROM SOLAR RADIATION.
   - INSULATION ON pipesS BURIED BELOW GRADE MUST BE INSTALLED IN A WATER PROOF AND NON-CRUSHABLE CASING OR SLEEVE.
5. ALL ELBOWS AND TEES SHALL BE FULLY INSULATED. (R44.4.1)
6. WHERE INSULATION IS REQUIRED, NO PIPING SHALL BE VISIBLE DUE TO INSULATION VOIDS, AND ALL INSULATION SHALL FIT TIGHTLY TO THE PIPE. (RA4.4.1).
7. FOR GAS OR PROPANE WATER HEATERS; ENSURE THE FOLLOWING ARE INSTALLED (SECTION 150.0(N))
   - A DEDICATED 125V, 20A ELECTRICAL RECEPTACLE CONNECTED TO THE ELECTRIC PANEL WITH A 120/240V 3 CONDUCTOR, 10 AWG COPPER BRANCH CIRCUIT, WITHIN 3 FEET FROM THE WATER HEATER AND ACCESSIBLE WITH NO OBSTRUCTIONS;
     - THE CONDUCTOR SHALL BE LABELED WITH THE WORK "SPARE" ON BOTH ENDS; AND
     - A RESERVED SINGLE POLE CIRCUIT BREAKER SPACE NEXT TO THE CIRCUIT BREAKER NEXT TO THE BRANCH CIRCUIT IN A LABELED "FUTURE" 240V SHALL BE PROVIDED.
   - A CATEGORY III OR IV VENT, OR A TYPE B VENT WITH STRAIGHT PIPE BETWEEN OUTSIDE AND WATER HEATER
   - A CONDENSATE DRAIN NO MORE THAN 2 INCHES HIGHER THAN THE BASE ON WATER HEATER FOR NATURAL DRAINING
   - A GAS SUPPLY LINE WITH CAPACITY OF AT LEAST 200,000 BTU/HR THE RESPONSIBLE PERSON'S SIGNATURE ON THIS COMPLIANCE DOCUMENT AFFIRMS THAT

FOR BLUEBEAM PURPOSES ONLY

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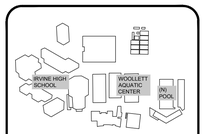
CLIENT LOGO



KEY PLAN — NORTH: PLAN — TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

FOR BLUEBEAM LABELING/DOCR:

230538 ECO.1 ENERGY COMPLIANCE SHEET INDEX & NOTES

0"

1"

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 13 of 19)

G6A. OPAQUE DOOR SUMMARY (NONRESIDENTIAL)

01	02	03	04
Assembly Name	Area (ft²)	Overall U-factor	Status[1]
Metal Door18	272	0.7	N

[1] *Status: N - New, A - Altered, E - Existing*

G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)

01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method[1]	Assembly Method	Area (ft²)	Overall U-factor	Overall SHGC	Overall VT	Status[2]
Storefront Low-E	Vertical fenestration Curtain wall N/A	NFRC	Site built	394.5	0.41	0.26	0.46	N

[1] *Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A - Altered, E - Existing*

G9. FIN DETAILS

01	02		03		04	05
Fenestration Tag/ ID	Left Fin		Right Fin			
	Depth (ft)	Distance Left from Window (ft)	Depth (ft)	Distance Right from Window (ft)		
94.60 Window23	6	0	1	0		
93.60 Window25	6	0	1	0		
94.60 Window31	8	0	1	0		

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 9 of 19)

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI[1]	32.19	32.03	0.16	0.5
NET EUI[1]	24.35	4.13	20.22	83.04

[1] *Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.*

D1. EXCEPTIONAL CONDITIONS

- The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.
- The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.
- PV/Battery Building Type has been modified from software defaults for one or more spaces. Review project's PV/Battery Building Type(s) with documentation author. Refer to Energy Code section 140.10 for Nonresidential or 170.2(g) for more information.

F1. REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception[1]	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
22		Standard (14-17%)	Fixed	none	false	180	Degrees	0.5	0.1	96	100

[1]*See Table D1 for any PV exceptions used.*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 5 of 19)

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	105.23	105.23	---
Process	---	---	---
Other Ltg	3.67	3.67	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**245.21**	**85.03**	**160.18 (65.3%)**

[1] *Notes: This table is not used for Energy Code Compliance.*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 1 of 19)

Project Name:	**William Woollett Jr. Aquatics Center**	**Date Prepared:**	**2025-01-02**

A. General Information

1	Project Name	William Woollett Jr. Aquatics Center			
2	Run Title	Title 24 Analysis			
3	Project Location	4601 Walnut Avenue			
4	City	Irvine	5	Standards Version	Compliance 2022
6	Zip code	92604	7	Compliance Software (version)	EnergyPro 9.3
8	Climate Zone	8	9	Building Orientation (deg)	0
10	Building Type(s)	• Nonresidential	11	Weather File	COSTA-MESA-WAYNE_STYP20.epw
12	Project Scope	• New envelope and mechanical	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	3525.8	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	607.9	17	Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	3525.8	19	Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0			

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 14 of 19)

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

01	02	03	04	05	06	07	08	09	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status[1]
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
RHP-1	Single Zone Heat Pump (SZHP) Air System	1	97.9	78.48	COP	3.5	98.89	EER	12	Differential DB	N
AC-1	Single Zone Heat Pump (SZHP) Air System	1	14.58	0	COP HSPF2	4.8 11.7	11.52	EER2 SEER2	12.2 14.3	No Economizer	N
RHP-2	Single Zone Heat Pump (SZHP) Air System	1	53.12	6.08	COP HSPF2	3.45 7.5	60.68	EER2 SEER2	12 16	Differential DB	N
AC-2	Single Zone Heat Pump (SZHP) Air System	1	48.95	0	COP HSPF2	4.25 10	34.56	EER2 SEER2	12.2 14.3	No Economizer	N

[1] *Status: N - New, A - Altered, E - Existing*

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
Name or Item Tag	Qty	Design OA CFM	Supply Fan				Return / Relief Fan					Status[1]
			CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	
RHP-1	1	878.67	4,000	1.61	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
AC-1	1	44.76	480	0.06	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
RHP-2	1	0	2,400	0.99	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
AC-2	1	0	480	0.06	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N

[1] *Status: N - New, A - Altered, E - Existing*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 10 of 19)

F1B. PV BATTERY BUILDING TYPE(S)

01	02	03
Building Occupancy Type* (From Table 140.10-A/B and 170.2-U/V)	Conditioned Floor Area (ft²)	Unconditioned Floor Area (ft²)
Grocery	0	0
High-Rise Multifamily	0	0
Office, Financial Institutions, Unleased Tenant Space	0	0
Retail	0	0
School	3525.8	607.9
Warehouse	0	0
Auditorium, Convention Center, Hotel/Motel, Library, Medical Office Building/Clinic, Restaurant, Theater	0	0
None	0	0

**Building Occupancy Types are defined in Section 100.1 of the Energy Code*

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	02	03	04
Opaque Surfaces & Orientation	Total Gross Surface Area (ft²)	Total Fenestration Area (ft²)	Window to Wall Ratio (%)
North-Facing[1]	1967.1	160.5	8.16
East-Facing[2]	383.4	0	0
South-Facing[3]	1852.3	66.5	3.59
West-Facing[4]	800.2	167.5	20.93
Total	**5003**	**394.5**	**7.89**
Roof	3525.8	0	0

Notes
[1]*North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW),*
[2]*East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE),*
[3]*South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),*
[4]*West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 6 of 19)

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft² /yr)

COMPLIES[2]

Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Space Heating	4.03	2.86	1.17
Space Cooling	1.58	1.47	0.11
Indoor Fans	5.51	8.02	-2.51
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	2.36	1.06	1.3
Indoor Lighting	2.41	2.41	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**15.89**	**15.82**	**0.07 (0.4%)**
Photovoltaics	-2.21	-7.51	5.3
Batteries	-1	---	-1
TOTAL COMPLIANCE	**12.68**	**8.31**	**4.37 (34.5%)**

[1] *Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 2 of 19)

B. PROJECT SUMMARY

Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.

Building Components Complying via Performance						Building Components Complying Prescriptively	
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water Heating (See Table I3)	☐	Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	MultiFam	Not Included		☒	Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)	☐	Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	MultiFam	Not Included		☒	Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Performance	Covered Process: Laboratory Exhaust (see Table J)	☐	Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	MultiFam	Not Included		☒	Not Included	**Building Components Complying with Mandatory Measures**	
Lighting (Indoor Conditioned, see Table K)	Nonres	Not Included	Photovoltaics (see Table F)	☒	Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
	MultiFam	Not Included		☐	Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)	☐	Performance	Commissioning 120.8	NRCC-CXR-E is required
				☒	Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 15 of 19)

H5. GENERAL EXHAUST FAN SUMMARY

01	02	03	04	05	06	07	08
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status[1]
RHP-13-EF	1-RHP-1	1	1320	0.18	BHP	No	N
RHP-270-EF	3-RHP-2	1	1230	0.17	BHP	No	N

[1] *Status: N - New, A - Altered, E - Existing*

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(o)[1]	Other Special Features and Controls
RHP-1	Single Zone Heat Pump (SZHP) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Differential DB
RHP-2	Single Zone Heat Pump (SZHP) Air System	N/A	Differential DB
DHW1 - SHW	Service Hot Water	N/A	Fixed Temperature Control

Notes: This table incudes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.
[1] *Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.*

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM		
1-RHP-1	Education - Classrooms (ages 9-18)	57.81	878.67	1320	2312.3	DCV
2-Ticket	Office - Office space	1.49	44.76	0	298.4	N/A
3-RHP-2	Exhaust - locker rooms for athletic or industrial facilities	7.11	0	1230	711	N/A

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 11 of 19)

G2A. ROOFING PRODUCT SUMMARY (NONRESIDENTIAL)

01	02	03	04	05	06
Assembly Name	Roof Pitch	Roof Rise (x in 12)	Aged Solar Reflectance	Thermal Emittance	SRI
R-27.5 Above Deck Roof pr11	LowSlope	N/A	0.63	0.75	N/A

G4. NONRESIDENTIAL AIR BARRIER

01	02
Building Story Name	Air Barrier
Com-Floor 1-10	No air barrier

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 7 of 19)

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	7.75	7.75	---
Process	---	---	---
Other Ltg	0.3	0.3	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**20.73**	**16.36**	**4.37 (21.1%)**

[1] *Notes: This table is not used for Energy Code Compliance.*

C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 3 of 19)

C1. COMPLIANCE SUMMARY

COMPLIES[1]

	Time Dependent Valuation (TDV)		Source Energy Use
	Efficiency[1] (kBtu/ft² - yr)	Total[2] (kBtu/ft² - yr)	Total[2] (kBtu/ft² - yr)
Standard Design	201.06	136.31	12.68
Proposed Design	199.37	-23.87	8.31
Compliance Margins	**1.69**	**160.18**	**4.37**
	Pass	**Pass**	**Pass**

[1] *Efficiency measures include improvements like a better building envelope and more efficient equipment*
[2] *Compliance Totals include efficiency, photovoltaics and batteries*
[3] *New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded*
Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 16 of 19)

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM		
5-Elec	General - Unoccupied	0.31	0	0	204.1	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
System ID	System Type	Qty	Rated Capacity (kBtu/h)		Airflow (cfm)			Fan			VSD
			Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	
1-RHP-1-Trm	Uncontrolled	1	N/A	N/A	4,000	N/A	0	N/A	N/A	N/A	☐
2-Ticket-Trm	Uncontrolled	1	N/A	N/A	480	N/A	0	N/A	N/A	N/A	☐
3-RHP-2-Trm	Uncontrolled	1	N/A	N/A	2,400	N/A	0	N/A	N/A	N/A	☐
5-Elec-Trm	Uncontrolled	1	N/A	N/A	480	N/A	0	N/A	N/A	N/A	☐

I1. WATER HEATER EQUIPMENT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value Int/Ext	Standby Loss Fraction	1st Hr. Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
A. O. Smith HPTS-66 2**-2	Electricity	Storage	1	66	5.86	kW	4	UEF	N/A	N/A	80	Heat Pump Split Water Heater	N/A

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 12 of 19)

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06		07	08	09	10
Surface Name	Construction Type	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value		Units	Value	Description of Assembly Layers	Status[1]
					Interior	Exterior				
Slab On Grade9	Underground Floor	4,133.7	N/A	0	N/A	N/A	F-factor	0.73	Slab Type =Unheated slab on grade Insulation Orientation =None insulation R-Value =none	N
R-27.5 Above Deck Roof pr11	Roof	4,133.7	Metal	0	N/A	27.5	U-factor	0.0335	Built-up roofing - 3/8 in. Plywood - 1/2 in. Extruded Polystyrene - XPS - 5 1/2 in. R27.50 Metal Deck - 1/16 in. Air - Metal Wall Framing - 16 or 24 in. OC	N
*8 CMU Wall13	Exterior Wall	5,443.6	N/A	0	N/A	N/A	U-factor	0.3509	Concrete - Part Grouted and Empty - 105 lb/ft3 - 8 in.	N
Interior R-19 Wall Metal39	Interior Wall	376.2	Metal	19	N/A	1.25	U-factor	0.1307	Gypsum Board - 5/8 in. Composite-1 Extruded Polystyrene - XPS - 1/4 in. R1.25 Gypsum Board - 5/8 in.	N
Interior R-19 Wall Metal41	Interior Wall	385.4	Metal	19	N/A	1.25	U-factor	0.1307	Gypsum Board - 5/8 in. Composite-2 Extruded Polystyrene - XPS - 1/4 in. R1.25 Gypsum Board - 5/8 in.	N
*8 CMU Wall + R-1956	Exterior Wall	560.6	Metal	19	N/A	N/A	U-factor	0.1308	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-3 Concrete - Part Grouted and Empty - 105 lb/ft3 - 8 in.	N

[1] *Status: N - New, A - Altered, E - Existing*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 8 of 19)

C7. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	3.5	2.7	0.8	---	---	---
Space Cooling	4.3	3.3	1	---	---	---
Indoor Fans	8.1	11.8	-3.7	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	3.7	1.7	2	---	---	---
Indoor Lighting	4.1	4.1	0	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**23.7**	**23.6**	**0.1**	**0**	**0**	**0**
Photovoltaics	-9.5	-33.8	24.3	---	---	---
Batteries	0.1	---	---	---	---	---
ENERGY USE SUBTOTAL	**14.3**	**-10.2**	**24.5**	**0**	**0**	**0**
Receptacle	14.7	14.7	0	---	---	---
Process	---	---	---	---	---	---
Other Ltg	0.5	0.5	0	---	---	---
Process Motors	---	---	---	---	---	---
ENERGY USE TOTAL	**29.5**	**5**	**24.5**	**0**	**0**	**0**

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E

Nonresidential Performance Compliance Method (Page 4 of 19)

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	29.26	21.92	7.34
Space Cooling	46.84	41.41	5.43
Indoor Fans	68.72	94.26	-25.54
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	26.33	11.87	14.46
Indoor Lighting	29.91	29.91	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**201.06**	**199.37**	**1.69 (0.8%)**
Photovoltaics	-61.45	-223.24	161.79
Batteries	-3.3	---	-3.3
TOTAL COMPLIANCE	**136.31**	**-23.87**	**160.18 (117.5%)**

[1] *Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.*

FOR BID PURPOSES ONLY

PBK

ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

CONSULTANT LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO

CITY OF IRVINE 1971

KEY PLAN NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN.10/31/26 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER M LEDGERWOOD NO. 33380 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

ENERGY COMPLIANCE - ENV. & MECH.

EC1.1

FILE PATH: Z:\Projects\COS\23\230538_Woollett Aquatics Center\3-CD\Drawings\CNS\LMEP1TEC

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230538 ECA.1 ENERGY COMPLIANCE SHEET INDEX & NOTES
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STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
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G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 130.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see below) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

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Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 6 of 6)
Project Address: 4601 Walnut Avenue	Date Prepared:	1/2/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Garen Lencioni	Documentation Author Signature:
Company: Leaf Engineers	Signature Date: 1-2-2025
Address: 8163 Rochester Avenue, Suite 100	CEA/ HERS Certification Identification (if applicable): M33380
City/State/Zip: Rancho Cucamonga CA 91730	Phone: 559 223-9600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company: PBK Inc.	Date Signed: 2025-01-02
Address: 2400 East Katella Avenue, Suite 950	License:
City/State/Zip: Anaheim CA 92806	Phone: 949 548-5000

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C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per 120.8. This table is not editable by the user. If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, for guidance.

01	02	03	04	05	06	07	08	09
Design Kickoff Review	Owner's Project Requirements	Basis of Design	Design Review	Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
Yes	Yes							COMPLIES
10								COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
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I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Envelope	NRCI-ENV-E - Envelope (for all buildings)
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Plumbing	NRCI-PLB-01-E - Must be submitted for all buildings
Plumbing	NRCI-PLB-E - For all buildings with Plumbing Systems
	NRCI-SAB-E - Solar Water Heating, PV and Battery Storage Systems

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component	Form/Title & System Name(s)
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
Mechanical	RHP-1, AC-1, RHP-2 and AC-2; NRCA-MCH-03-A - Constant Volume Single Zone HVAC RHP-1, AC-1, RHP-2 and AC-2;
Mechanical	NRCA-MCH-05-A - Air Economizer Controls RHP-1 and RHP-2.
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints. RHP-1
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units RHP-1 and RHP-2.

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H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity (dgte)/ 5MMbtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

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CALIFORNIA ENERGY COMMISSION

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Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 1 of 7)
Project Address: 4601 Walnut Avenue	Date Prepared:	1/2/2025

A. GENERAL INFORMATION

01	Project Location (city)	Irvine	02	Climate Zone	8
03	Occupancy Types Within Project (select all that apply):				

● Classroom ● Office ● All Other Occupancies

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./ 170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03
My project consists of (check all that apply):	System Type[1,2]	System Components
☒ New system (DHW system being installed for the first time)	Individual System (serving nonresidential spaces)	☒ Equipment ☒ Distribution ☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment ☐ Distribution ☐ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.*
[3] *DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies*

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	Compliance Results
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

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F. DESIGN REVIEW KICKOFF MEETING

This table indicates that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and demonstrates compliance with design review kickoff requirements per 120.8(d)2. This meeting should occur during the Schemetic Design phase of the project.

Design Review Kickoff Meeting Details

01	Date of Design Review Kickoff Meeting			0001-01-01
02	Meeting Attendees: (one person may play multiple roles)			
☐	Owner/Facility Manager:	☒	Design Reviewer(s)	Designer
☐	Project Manager:	☐	Design Architect/ Engineer(s):	
☐	Contractor:	☐	Certified Acceptance Test Tech(s):	
☐	Commissioning Provider:	☐	Energy/ 724 Part 6 Consultant:	

Design Reviewer Qualifications per Title 24 Part 1 Section 10-103(a)1

		Do the Design Reviewer(s) meet these qualifications?	
		Yes	No
03	The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code.	●	○
03	In addition, for buildings with >= 10,000 ft² but < 50,000², the design reviewer(s) shall be a qualified in-house engineer or architect with no other project involvement or a third party engineer, architect, or contractor	○	●
04	The design reviewer(s) for this project will be:	Designer	

Preliminary Construction Schedule

		Start Date	Completion Date
05	Schematic Design	0001-01-01	0001-01-01
06	Design Development	0001-01-01	0001-01-01
07	Construction Documents	0001-01-01	0001-01-01
08	Construction	0001-01-01	0001-01-01
09	Building Turnover	0001-01-01	0001-01-01
	Project Goals Related to Energy Efficiency		
10	Operational Costs		
11	Desired Building Lifespan		
12	Equipment Lifecycle		
13	Project Energy Efficiency Goals		

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
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N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

There are no Certificates of Verification applicable to this project

STATE OF CALIFORNIA
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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
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	Date Prepared:	1/2/2025

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-PLB-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

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Domestic Water Heating System
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E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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F. DESIGN REVIEW KICKOFF MEETING

14	Envelope Goals	
15	HVAC System Goals	
16	Indoor Lighting System Goals	
17	Outdoor Lighting System Goals	
18	Water Heating System Goals	
19	Equipment and System Specifications	
20	Operations and Maintenance	

G. OWNER'S PROJECT REQUIREMENTS (OPR)

This section does not apply to this project.

H. BASIS OF DESIGN (BOD)

This section does not apply to this project.

I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST

This table is only completed if a design review document is not attached to permit application to demonstrate compliance with 120.8(b) and 120.8(e). For buildings with >= 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

		YES	NO
01	Attaching Completed Design Review Documentation?	●	○

J. COMMISSIONING PLAN

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	(Page 19 of 19)

Documentation Author's Declaration Statement

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Garen Lencioni	Documentation Author Signature:
Company: Leaf Engineers	Signature Date: 1-2-2025
Address: 8163 Rochester Avenue, Suite 100	CEA/HERS Certification Identification (if applicable): M33380
City/State/Zip: Rancho Cucamonga, CA 91730	Phone: 559 223-9600

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and ccrrect.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name:	Responsible Designer Signature:
Company: PBK Inc.	
Address: 2400 East Katella Avenue, Suite 950	Date Signed:
City/State/Zip: Anaheim, CA 92806	License #:
Phone: 949 548-5000	Title: Scope:
Responsible Designer Name: Rex Wang	Responsible Designer Signature:
Company: LEAF Engineers	
Address: 8163 Rochester Avenue, Suite 100	Date Signed:
City/State/Zip: Rancho Cucamonga, CA 91730	License #: M36155
Phone: 909 987-0909	Title: Scope:

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 7 of 7)
Project Address: 4601 Walnut Avenue	Date Prepared:	1/2/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Garen Lencioni	Documentation Author Signature:
Company: Leaf Engineers	Signature Date: 2025-01-02
Address: 8163 Rochester Avenue, Suite 100	CEA/ HERS Certification Identification (if applicable): M33380
City/State/Zip: Rancho Cucamonga CA 91730	Phone: 559 223-9600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Rex Wang	Responsible Designer Signature:
Company: LEAF Engineers	Date Signed: 2025-01-02
Address: 8163 Rochester Avenue, Suite 100	License: M36155
City/State/Zip: Rancho Cucamonga CA 91730	Phone: 909 987-0909

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 3 of 7)
	Date Prepared:	1/2/2025

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03	04			05	06		
System Name	A. O. Smith HPTS-66 2** (66 gal, JA13)	Exception to 140.5(c)/ 170.2(d)3		☐	Gas Service Water Heating System >= 1MMBtu/h[3]	Capacity-weighted Average Efficiency %	
07	08	09	10	11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
A. O. Smith HPTS-66 2** (66 gal, JA13)	Heat Pump Water Heater	66	20,000	FHR >=75	4	2	UEF		

[3] *FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft² and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 5 of 6)
	Date Prepared:	1/2/2025

K. FUNCTIONAL PERFORMANCE TESTING

This section does not apply to this project.

L. DOCUMENTATION AND TRAINING

This section does not apply to this project.

M. COMMISSIONING REPORT

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

There are no forms required for this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-CXR-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 1 of 6)
Project Address: 4601 Walnut Avenue	Date Prepared:	1/2/2025

This document is used to demonstrate compliance with mandatory commissioning requirements in 120.8 for nonresidential buildings and hotel/motel or mixed-use buildings with nonresidential spaces. This document does not demonstrate compliance with commissioning requirements within Title 24, Part 11, which need to be documented separately if they apply.

A. GENERAL INFORMATION

01	Project Location (city)	Irvine	04	Building Size (ft²)	3526
02	Occupancy Type	Nonresidential	05		< 10,000 ft²
03	Project Type	Newly constructed	06		Unitary or packaged equipment each serving one zone
			07	Climate Zone	8

B. PROJECT SCOPE

Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per 120.8. Table B is not editable by the user.

Commissioning Requirements per 120.8

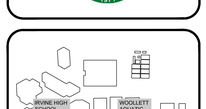
01	Table F: Design Review Kickoff	120.8(d)1 and 120.8(d)2	The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR)	120.8(b)	This requirement does not apply.
03	Table H: Basis of Design (BOD)	120.8(c)	This requirement does not apply.
04	Table I: Design Review	120.8(d) and 120.8(e)	The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with >= 10,000 ft² of nonresidential conditioned floor area, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan	120.8(f)	This requirement does not apply.
06	Table K: Functional Performance Testing	120.8(g)	This requirement does not apply.
07	Table L: Documentation and Training	120.8(h)	This requirement does not apply.
08	Table M: Commissioning Report	120.8(i)	This requirement does not apply.

PBK
ARCHITECT PBK, Inc.
PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

CONSULTANT LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
LICENSED ARCHITECT BRUCE OU C-34832 REN.10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER M.LECHNER NO. 33380 MECHANICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

ENERGY COMPLIANCE - ENV. & MECH.

EC1.2

FILE PATH: Z:\Projects\COS\23\230538_Woollett Aqu

FOR BLUEBEAM LABELING/OCR:

230538 ECU.1 ENERGY COMPLIANCE SHEET INDEX & NOTES

0"
1"

FOR BID SUPPOSE ONLY

FILE PATH: Z:\Projects\COS\23\230538_Woollett Aquatics Center\3-CD\Drawings\CNS\LMEP1EC

CHECKED BY: G.L.
DRAWN BY: CM
PLOT STAMP: 2/4/2025 12:04:34 PM

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 2 of 7)
	Date Prepared:	12/9/2024

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2I. / 180.2(b)4Bv													Compliance Results		
01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
845	+	----	+	----	+	----	+	----	OR	----	=	845	≥	842	COMPLIES
Shielding Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 5 of 7)
	Date Prepared:	12/9/2024

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 1 of 7)
Project Address: 4601 Walnut Ave,	Date Prepared:	12/9/2024

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Irvine	04	Total Conditioned Floor Area (ft²)	5,744
02	Climate Zone	12	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

★ All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	5744	Area Category Method	0
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	5744		0	

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 1 of 4)
Project Address: 4601 Walnut Ave,	Date Prepared:	12/9/2024

This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii

A. GENERAL INFORMATION

01	Project Location (city)	Irvine	02	Climate Zone	12
			03	Occupancy Types Within Project:	All Other Occupancies

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05	06	07
Electrical Service Designation/ Description	Scope of Work[1]	Rating[2] (kVA)	Utility Provided Metering System Exception to 130.5(a)/ 160.6(a)[3]	System subject to CA Elec Code Article 517 Exception to 130.5(a)and (b)	Demand Response Controls	Provides power to dwelling units/common living areas only in multifamily occupancy
MS	New electrical service equipment and meter	2078	☒	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections 120.2/ 160.3, 130.1/ 160.5, and 130.3/ 160.5, and mechanical, indoor lighting, and sign lighting Certificate of Compliance documents will indicate when demand response controls are required.	☐

FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(a)/160.6(c), no other requirements from 130.5/160.6 are required.
[1] If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.
[2] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 3 of 7)
	Date Prepared:	12/9/2024

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 3]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
D	22W LED	☐ Linear	22	Mfr. Spec	26	New	☐	572	NA: < 6200 lumens	☐	☐
W1	18W LED	☐ Linear	18	Mfr. Spec	15	New	☐	270	NA: < 6200 lumens	☐	☐
							Total Design Watts:	842			

** NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.*
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
[2] For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
[4] Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 6 of 7)
	Date Prepared:	12/9/2024

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building Time Switch;
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	Whole Building;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 2 of 7)
	Date Prepared:	12/9/2024

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04	05		06	07	08	09	
	Complete Building 140.6(c)1. [See Table I]	Area Category 140.6(c)2 / 170.2(e)4 [See Table I]	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+) [See Table J]	Tailored 140.6(c)3 / 170.2(e)4B (+) [See Table K]		Total Allowed (Watts)	Total Designed (Watts) [See Table F]	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-) [See Table P]		Total Adjusted (Watts) *Includes Adjustments	05 must be >= 08 140.6 / 170.2(e)
Conditioned		5,456.8	0		=	5,457	≥ 1,798	0	=	1798	COMPLIES
Unconditioned					=		≥		=		
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 2 of 4)
	Date Prepared:	12/9/2024

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through J. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	**Compliance Results**
Yes	AND		AND	Yes	AND			COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with 130.5(c)/ 160.6(c). For alterations, only the altered circuits must demonstrate compliance per 141.0(b)2PIii/ 180.2(b)4Bviii.

01		02		03		04	05
Electrical Service Designation/Description		Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method		Location of Voltage Drop Calculations[1]		Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector
							Pass / Fail
MS	☒	Voltage drop less than 5%	☐	Permitted by CA Elec Code (Exception to 130.5(c))*	In construction documents	E7.1	☐ / ☐

** NOTES: If "Permitted by CA Elec Code *" is seected under Compliance Method above, please indicate where the exception applies in the space provided below.*
MS

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 4 of 7)
	Date Prepared:	12/9/2024

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
	Photocontrol	Provided	NA: Not permitted by H&LS	☐	☐

[1] FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
[2] Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
[3] Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 7 of 7)
Project Address: 4601 Walnut Ave,	Date Prepared:	12/9/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	TRAVIS CUNNINGHAM	Documentation Author Signature:	
Company:	Leaf Engineers	Signature Date:	2024-12-09
Address:	895 W ASHLAN AVE #101	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	CLOVIS, CA 93612	Phone:	559.223.9600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will assume that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides the building owner at occupancy.

Responsible Designer Name:	CHARLIE MUSSER	Responsible Designer Signature:	
Company:	LEAF ENGINEERS	Date Signed:	2024-12-09
Address:	895 W ASHLAN AVE #101	License:	E19817
City/State/Zip:	CLOVIS, CA 93612	Phone:	559.223.9600

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 3 of 7)
	Date Prepared:	12/9/2024

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
A	30W LED	No	NA	30	Mfr. Spec	10	No	300	☐	☐
B	22W LED	No	NA	22	Mfr. Spec	2	No	44	☐	☐
C	32W LED	No	NA	32	Mfr. Spec	23	No	736	☐	☐
D	22W LED	No	NA	22	Mfr. Spec	24	No	528	☐	☐
F	38W LED	No	NA	38	Mfr. Spec	5	No	150	☐	☐
						Total Designed Watts: CONDITIONED SPACES		1,798		

[1] FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.
[2] Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ELC-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 3 of 4)
	Date Prepared:	12/9/2024

J. ELECTRIC READY BUILDINGS

This section does not apply to this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-ELC-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 5 of 7)
	Date Prepared:	12/9/2024

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-A while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance. Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

☒ General Hardscape Allowance Table I (below)	01 "Use it or lose it" Allowance (select all that apply) (select all that apply)				
	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M	

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
PEDESTRIAN HARSCAPE	7600	0.019	144.4	3340	0.2	501	645
Initial Wattage Allowance for Entire Site (Watts):							200
Instances of Initial Wattage Allowance (LZ 0 only)[1]							
Total General Hardscape Allowance (Watts):							845

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 6 of 7)
Project Address: 4601 Walnut Ave,	Date Prepared:	12/9/2024

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2I, for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Irvine	04	Total Illuminated Hardscape Area (ft²)	7600
02	Climate Zone	12			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☒	LZ-2: Moderate - Urban Clusters	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval
☐	LZ-1: Low - Rural Areas	☐	LZ-3: Moderately High - Urban Areas		
05	Occupancy Types within Project				

★ All Other Occupancies

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☒	New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6	
☐	Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	○ Yes ○ No
03		04	05
% of Existing Luminaires Being Altered[1]		Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%			

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: William Woollett Jr. Aquatics Center	Report Page:	(Page 4 of 7)
	Date Prepared:	12/9/2024

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Required >= 4,000W subject to multilevel		Whole Building Auto Time Switch		☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
Whole Building	All Other Space Types	Readily Accessible	Dimmer	See Building Level	Included	Included	No	☐	☐
							13		
							Plan Sheet Showing Daylit Zones:		

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

*Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a)

0"

1"

230538 EC0.1 ENERGY COMPLIANCE SHEET INDEX & NOTES

FOR BLUEBEAM LABELING/OCR:

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	**Report Page:** (Page 6 of 7)
	Date Prepared: 12/9/2024

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	-

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: William Woollett Jr. Aquatics Center	**Report Page:** (Page 7 of 7)
Project Address: 4601 Walnut Ave,	**Date Prepared:** 12/9/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: TRAVIS CUNNINGHAM	Documentation Author Signature:
Company: Leaf Engineers	Signature Date: 2024-12-09
Address: 895 W ASHLAN AVE #101	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: CLOVIS, CA 93612	Phone: 559.223.9600

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: CHARLIE MUSSER	Responsible Designer Signature:
Company: LEAF ENGINEERS	Date Signed: 2024-12-09
Address: 895 W ASHLAN AVE #101	License: E19817
City/State/Zip: CLOVIS, CA 93612	Phone: 559.223.9600

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Generated Date/Time:
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-42024-1224-1456
Report Generated: 2024-12-09 14:14:46

FOR BID PURPOSES ONLY

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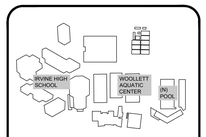
WILLIAM WOOLLETT JR. AQUATICS CENTER

4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO

CITY OF IRVINE 1971



DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN. 8/31/25 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER STEVEN C. MUSSER E-19817 REN. 3-31-26 ELECTRICAL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

ENERGY COMPLIANCE - ELECTRICAL

EC2.2

FILE PATH: Z:\Projects\COS\23\230538_Woollett Aquatics Center\3.CDD\drawings\CNSL\MEP\TEC

CHECKED BY:
G.L.
DRAWN BY:
CM
PLOT STAMP:
2/4/2025 12:04:40 PM

FIRE ALARM SYMBOLS, LEGENDS & GENERAL NOTES

FA0.0

FOR BLUEBEAM LABELING/DOOR:

DEVICE SCHEDULE

SYMBOL	DESCRIPTION	MODEL	MANUFACTURER	BACKBOX	MOUNTING HEIGHT	C.S.F.M. NUMBER
FACP	FIRE ALARM CONTROL PANEL	4100ES	SIMPLEX	PROVIDED	72" A.F.F. TO TOP	7165-00226:0251
RPS	AUDIO/VISUAL POWER SUPPLY	4009-9201	SIMPLEX	FCPS PROVIDED	66" A.F.F. TO TOP	7300-0026:0214
M	FIRE ALARM MONITOR MODULE	4090-9001	SIMPLEX	4S DEEP BOX	VERIFY IN FIELD	7300-0026:0233
RM	FIRE ALARM RELAY MODULE	4090-9002	SIMPLEX	4S DEEP BOX	VERIFY IN FIELD	7300-0026:0233
①F	AREA HEAT DETECTOR (ADDRESSABLE)	4098-9733 w/4098-9792	SIMPLEX	4S DEEP BOX W/ 3-0 RING	CEILING MOUNTED	7270-0026:0216 7300-0026:0217
②P	AREA SMOKE DETECTOR (ADDRESSABLE - PHOTO)	4098-9714 w/4098-9792	SIMPLEX	4S DEEP BOX W/ 3-0 RING	CEILING MOUNTED	7272-0026:0218 7300-0026:0217
XXcd	FIRE ALARM CEILING HORN/STROBE	49AV-APPLC (WHITE)	SIMPLEX	4S DEEP BOX W/ 2 GANG RING	CEILING MOUNTED	7125-0026:0371
XXcd	FIRE ALARM CEILING STROBE	49VO-APPLC (WHITE)	SIMPLEX	4S DEEP BOX W/ 2 GANG RING	CEILING MOUNTED	7125-0026:0371
WP XXcd	FIRE ALARM WALL HORN/STROBE	49AV-WRFO-C (RED)	SIMPLEX	PROVIDED	90" A.F.F. TO BOTTOM	7125-0026:0371
PB	FIRE ALARM PULL BOX	N/A	BY ELECTRICIAN	4S BOX U.O.N.	VERIFY IN FIELD	N/A
J	FIRE ALARM JUNCTION BOX	N/A	BY ELECTRICIAN	4S BOX U.O.N.	VERIFY IN FIELD	N/A
FATC	FIRE ALARM TERMINAL CABINET	N/A	BY ELECTRICIAN	24 x 24 x 6 U.O.N.	VERIFY IN FIELD	N/A

LEGENDS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A OR AMP	AMPERES	NIC	NOT IN CONTRACT
AFF	ABOVE FINISHED FLOOR	NO	NUMBER
AIC	AMPERES INTERRUPTING CAPACITY	PH. ORO	PHASE
ARCH	ARCHITECT; ARCHITECTURAL	PNL	PANEL
AWG	AMERICAN WIRE GAUGE	PWR	POWER
C	CONDUIT	REC/RECEPT	RECEPTACLE
CKT	CIRCUIT	REQD	REQUIRED
CL.	CEILING MOUNTED DEVICE	RM	ROOM
C.O.	CONDUIT ONLY WITH PULL WIRE	SF	SQUARE FEET
CU	COPPER	SHT	SHEET
DWG	DRAWING	SP	SINGLE POLE
ER	EXISTING DEVICE TO BE REMOVED	SPECS	SPECIFICATIONS
EMT	ELECTRICAL METALLIC TUBING	SW	SWITCH
EQUIP EXIST / (EX)	EXISTING	TYP	TYPICAL
FIN.	FINISH	UG	UNDERGROUND
FLR	FLOOR	U.O.N.	UNLESS OTHERWISE NOTED
FT	FEET	V	VOLTS
GFI	GROUND FAULT INTERRUPTER	V-A	VOLT-AMPERES
GND	GROUND	W	WATTS
LTG.	LIGHTING	W/	WITH
MTG	MOUNTING	W/O	WITHOUT
N	NEW	WP	WEATHERPROOF

NOT ALL ABBREVIATIONS WILL APPLY

NOT ALL ABBREVIATIONS WILL APPLY

FIRE WATCH NOTE

A FIRE WATCH SHALL BE ESTABLISHED AND THE FIRE DEPARTMENT & FIRE CODE OFFICIAL SHALL BE NOTIFIED IMMEDIATELY WHENEVER THE FIRE PROTECTION / ALARM SYSTEM IS RENDERED OUT OF SERVICE. A FIRE WATCH SHALL BE STAGED WHENEVER THE BUILDING IS OCCUPIED (PARTIAL OR WHOLE) PER DSA IR F-2 AND CFC 901.7.

SCOPE OF WORK

FIRE ALARM CONTRACTOR SERVICES WILL PROVIDE:

-REMOTE POWER SUPPLY
-AREA SMOKE/HEAT DETECTION
-AUDIBLE & VISUAL NOTIFICATION
-RELAY MODULE OF FAN SHUTDOWN

*THIS IS A NEW FIRE ALARM SYSTEM SUBMITTAL
SURVIVABILITY: (0) CIRCUIT CLASS: (B)

FIRE ALARM CONTRACTOR WILL PROVIDE CONNECTION(S) TO:

-EXISTING FIRE ALARM CONTROL PANEL

*THIS IS AN ADDITION TO THE EXISTING FIRE ALARM SYSTEM ON SITE. ALL EXISTING DEVICES SHALL REMAIN UNLESS OTHERWISE SPECIFIED IN THIS SUBMITTAL.

ALL NEW ADDRESSABLE DEVICES WILL BE CONNECTED TO THE FIRE ALARM CONTROL PANEL INTELLIGENT LOOP. ALL VISUAL & AUDIBLE/VISUAL DEVICES WILL BE CONNECTED TO NOTIFICATION APPLIANCE CIRCUITS FROM THE FIRE ALARM CONTROL PANEL OR REMOTE POWER SUPPLIES, AND WILL BE SYNCHRONIZED IN ACCORDANCE WITH NFPA STANDARDS. ALL DEVICES ARE TO BE COMPATIBLE WITH THE HEAD-END EQUIPMENT AND OTHER DEVICES. ALL DEVICES WILL HAVE A TEXTUAL DISPLAY ON THE FIRE CONTROL PANEL DESCRIBING TYPE OF DEVICE AND LOCATION.

APPLICABLE CODES

PARTIAL LIST OF APPLICABLE CODES:
2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

PARTIAL LIST OF APPLICABLE CODES:
NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED): 2022 EDITION
NFPA 720 STANDARD FOR THE INSTALLATION OF CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT; 2015 EDITION
NFPA 80 STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES; 2019 EDITION UL 464
AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES; 2003 EDITION
UL 521 STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS; 1999 EDITION
UL 1971 STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED; 2018 EDITION (R2010)
FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.
SEE CALIFORNIA BUILDING CODE, CHAPTER 35, FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS

ANCHORAGE AND BRACING NOTES

ALL WORK SHALL BE IN CONFORMANCE WITH TITLE 24, 2022 "CALIFORNIA CODE OF REGULATIONS (CCR), 2022 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 CCR, 2022 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24 CCR

CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.

MEP COMPONENT ANCHORAGE NOTE:

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS.

THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP [ ] MD [ ] PP [ ] E [X] OPTION 1: PROJECT SPECIFIC DESIGN.
MP [ ] MD [ ] PP [ ] E [ ] OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.
MP [ ] MD [ ] PP [ ] E [ ] OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

DRAWING INDEX

SHEET	DESCRIPTION
FA0.0	FIRE ALARM SYMBOLS, LEGENDS & GENERAL NOTES
FA1.1	FIRE ALARM SITE PLAN
FA2.1	FIRE ALARM FLOOR PLAN
FA4.1	FIRE ALARM ROOF PLAN
FA6.1	FIRE ALARM DETAILS

GENERAL NOTES

1. APPLICABLE STANDARD NFPA 72, AS ADOPTED AND AMENDED IN CBC CHAPTER 35.
2. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM, HAS BEEN APPROVED BY DSA.
3. UPON COMPLETION OF SYSTEM INSTALLATION, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
7. ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
8. WALL MOUNTED VISIBLE NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM THE FINISHED FLOOR.
9. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE.
10. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
11. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
12. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
13. VISIBLE DEVICES SHOULD NOT EXCEED TWO FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISIBLE DEVICES WITHIN THE SAME VIEW OF EACH OTHER SHALL BE SYNCHRONIZED.
14. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATER TIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
15. ALL FIRE ALARM WIRING SHALL BE FPLR OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE TYPE THHN OR THWN.
16. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
17. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCITON OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM, DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
18. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
19. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS' SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
20. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED 'FIRE ALARM CIRCUIT CONTROL." CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
21. THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED "SYSTEM RECORD OF COMPLETION" PER NFPA 72, FIGURE 7.8.2(a).
22. FIRE ALARM CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.
23. MICROPHONES ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE. INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
24. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 907.6.6.
25. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
26. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
27. THE AUDIBLE CARBON MONOXIDE ALARM SIGNAL SHALL BE A FOUR-PULSE TEMPORAL PATTER AND COMPLY WITH THE FOLLOWING:
(1) SIGNALS SHALL BE A PATTER CONSISTING OF FOUR CYCLES OF 100 MILLISECONDS +/- 10 PERCENT "ON" AND 100 MILLISECONDS +/- 10 PERCENT "OFF."
(2) AFTER THE INITIAL 4 MINUTES OF ALARM, THE 5-SECOND "OFF" TIME SHALL BE PERMITTED TO BE CHANGED TO 60 SECONDS +/- 10 PERCENT.
(3) THE ALARM SIGNAL SHALL BE REPEATED IN COMPLIANCE WITH NFPA 72 18.4.3.2(1)(2)(3)(4) UNTIL THE ALARM RESETS OR THE ALARM SIGNAL IS MANUALLY SILENCED.
28. A CARBON MONOXIDE ALARM SIGNAL SHALL TAKE PRECEDENCE OVER SUPERVISORY OR TROUBLE SIGNALS. (NFPA 72, 26.2.4.1) THE ACTUATION OF A CARBON MONOXIDE DETECTOR OR SYSTEM SHALL BE DISTINCTIVELY INDICATED AS A CARBON MONOXIDE ALARM SIGNAL. (NFPA 72, 26.2.4.1.2)
29. ALL EQUIPMENT SHALL BE NEW, UNDERWRITERS LABORATORY AND CALIFORNIA STATE FIRE MARSHAL LISTED
30. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE SERVICING, TROUBLESHOOTING, ETC.
31. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC., THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
32. ALL FAN SHUTDOWN FUNCTIONS, DAMPER CLOSURES, AND ASSOCIATED MECHANICAL SYSTEM FIRE ALARM INTERFACE SHALL BE BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH CMC §608.
33. ALL DUCT SMOKE DETECTORS SHALL BE MOUNTED BY THE MECHANICAL CONTRACTOR. DUCT SMOKE DETECTORS EXPOSED TO THE WEATHER SHALL BE WEATHER PROTECTED BY THE MECHANICAL CONTRACTOR. ALL AIR VELOCITY TESTING SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.
34. ALL 120VAC POWER REQUIREMENTS FOR THE FIRE ALARM SYSTEM SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR AND SHALL MEET ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
35. ALL FIRE ALARM DEVICE BACKBOXES, FIRE ALARM TERMINAL CABINETS, GUTTERS, JUNCTION BOXES, AND ASSOCIATED CONDUITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. REFER TO FIRE ALARM SYMBOL LIST AND/OR MOUNTING DETAILS FOR ADDITIONAL INFORMATION. SYSTEM SUPPLIER PROVIDED BACKBOXES SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
36. SMOKE DETECTOR TESTING SHALL BE ACCOMPLISHED PER THE MANUFACTURER'S INSTRUCTIONS.
37. ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION. THE FIRE ALARM CONTROL PANEL TO SUPERVISE THE ANNUNCIATOR PANEL, ALL INITIATING AND INDICATING DEVICE CIRCUITS.
38. ALL WIRING SHALL BE CUT FOR IN AND OUT. WIRING SHALL NOT BE LOOPED THROUGH DEVICES.
39. POINT, COMMON ANNUNCIATION, AND T-TAPPING ARE PROHIBITED.
40. PROVIDE 3/4" CONDUIT FROM FIRE ALARM CONTROL PANEL TO TELEPHONE BACKBOARD FOR OWNER PROVIDED CENTRAL STATION MONITORING.
41. ALL CONDUIT SHALL BE 3/4" MINIMUM, UNLESS OTHERWISE NOTED.
42. ALL FIRE SPRINKLER WATER FLOW SWITCHES SHALL BE 2 WIRE WITH NON-ELECTRONIC RETARD TYPE.
43. ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
44. FIRE ALARM SYSTEM SHALL BE UL LISTED (UUJS).
45. CBC 907.6.6.4 GROUP E SCHOOLS: AUTOMATIC FIRE ALARM SYSTEMS SHALL BE MONITORED AND SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX (CENTRAL STATION) OR UUJS (REMOTE & PROPRIETARY) BY THE UNDERWRITERS LABORATORY INC. (UL) OR OTHER APPROVED LISTING AND TESTING LABORATORY OR SHALL COMPLY WITH THE REQUIREMENTS OF STANDARD, FM 3011. TERMINATION OF MONITORING SERVICES SHALL BE IN ACCORDANCE WITH SECTION 907.6.6.2.
46. SUBSTITUTION OF SYSTEM COMPONENTS OR MANUFACTURER WILL REQUIRE THE CONTRACTOR TO SEPARATELY OBTAIN APPROVAL WITH THE CSFM AT CONTRACTOR'S EXPENSE AND SHALL MEET ALL REQUIREMENTS OF THE SYSTEM AS DESIGNED AND PRE-APPROVED. ALL PROPOSED SUBSTITUTIONS SHALL BE LISTED WITH THE CALIFORNIA STATE FIRE MARSHAL.
47. FINAL ACCEPTANCE TEST TO INCLUDE TESTING THE CONNECTION BETWEEN THE FIRE ALARM PANEL AND THE SUPERVISING STATION.
48. COORDINATE WITH THE ENGINEER FOR USE OF EXISTING CONDUIT ON A CASE BY CASE BASIS.
49. PRIOR TO DEMOLITION: CONTRACTOR SHALL TEST THE INTERCOM SYSTEM TO ENSURE FULL FUNCTIONALITY. GENERATE A LIST OF FAULTY EQUIPMENT AND PROVIDE TO THE OWNER AND THE ARCHITECT. PROVIDE PRICING FOR ANY REQUIRED EQUIPMENT REPAIRS OR REPLACEMENT.
50. CONTRACTOR SHALL DISCONNECT EXISTING FIRE ALARM SYSTEM FROM THE EXISTING INTERCOM SYSTEM. ENSURE THE INTERCOM SYSTEM IS COMPLETELY FUNCTIONAL AFTER DISCONNECTION.
51. CONTRACTOR SHALL CLEARLY MARK THE ABANDON SECTION OF PUBLIC ADDRESS SYSTEM.
52. PROVIDE A FIRE ALARM DOCUMENTATION CABINET PER NFPA72,7.7.
53. FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION SHALL COMPLY WITH CBC CHAPTER 33 AND CFC CHAPTER 33.
54. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE DSA APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS,DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK (CAC 4-317(C)).
55. CHANGES TO THE DIVISION OF THE STATE ARCHITECT APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS FOR CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE -SAFETY PORTIONS OF THE PROJECT. CHANGES SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK SHOWN THEREON CAC 4-338(C)).
56. PROJECT INSPECTOR TO APPROVE SYSTEM VOICE-EVACUATION INTELLIGIBILITY DURING TESTING PHASE.
57. CONTRACTOR SHALL PROVIDE ALL CABLING, RELAYS, MOUNTING HARDWARE AND ANY OTHER DEVICES (FIRE ALARM SYSTEM DEVICES) TO PROVIDE A FULLY FUNCTIONING FIRE ALARM OVERRIDE SYSTEM. WHEN FIRE ALARM CEASES, EACH LOCAL SOUND SYSTEM SHALL AUTOMATICALLY REVERT TO NORMAL OPERATION. FIRE ALARM MODULES AND CABLING BY FIRE ALARM CONTRACTOR.
58. FOR ALL HEAT DETECTORS THAT ARE LOCATED ABOVE CEILING/ATTIC SPACES, CONTRACTOR SHALL PROVIDE STICKER AND LABEL "HD" AT THE REFLECTED CEILING DIRECTLY BELOW THE DEVICE TO INDICATE LOCATION.
59. NOTIFICATION APPLIANCES USED FOR SIGNALING OTHER THAN FIRE SHALL NOT HAVE THE WORD "FIRE" OR ANY FIRE SYMBOL, IN ANY FORM (I.E., STAMPED, IMPRINTED, ETC.) ON THE APPLIANCE VISIBLE TO THE PUBLIC.NOTIFICATION APPLIANCES WITH MULTIPLE VISIBLE ELEMENTS SHALL BE PERMITTED TO HAVE FIRE MARKING ONLY ON THOSE VISIBLE ELEMENTS USED FOR FIRE SIGNALING. PER NFPA 72, 18.3.3.2/ NFPA 720, 6.3.3.2/ IR 9-2, 5.4.4 & 5.4.5.
60. AUTOMATIC FIRE ALARM SYSTEMS SHALL BE MONITORED AND SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX (CENTRAL STATION) OR UUJS (REMOTE & PROPRIETARY) BY THE UNDERWRITERS LABORATORY INC. (UL) OR OTHER APPROVED LISTING AND TESTING LABORATORY OR SHALL COMPLY WITH THE REQUIREMENTS OF FM 3011. TERMINATION OF MONITORING SERVICES SHALL BE IN ACCORDANCE WITH SECTION 907.6.6.2.
61. THE NEW PROJECT SUBMITTAL TO INCLUDE DIRECTION THAT FIRE ALARM SYSTEM RECORD OF COMPLETION AND FIRE ALARM SYSTEM RECORD OF INSPECTION AND TESTING FORM THESE TWO DOCUMENTS FROM NFPA 72 ARE TO BE COMPLETED AND SUBMITTED PRIOR TO CLOSE OUT OF THE PROJECT. A COPY OF COMPLETED AND SIGNED FORM SHALL BE GIVEN TO THE ARCHITECT OR ENGINEER OF RECORD, THE PROJECT INSPECTOR, THE OWNER (SCHOOL DISTRICT) AND LOCAL FIRE AUTHORITY.
62. INTELLIGIBILITY SHALL BE TESTED ACCORDING TO NFPA 72 ANNEX D.2 (SPEECH INTELLIGIBILITY).
63. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBERS SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.

WIRE SCHEDULE

WIRE DESIGNATION	WIRE IN CONDUIT	WIRE IN CONDUIT UNDERGROUND/WET LOC.	UNDERGROUND/WET WIRE DESIGNATION
INIT. LOOP Z	2 CONDUCTOR #16 FPL TWISTED/ SHIELDED WEST PENN #D991	2 CONDUCTOR #16 FPLP SHIELDED WEST PENN #AQ-294	INIT. LOOP Z
SBUS B	4 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	4 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	SBUS B
VBUS C	2 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	2 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	VBUS C
SPEAKER CKT. S	2 CONDUCTOR #14 THHN/THWN STRANDED	2 CONDUCTOR #14 THHN/THWN STRANDED	SPEAKER CKT. S
VISUAL CKT. V	2 CONDUCTOR #12 THHN/THWN STRANDED	2 CONDUCTOR #12 THHN/THWN STRANDED	VISUAL CKT. V
POWER CKT. P	2 CONDUCTOR #12 THHN/THWN STRANDED	2 CONDUCTOR #12 THHN/THWN STRANDED	POWER CKT. P

NOTE: ALL WIRE MODEL NUMBERS ARE WEST PEEN. EQUIVALENT BY OTHER MANUFACTURER IS ACCEPTABLE.

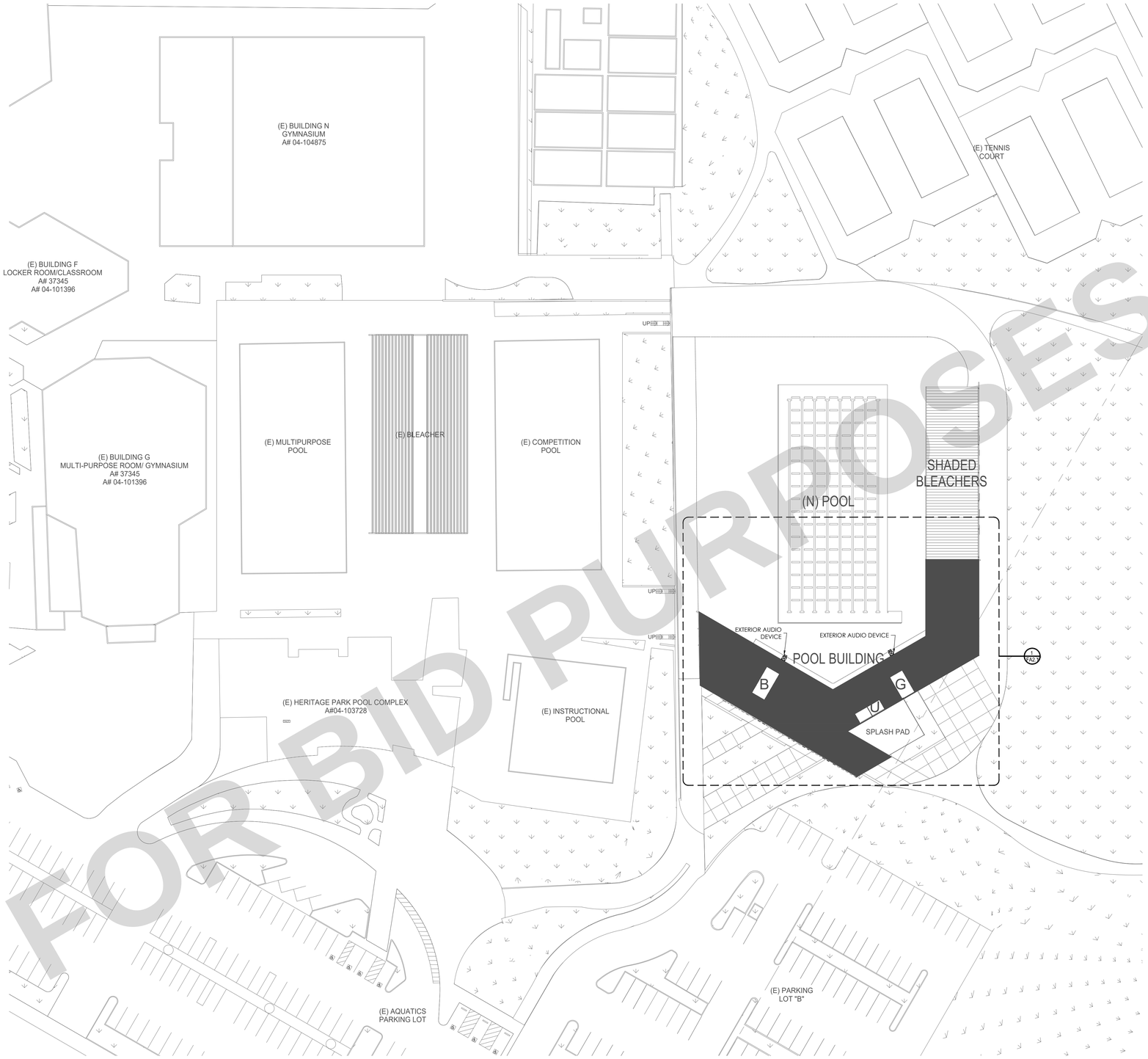
FIRE ALARM REQUIREMENTS

THE CONTRACTOR SHALL PROVIDE AND SUBMIT THE FIRE ALARM SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF THE FIRE ALARM SYSTEM. THE SUBMITTAL SHALL CONTAIN THE FOLLOWING:

A. SHOP DRAWINGS: COMPLETE 1/8" SCALE FLOOR PLANS SHOWING ALL DEVICES, COMPONENTS, CONDUIT AND WIRING INDICATING A COMPLETE AND OPERABLE SYSTEM AS DESIGNED AND SPECIFIED. REPRODUCED COPIES OF BID SET FIRE ALARM PLANS ARE NOT ACCEPTABLE AS SHOP DRAWINGS. SHOP DRAWINGS MUST ALSO INDICATE DEVICE MOUNTING HEIGHTS, ROOM NAMES AND N

TECHNOLOGY SITE PLAN
T1.1
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 SITE PLAN
1/32" = 1'-0"

GENERAL NOTES

1. RUN FIRE ALARM CABLES IN CONDUIT CONCEALED IN WALLS AND CEILING WHEN POSSIBLE. EXPOSED CONDUITS ARE NOT ACCEPTABLE.
2. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36 IN. (910MM HORIZONTAL PATH FROM THE SUPPLY REGISTERS OF A FORCED AIR HEATING OR COOLING SYSTEM AND SHALL BE INSTALLED OUTSIDE OF THE DIRECT AIRFLOW FROM THOSE REGISTERS PER CBC 907.2.11.8.
3. FOR ALL HEAT DETECTORS THAT ARE LOCATED ABOVE CEILING/ATTIC SPACES, CONTRACTOR SHALL PROVIDE STICKER AND LABEL "HD" AT THE REFLECTED CEILING DIRECTLY BELOW THE DEVICE TO INDICATE LOCATION.
4. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE ACCESS FOR ATTIC HEAT DETECTOR, SERVICING, TROUBLESHOOTING, ETC.

FOR BID PURPOSES ONLY

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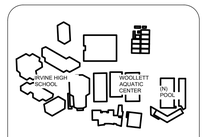
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

FIRE ALARM SITE PLAN

FA1.1

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Author
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TECHNOLOGY FLOOR PLAN
T2.1
FOR BLUEBEAM LABELING/OCR:

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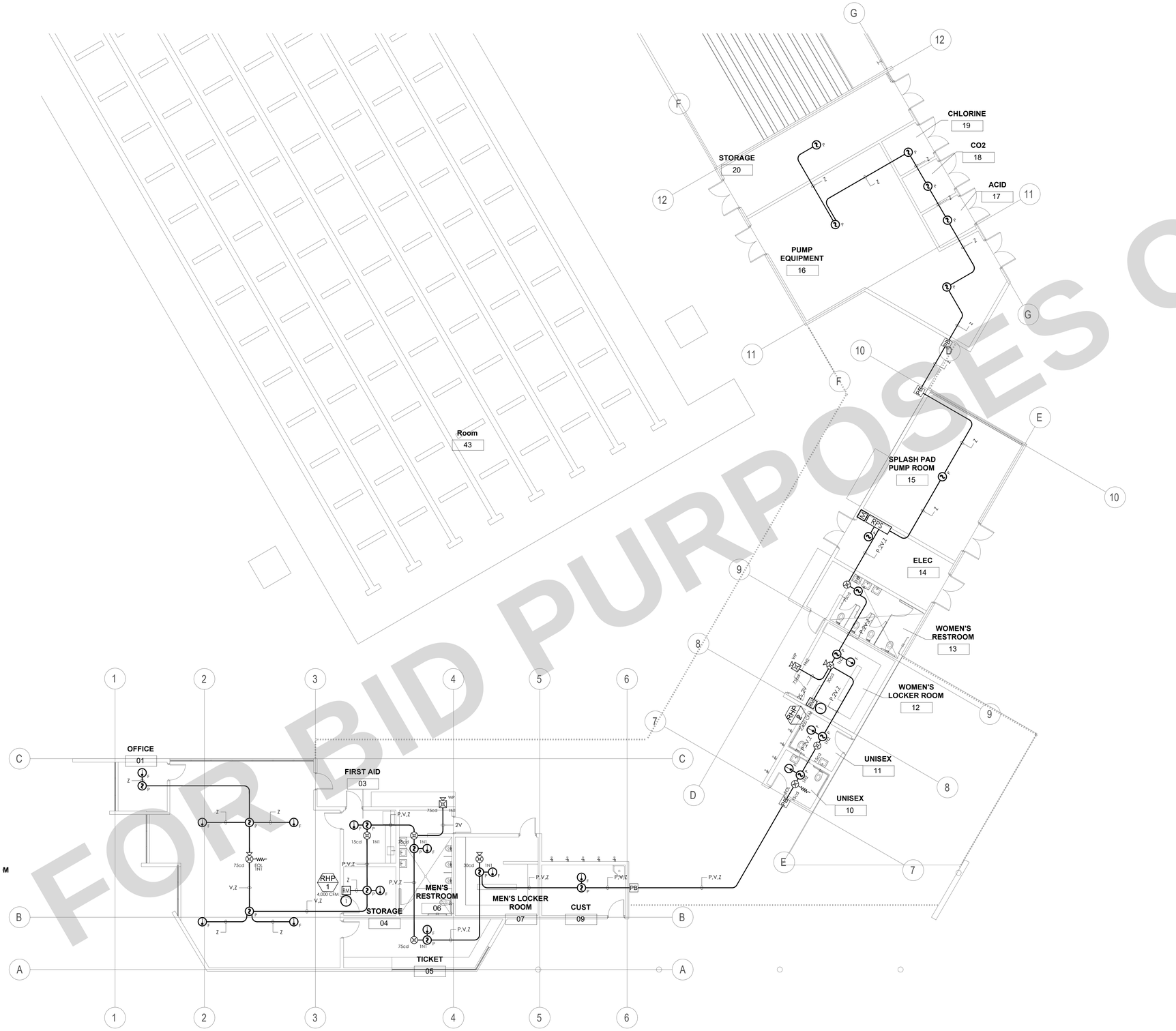
1"



GENERAL NOTES

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2. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 36 IN. (910MM HORIZONTAL PATH FROM THE SUPPLY REGISTERS OF A FORCED AIR HEATING OR COOLING SYSTEM AND SHALL BE INSTALLED OUTSIDE OF THE DIRECT AIRFLOW FROM THOSE REGISTERS PER CBC 907.2.11.8.
3. FOR ALL HEAT DETECTORS THAT ARE LOCATED ABOVE CEILING/ATTIC SPACES, CONTRACTOR SHALL PROVIDE STICKER AND LABEL "HD" AT THE REFLECTED CEILING DIRECTLY BELOW THE DEVICE TO INDICATE LOCATION.
4. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE ACCESS FOR ATTIC HEAT DETECTOR, SERVICING, TROUBLESHOOTING, ETC.

KEY NOTES

(1) RELAY MODULE FOR FAN SHUTDOWN.

FOR BID PURPOSES ONLY

1 FIRST FLOOR PLAN
1/8" = 1'-0"

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CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34632
REN. 11/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MESSER
No. E-19817
Exp. 12/31/25
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER
230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

FIRE ALARM FLOOR PLAN

FA2.1

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CHECKED BY:
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Author
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TECHNOLOGY ROOF PLAN
T4.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

FOR BID PURPOSES ONLY

1 ROOF PLAN
1/8" = 1'-0"

FILE PATH: C:\Users\bcollantes\Documents\230538_Woollett Aquatic Center_T23_Central_benjie.collantes.rvt
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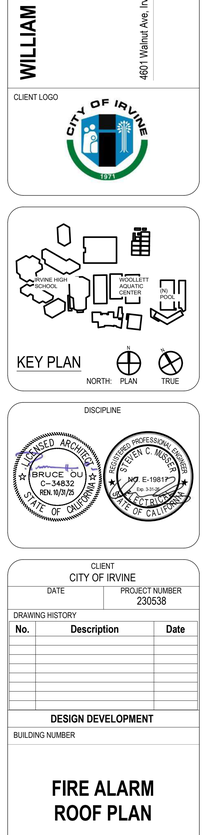
CLIENT LOGO



DISCIPLINE

LICENSED ARCHITECT
BRUCE OU
C-34832
REN. 11/9/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MOSER
No. E-19817
Ex. 12-31-25
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

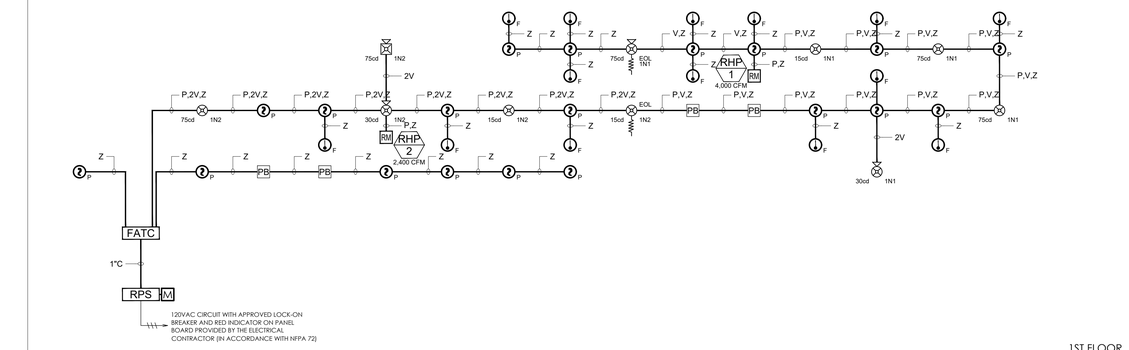
BUILDING NUMBER

FIRE ALARM ROOF PLAN

FA4.1

TECHNOLOGY DETAILS
T6.1
FOR BLUEBEAM LABELING/OCR:

1 RISER DIAGRAM
SCALE : NONE



2 CALCULATIONS
SCALE : NONE

BATTERY SIZING CALCULATION 05/27/25

WOOLTETT AQUATICS CENTER
NEW REMOTE POWER SUPPLY

Quantity	Device Type	Model Number	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
1	4009-9201	4009-9201	0.08500	0.08500	0.18500	0.18500
1	Horn/Strobe	49AVC (30cd)	0.00000	0.00000	0.11900	0.11900
2	Horn/Strobe	49AVC (75cd)	0.00000	0.00000	0.21400	0.42800
2	Horn/Strobe (WP)	49AV-WRFO-C (75cd)	0.00000	0.00000	0.18100	0.36200
3	Stobe	49VO-APPLC (15cd)	0.00000	0.00000	0.07300	0.21900
3	Stobe	49VO-APPLC (75cd)	0.00000	0.00000	0.21000	0.63000
				Standby Load 0.085		Alarm Load 1.943

Standby Load: 0.085 Amps — Alarm Load: 1.943 Amps
Standby Time: 24 Hours — Alarm Time: 5 Minutes
Total Standby Load: 2.04 Amp*Hours — Total Alarm Load: 0.16 Amp*Hours

Batteries Provided: (2) BAT-1270 — **Available Battery: 5.25** A.H.
Battery Size: 7.00 A.H. — **Load (ALM + STBY) 2.20** A.H.
De-Rated Size(75%): 5.25 A.H. — **Spare Capacity 3.05** A.H.

VOLTAGE DROP CALCULATION 01/16/ -7

WOOLLETT AQUATICS CENTER
SYSTEM SENSOR — NEW REMOTE POWER SUPPLY

	DEVICE CURR (AMPS)	SIGNAL CIRCUIT 1N1 QTY	1N1 CURR	SIGNAL CIRCUIT 1N2 QTY	1N2 CURR	SIGNAL CIRCUIT SPARE QTY	SPARE CURR	SIGNAL CIRCUIT SPARE QTY	SPARE CURR	QTY TOTAL
Horn/Strobe										
49AVC (30cd)	0.119	1	0.119		0.000		0.000		0.000	1
49AVC (75cd)	0.214	1	0.214	1	0.214		0.000		0.000	2
Horn/Strobe (WP)										
49AV-WRFO-C (75cd)	0.181	1	0.181	1	0.181		0.000		0.000	2
Strobe										
49VO-APPLC (15cd)	0.073	1	0.073	2	0.146		0.000		0.000	3
49VO-APPLC (75cd)	0.210	2	0.420	1	0.210		0.000		0.000	3
TOTAL CURRENT ON CIRCUIT		1.007 AMPS		0.751 AMPS		0.000 AMPS		0.000 AMPS		
TOTAL WIRE LENGTH		350 FT.		100 FT.		0 FT.		0 FT.		
WIRE SIZE		14 AWG		14 AWG		14 AWG		14 AWG		
RESISTANCE (OHMS)		3.19 /1000FT		3.19 /1000FT		3.19 /1000FT		3.19 /1000FT		
VOLTAGE DROP		2.25 VOLTS		0.48 VOLTS		0.00 VOLTS		0.00 VOLTS		
VOLTAGE @ END OF CIRCUIT		18.15 VOLTS		19.92 VOLTS		VOLTS		VOLTS		
CIRCUIT LOCATION		1ST FLOOR		1ST FLOOR						

RESISTANCE (OHM/1000 FT)
18 AWG = 8.08
16 AWG = 5.08
14 AWG = 3.19
12 AWG = 2.01

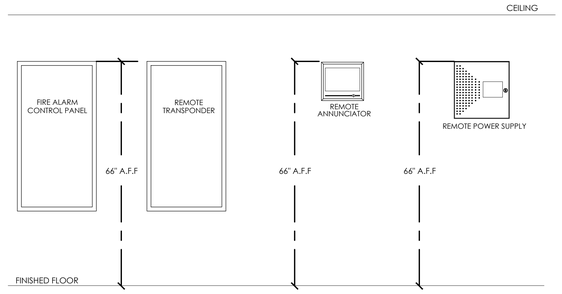
VOLTAGE DROP = 2 x TOTAL CURRENT x DISTANCE x RESISTANCE / 1000

'OLTAGE @ END OF CIRCUIT = STARTING CIRCUIT VOLTAGE - VOLTAGE DROP

LISTED CIRCUIT VOLTAGE = 24V
STARTING CIRCUIT VOLTAGE = 20.4V (85% LISTED VOLTAGE)
OPERATING VOLTAGE RANGE FOR 24V NOTIFICATION APPLIANCES TO BE 17V-31V

3 DEVICE MOUNTING ELEVATIONS DETAILS
SCALE : NONE

1. UNLESS OTHERWISE PERMITTED BY THE AUTHORITY HAVING, CONTROL UNIT DISPLAYS, VISIBLE INDICATORS, OR CONTROLS SHALL BE MOUNTED SUCH THAT THE DISTANCE TO THE HIGHEST SWITCH, LAMP OR TEXTUAL DISPLAY DOES NOT EXCEED 6 FT(1.8m) ABOVE THE FINISHED FLOOR, AND THE LOWEST SWITCH, LAMP, OR TEXTUAL DISPLAY SHALL NOT BE LESS THAN 15in.(375 mm)ABOVE THE FINISHED FLOOR. PER 2022 NFPA 72 10.4.4.



BACKBOX MOUNTING ELEVATION DETAIL

NOTES:
1. WALL-MOUNTED VISUAL SIGNALING APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 IN. AND NOT TOP GREATER THAN 96 IN. ABOVE THE FINISHED (A.F.F.) FLOOR OR AT THE MOUNTING HEIGHT SPECIFIED USING THE PERFORMANCE-BASED ALTERNATIVE PER NFPA 72 2022 SECTION 18.5.5.1.

ALL WALL MOUNTED AUDIBLE DEVICES SHALL BE A MINIMUM OF 90 IN. A.F.F. TO TOP OF DEVICE PER NFPA 72 2022 SECTION 18.4.8.1. AREAS HAVING MORE THAN 2 STROBES IN THE FIELD OF VIEW SHALL BE SYNCHRONIZED PER NFPA 72 2022 SECTION 18.5.5.4.1.

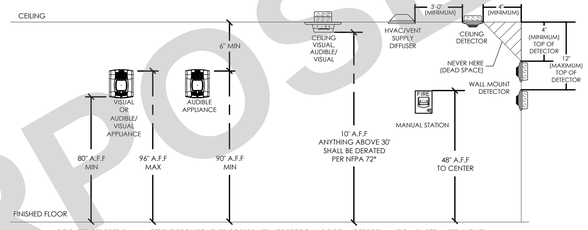
2. THE OPERABLE PART OF A MANUALLY ACTUATED ALARM-INITIATING DEVICE SHALL BE NOT LESS THAN 42"AND NOT MORE THAN 48" FROM THE FINISHED FLOOR PER 2022 NFPA 72 17.15.6.

3. WEATHERPROOF HORN/STROBE SHALL BE WALL MOUNTED A MINIMUM OF 90" ABOVE FLOOR OR 6" MINIMUM BELOW THE CEILING, WHICHEVER IS LOWER. MEASUREMENTS ARE TO BE TAKEN FROM THE HIGHEST PORTION OF THE HORN.

4. PER NFPA 72 2022 EDITION, SECTION 17.7.4.2.1 SPOT-TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING OR, IF ON A SIDEWALL BETWEEN THE CEILING AND 12in (300mm) DOWN FROM THE CEILING TO THE TOP OF THE DETECTOR.

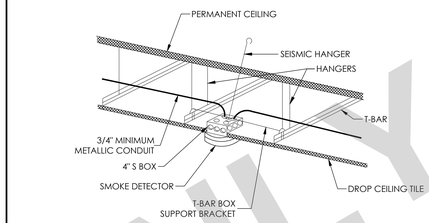
5. PER NFPA 72 2022 EDITION, SECTION 17.6.3.1.3.1 SPOT-TYPE HEAT-SENSING FIRE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4in. (100 mm) FROM THE SIDEWALL OR ON THE SIDEWALLS BETWEEN THE 4in AND 12in (100 mm AND 300mm) FROM THE CEILING.

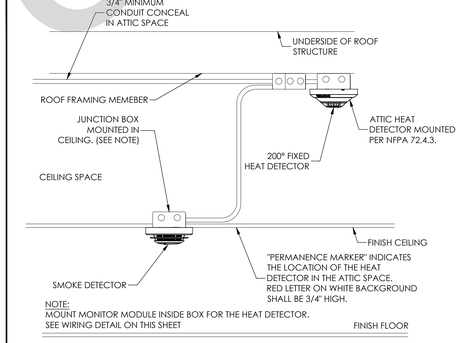
6. PER NFPA 72 2022 EDITION, SECTION 18.5.5.7.2 TWO GROUPS OF VISUAL NOTIFICATION APPLIANCES, WHERE VISUAL NOTIFICATION APPLIANCES OF EACH GROUP ARE SYNCHRONIZED IN THE SAME ROOM OR ADJACENT SPACE WITHIN THE FIELD OF VIEW THIS SHALL INCLUDE SYNCHRONIZATION OF STROBES OPERATED BY SEPARATE SYSTEMS.



* DE-RATED STROBES SHALL MEET THE REQUIREMENTS OF 2022 NFPA 72 SECTION 18.5.5.7.6. "PERFORMANCE - BASED ALTERNATIVE".

DEVICE MOUNTING ELEVATION DETAILS

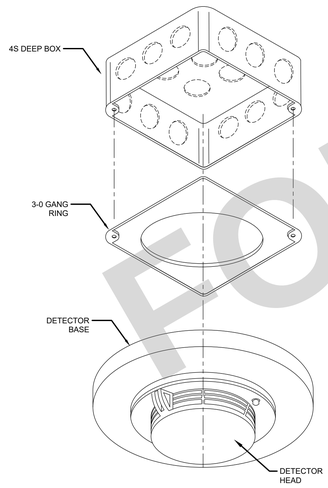


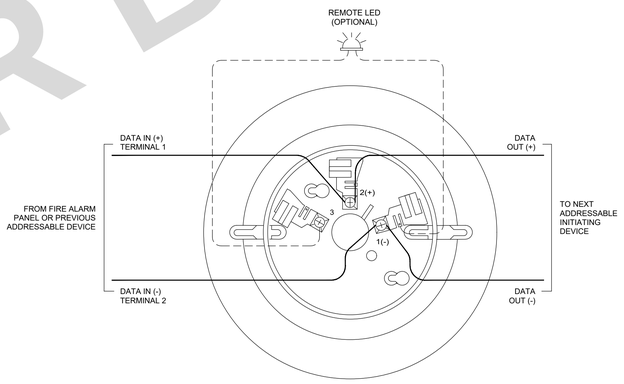


NOTE:
MOUNT MONITOR MODULE INSIDE BOX FOR THE HEAT DETECTOR. SEE WIRING DETAIL ON THIS SHEET

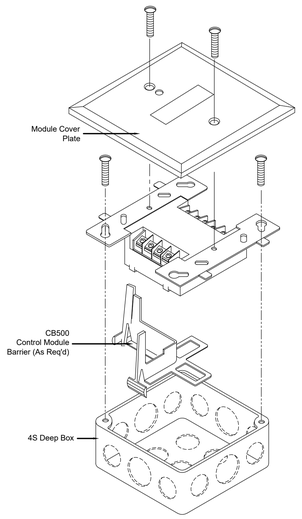
DROP CEILING INSTALLATION DETAIL

4 TYPICAL DEVICE WIRING DETAILS
SCALE : NONE





ADDRESSABLE SMOKE/HEAT DETECTOR WIRING WITH B210LP BASE



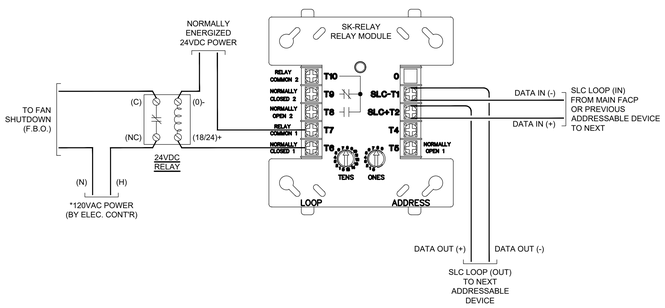
SK-RELAY SPECIFICATIONS:

Normal Operating voltage:	15 to 32VDC
Maximum Current Draw:	6.5 mA (LED on)
Average Operating Current:	230 µa (LED Flashing)
EOL Resistance:	Not used
Maximum IDC wiring resistance:	1,500 ohms
Temperature Range:	32°F to 120°F (0°C to 49°C)
Humidity Range:	10% to 93% non-condensing

Backbox Requirements: 4S DEEP BOX

*RELAY CONTACT RATINGS:

Load Description	Application	Maximum Voltage	Current Rating
Resistive	Non-Coded	30 VDC	3.0 A
Resistive	Coded	30 VDC	2.0 A
Resistive	Non-Coded	110 VDC	0.9 A
Resistive	Non-Coded	125 VDC	0.9 A
Inductive (L/R=5ms)	Coded	30 VDC	0.5 A
Inductive (L/R=2ms)	Coded	30 VDC	1.0 A
Inductive (PF=.35)	Coded	125 VAC	0.3 A
Inductive (PF=.35)	Coded	25 VAC	1.5 A
Inductive (PF=.35)	Coded	70.7 VAC	0.7 A
Inductive (PF=.35)	Coded	25 VAC	2.0 A



SK-RELAY RELAY MODULE WIRING - FAN SHUTDOWN

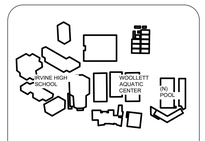
FOR BID PURPOSES ONLY

PBK
ARCHITECT PBK, Inc. PBK.com
Anaheim
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

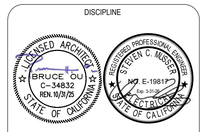
CONSULTANT LEAF Engineers
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE



DISCIPLINE



CLIENT
CITY OF IRVINE
DATE
PROJECT NUMBER 230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT
BUILDING NUMBER

FIRE ALARM DETAILS

FA6.1

FILE PATH: C:\Users\bcollantes\Documents\230538_Woollett Aquatic Center_T23_Central_benjie.collantes.rvt
CHECKED BY: Checker
DRAWN BY: Author
PLOT STAMP: 10/1/2024 11:06:47 AM

T0.0 TECHNOLOGY SYMBOLS, LEGENDS & GENERAL NOTES

0"

1"

TECHNOLOGY PLAN GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF THE TELECOMMUNICATION, NETWORK, AND VIDEO EQUIPMENT SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. CONTRACTOR SHALL COORDINATE AND INSTALL ALL 120V POWER REQUIREMENTS AND LOCATIONS AS REQUIRED FOR ALL EQUIPMENT (TYPICAL)
2. CONTRACTOR SHALL COORDINATING WITH PBK TECHNOLOGY DEPARTMENT PRIOR TO THE INSTALLATION OF RACKS AND RACK EQUIPMENT. NO RACKS SHALL BE PERMANENTLY INSTALLED WITHOUT WRITTEN APPROVAL OF THE PROPOSED LOCATIONS.
3. THE PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUITS, BACK BOXES, AND OTHER RACEWAY REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR THE SCS SHALL BE THE RESPONSIBILITY OF THE SCS INSTALLER.
4. THE SELECTED, INSTALLING CONTRACTOR MUST BE A CERTIFIED INTEGRATOR/INSTALLER AUTHORIZED BY THE SPECIFIED SYSTEM MANUFACTURER TO INSTALL THE CABLE PLANT AND CONNECTIVITY PRODUCTS. REFER TO SPECIFICATIONS FOR PRODUCT TYPE AND DESCRIPTION.
5. SYSTEM WIRING AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH ENGINEERING BEST PRACTICES AS ESTABLISHED BY ANSI/EIA/TIA, BICSI, AND THE CEC.
6. ALL WIRING SHALL MEET ALL STATE AND LOCAL ELECTRICAL CODES.
7. ALL TELECOMMUNICATIONS SYSTEMS EQUIPMENT AND MOUNTING LOCATIONS SHALL BE IN COMPLIANCE WITH ADA ACCESSIBILITY STANDARDS.
8. ALL INDUSTRY STANDARD CATEGORY 6A CABLING PRACTICES MUST BE FOLLOWED FOR ALL DATA CABLING.
9. ALL DATA CABLES ARE TO BE INSTALLED WITH A MINIMUM OF 12 INCHES OF SEPARATION FROM AC POWER CABLES, INTERCOM, FIRE ALARM, SECURITY CABLES IN ANY PARALLEL OPEN WIRE RUN.
10. ALWAYS CROSS OTHER SYSTEM CABLES AT A 90 DEGREE ANGLE.
11. ALL CABLES AND TERMINATION COMPONENTS SHALL BE MACHINE LABELED AT BOTH ENDS. LABEL ALL CABLES PER TS DRAWINGS AND/OR SPECIFICATIONS. FINAL CABLE/OUTLET IDENTIFICATION LABELS SHALL BE COORDINATED WITH THE OWNER AND PBK.
12. CONTRACTOR TO PROVIDE LIGHTNING PROTECTION ON ALL COMMUNICATION CABLE BETWEEN BUILDINGS.
13. ALL EXPOSED CABLING ROUTED IN PLENUM SHALL BE PLENUM-RATED. ALL NON PLENUM-RATED CABLING INSTALLED IN PLENUM SPACES SHALL BE INSTALLED IN CONDUIT.
14. NO TERMINATION OR SPLICES SHALL BE INSTALLED IN OR ABOVE CEILINGS UNLESS NOTED NOTED OTHERWISE.
15. TECHNOLOGY CONTRACTOR SHALL PROVIDE AND INSTALL ALL SLEEVES REQUIRED TO INSTALL COMMUNICATION CABLING THROUGH ALL CMU AND RATED WALLS. ALL TECHNOLOGY SYSTEM CONDUIT SLEEVES SHALL HAVE PROTECTIVE BUSHING ON BOTH ENDS, BE DEDICATED FOR TECHNOLOGY SYSTEMS ONLY AND SHALL NOT SHARE WITH OTHER BUILDING TRADES.
16. CONTRACTOR SHALL MAINTAIN WALL RATING WITH PROPER FIRE BLOCKING METHODS.
17. CONTRACTOR SHALL ROUTE ALL FIBER/VOICE/DATA AND CATV CABLING DOWN CORRIDORS AND PERPENDICULAR OR PARALLEL TO BUILDING WALLS ENTER INTO ALL ROOMS ABOVE THE MAIN DOORWAY.
18. ALL COMMUNICATION CABLE INSTALLED SHALL ROUTE TO THE CENTER OF THE ROOM IN WHICH IT SERVES AND THEN TO THE OUTLET LOCATION IT IS INTENDED FOR. EACH CABLE SHALL HAVE A 10' SERVICE LOOP AT THE CENTER OF EACH ROOM AND A 3' SERVICE LOOP ABOVE EACH OUTLET LOCATION.
19. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM A PANDUIT J-MOD CABLE SUPPORT SYSTEMS AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. PANDUIT J-MOD SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. IN LOCATION WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.
20. CONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED CABLING AND COMPONENTS TO FURNISH TWO (2) ANALOG TELEPHONE CABLES TO THE FIRE ALARM SYSTEM. CONTRACTOR TO COORDINATE WITH THE SYSTEM INSTALLER FOR EXACT LOCATIONS AND TERMINATION INSTRUCTIONS PRIOR TO INSTALLATION.
21. ALL EXPOSED CABLING OR CABLING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE PROPERLY SIZED TO MAINTAIN THE 40% FILL RATIO.
22. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED. CONTRACTOR TO MAINTAIN A 40% MAXIMUM FILL RATION ON ALL SLEEVES INSTALLED. BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED.

AUDIO & VIDEO GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. THE INSTALLING CONTRACTOR OF EACH SYSTEM SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN 120V POWER REQUIREMENTS FOR ALL REMOTE POWER SUPPLIES. THE INSTALLING CONTRACTORS LICENSED ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ELECTRICAL PANEL LOCATIONS AND AVAILABLE SPACE DEDICATED FOR THE CONTRACTOR'S SYSTEM REQUIREMENTS. (TYPICAL). PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATION AND CONNECTION OF CONTROL PANEL AND HEAD END POWER WITH THE PROJECTS ELECTRICAL CONTRACTOR.
2. THE PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IN WALL CONDUITS, BELOW GRADE CONDUITS, BELOW SLAB CONDUITS, CONDUITS ACROSS OPEN AREAS BACK BOXES, SLEEVES, AND OTHER RACEWAY REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
3. THE SECURITY CAMERA SYSTEM INSTALLER SHALL BE RESPONSIBLE FOR CONNECTING ALL APPLICABLE SYSTEM EQUIPMENT TO THE OWNER'S NETWORK.
4. ALL EXPOSED SYSTEM'S WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ANY MOISTURE FROM ENTERING BUILDING.
6. NO CONDUITS SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING. IF EXTERIOR CONDUITS ARE REQUIRED FOR A COMPLETE INSTALLATION, EACH SYSTEM CONTRACTOR SHALL COORDINATE WITH THE PROJECTS CONSULTANT PRIOR TO ANY ROUGH-IN.
7. EACH SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL CONDUIT STUB OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED.
8. ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLES THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.
9. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM A PANDUIT J-MOD CABLE SUPPORT SYSTEMS AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. PANDUIT J-MOD SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.
10. SECURITY CAMERA SYSTEM INSTALLER SHALL PROVIDE A CEILING MOUNTED INSTALLATION KIT RECOMMENDED BY THE MANUFACTURER OF THE CAMERA. EACH CEILING MOUNTED CAMERA KIT SHALL HAVE A SUPPORT WIRE ATTACHED TO THE BUILDING'S STRUCTURE TO PREVENT THE CAMERA FROM DROPPING TO THE FLOOR AT ANY TIME. AT NO POINT SHALL THE WEIGHT OF THE CEILING MOUNTED SECURITY CAMERA BE SUPPORTED BY THE CEILING GRID SYSTEM OR CEILING TILES. ALL CEILING MOUNTED CAMERAS SHALL BE FLUSH MOUNTED.
11. ALL EXTERIOR AND WALL MOUNTED CAMERA LOCATIONS MUST BE COORDINATED WITH THE OWNER PRIOR TO ROUGH-IN. ALL CAMERAS TO BE MOUNTED AT 12'-0" AFG. COORDINATION MEETINGS SHALL BE SCHEDULED THROUGH THE ARCHITECTS PROJECT MANAGER.
12. ALL SECURITY CAMERAS SHOWN TO WATCH EXTERIOR DOORS SHALL BE MOUNTED AT 40' FROM DOOR AT ALL LOCATIONS POSSIBLE. NO CAMERA SHALL BE INSTALLED MORE THAN 40' FROM DOOR.
13. CONDUIT, BACK BOX AND CABLING REQUIREMENTS FOR IP SECURITY CAMERAS SHALL BE COORDINATED WITH CONTRACTOR SHALL MOUNT THIS OUTLET AT +12" ABOVE THE CEILING IN A PLENUM RATED JACK AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE FROM THE FRONT OF THE FACEPLATE FOR OWNER ACCESS. ELECTRICAL CONTRACTOR SHALL ROUTE (1) 1" CONDUIT FROM THE BUILDING STRUCTURE TO A SINGLE GANG BACK BOX MOUNTED AT 5' OR LESS ABOVE THE FINISHED CEILING. SECURE CONDUIT AND BACK BOX TO INSURE MINIMAL SWAY MOVEMENT.
14. VIDEO SURVEILLANCE CONTRACTOR SHALL PROVIDE ONE (1) ADDITIONAL OMNICAST LICENSE FOR EACH DOOR EQUIPPED WITH AN INTERIOR CARD READER AND SOUNDER TO ENABLE THE LOCAL CAMERA VIEW TO BE DISPLAYED ON THE LCD MONITOR IN THE RECEPTION AREA.
15. PROVIDE LICENSES FOR ALL CAMERAS AS REQUIRED TO PROVIDE A TURNKEY SYSTEM. SALIENT SYSTEMS LICENSES FOR EXISTING ANALOG AND IP CAMERAS ARE TRANSFERABLE TO NEW IP CAMERAS. PROVIDE LICENSES ONLY FOR NEW CAMERAS THAT ARE NOT REPLACING EXISTING CAMERAS.

INTERCOM SYSTEM'S GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. THE INSTALLING CONTRACTOR OF EACH SYSTEM SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN 120V POWER REQUIREMENTS FOR ALL REMOTE POWER SUPPLIES. THE INSTALLING CONTRACTORS LICENSED ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ELECTRICAL PANEL LOCATIONS AND AVAILABLE SPACE DEDICATED FOR THE CONTRACTOR'S SYSTEM REQUIREMENTS. (TYPICAL). PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATION AND CONNECTION OF CONTROL PANEL AND HEAD END POWER WITH THE PROJECTS ELECTRICAL CONTRACTOR.
2. THE PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IN WALL CONDUITS, BELOW GRADE CONDUITS, BELOW SLAB CONDUITS, CONDUITS ACROSS OPEN AREAS BACK BOXES, SLEEVES, AND OTHER RACEWAY REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
3. ALL EXPOSED SYSTEM'S WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ANY MOISTURE FROM ENTERING BUILDING.
5. NO CONDUITS SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING. IF EXTERIOR CONDUITS ARE REQUIRED FOR A COMPLETE INSTALLATION, EACH SYSTEM CONTRACTOR SHALL COORDINATE WITH THE PROJECTS CONSULTANT PRIOR TO ANY ROUGH-IN.
6. EACH SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL CONDUIT STUB OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED.
7. ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLES THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.
8. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM AN APPROVED CABLE SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.
9. ALL INTERCOM CABLING FOR CLASSROOMS, OFFICES, CONFERENCE ROOMS, WORK ROOMS, AND LOUNGES SHALL BE HOME RUNS TO HEAD END EQUIPMENT TO ALLOW ZONING TO BE ACCOMPLISHED.
10. ALL EXTERIOR AND WALL MOUNTED SPEAKERS SHALL BE MOUNTED AT 10'-0" UNLESS OTHERWISE NOTED.
11. EXTERIOR SPEAKERS SHALL NOT BE GROUPED WITH INTERIOR SPEAKERS.
12. ALL SPEAKERS SHALL BE CONNECTED TO A STANDARD PUNCH DOWN BLOCK LOCATED NEAR HEAD END EQUIPMENT AND THEN CONNECTED TO HEAD END EQUIPMENT.
13. ALL CEILING MOUNTED SPEAKERS SHALL BE INSTALLED UTILIZING A TILE BRIDGE SUPPORT SYSTEM. AT NO POINT SHOULD THE WEIGHT OF A CEILING MOUNTED SPEAKER BE SUPPORTED BY A CEILING TILE ONLY.
14. ALL WALL MOUNTED CALL INITIATING DEVICES SHALL BE INSTALLED AT +42" ABOVE THE FINISHED FLOOR.

TECHNOLOGY SCOPE OF WORK

1. PROVIDE COMPLETE TECHNOLOGY SYSTEMS EQUIPMENT WITH INSTALLATION AS REQUIRED FOR A COMPLETE WORKING SYSTEM PER DESIGN DRAWINGS AND SPECIFICATIONS FOR COMMUNICATIONS ROOM AND OTHER SPACES REQUIRED TECHNOLOGY CONNECTIONS PER THE DESIGN DRAWINGS.
2. PROVIDE NEW CONDUITS, J-HOOKS ABOVE ACCESSIBLE CEILING SPACES TO SUPPORT NEW TECHNOLOGY WIRING AS REQUIRED BETWEEN END DEVICES AND TECHNOLOGY HEADEND EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL WIRING WITH TERMINATION AND TESTING AS REQUIRED FOR A COMPLETE WORKING SYSTEM.
3. PROVIDE NEW EMPTY UNDERGROUND CONDUITS CAP IN-PLACE FOR FUTURE USE BETWEEN THE NEW COMMUNICATION FUTURE TERMINAL EXPANSION, AND HANGAR. REFER TO SITE PLAN T1.01 FOR NUMBER AND SIZE OF UNDERGROUND CONDUITS.
4. PROVIDE COMPLETE INFRASTRUCTURE INCLUDING WIRING TO ALL SECURITY DEVICES PER PLANS.
5. THE CONTRACTOR SHALL PROVIDE CONDUITS, UNDERGROUND PULL BOXES, AND WIRING AS REQUIRED FOR CONNECTIONS TO ALL SITE DEVICES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TECHNOLOGY EQUIPMENT/DEVICES MOUNTING AS NOTED PER THE DESIGN DRAWINGS.
7. THE CONTRACTOR SHALL PROVIDE NEW UNDERGROUND CONDUITS FOR NEW UTILITY SERVICE PROVIDER CONNECTION, AND COORDINATE WITH UTILITY SERVICE PROVIDER COMPANY FOR FINAL POINT OF CONNECTION PRIOR TO INSTALLATION.
8. PROVIDE ACCESS CONTROL SYSTEM TO INCLUDE ACCESS CONTROL PANEL, POWER SUPPLY AND CARD READERS PER SPECIFICATIONS.
9. PROVIDE VIDEO SURVEILLANCE SYSTEM AND SECURITY CAMERAS WITH REQUIRED LICENSING FOR A COMPLETE WORKING SYSTEM INCLUDING INTEGRATION WITH ACCESS CONTROL SYSTEM.

APPLICABLE CODES

PARTIAL LIST OF APPLICABLE CODES AS OF JANUARY 1, 2022
2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

PARTIAL LIST OF APPLICABLE STANDARDS
NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED): 2019 EDITION
NFPA 720 STANDARD FOR THE INSTALLATION OF CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT; 2016 EDITION
NFPA 80 STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES; 2019 EDITION
UL 464 AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES; 2003 EDITION
UL 521 STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS; 1999 EDITION
UL 1971 STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED; 2002 EDITION (R2010)
ICC 300 STANDARD FOR BLEACHERS, FOLDING AND TELESCOPING SEATING AND GRANDSTANDS; 2017 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

SEE CALIFORNIA BUILDING CODE, CHAPTER 35, FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

GENERAL NOTES:

1. REFER TO SPECIFICATION FOR MATERIALS AND METHODS.

TECHNOLOGY SYMBOL LIST NOTES:

1. "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION.
2. SYMBOL SUBSCRIPT INDICATES DEVICE TYPE.
3. INFORMATION OUTLET INSTALLED IN E.C. PROVIDED FLOOR BOX. "#" INDICATES DATA OUTLET FACEPLATE CONFIGURATION. REFER TO THE ELECTRICAL FLOOR PLANS FOR ADDITIONAL INFORMATION.
4. EQUIPMENT/DEVICE HEIGHT AS INDICATED ON PLANS.
5. REFER TO SPECIFICATION - EXTERIOR COMMUNICATION PATHWAYS FOR UNDERGROUND COMMUNICATIONS PULL BOX.
6. REFER TO SPECIFICATION - EXTERIOR COMMUNICATION PATHWAYS FOR UNDERGROUND COMMUNICATIONS HANDHOLE.
7. PROVIDE AV OUTLET WITH (2) HDMI CONNECTORS AND CABLES. REFER TO FLOOR PLAN AND SEE DETAILS 5/T6.1.

TECHNOLOGY SYMBOL LIST

SYMBOL:	DESCRIPTION:	NOTE:
AV ▽	AUDIO VIDEO OUTLETS	1.
WAP	WIRELESS ACCESS POINT DEVICE/ENCLOSURE (CEILING)	1.,2.
# ▽	TECHNOLOGY DATA OUTLET NETWORK CONNECTION (WALL)	1.
##-##	VIDEO SURVEILLANCE CAMERA 270° FIELD OF VIEW (CEILING)	4., 9
##-##	VIDEO SURVEILLANCE CAMERA 270° FIELD OF VIEW (WALL)	4., 9
##-##	VIDEO SURVEILLANCE CAMERA SINGLE SENSOR (CEILING)	4., 9
PATC	PUBLIC ADDRESS TERMINAL CABINET (WALL)	.
S1	PUBLIC ADDRESS SPEAKER (CEILING) TYPE 1	.
IDCP	INTRUSION DETECTION CONTROL PANEL (WALL)	.
IDPS	INTRUSION DETECTION POWER SUPPLY (WALL)	.
MD	INTRUSION DETECTION MOTION DETECTOR (WALL)	.
KP	KEY PAD	.
CD	CARD READER	.
DC	DOOR CONTACT	.
UPB1	UNDERGROUND PULL BOX TYPE1	7.
———	CONDUIT (CONCEALED IN OR ABOVE CEILING/HORIZONTAL SURFACE)	.
- - - -	UNDERGROUND/FLOOR CONDUIT	.
○———	CONDUIT UP	.
●———	CONDUIT DOWN	.
———⟋	CONDUIT WITH CONTINUATION	.
[——]	CONDUIT SLEEVE	.
═══	FIRE RATED PATHWAY SLEEVE SYSTEM	.

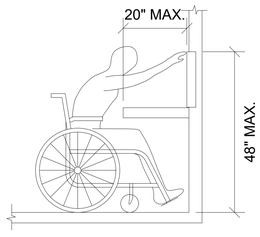
DRAWING INDEX

SHEET	DESCRIPTION
T0.0	TECHNOLOGY SYMBOLS, LEGENDS & GENERAL NOTES
T0.1	TECHNOLOGY RISER DIAGRAM AND SCHEDULES
T1.1	TECHNOLOGY SITE PLAN
T2.1	TECHNOLOGY FLOOR PLAN
T6.1	TECHNOLOGY DETAILS
T6.2	TECHNOLOGY DETAILS

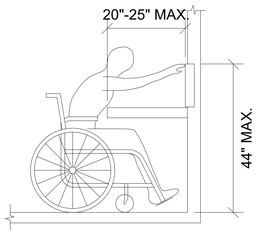
TECHNOLOGY ABBREVIATION KEY

ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
BFC	BELOW FINISHED CEILING
C	CONDUIT
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
J-BOX	JUNCTION BOX
MPOE	MIMMUM POINT OF ENTRY
MC	MAIN CROSS-CONNECT
S.C.	SECURITY CONTRACTOR
SIM	SIMILAR
T.C.	TECHNOLOGY CONTRACTOR
TR-#	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
+#	MOUNTING HEIGHT ABOVE FINISHED FLOOR

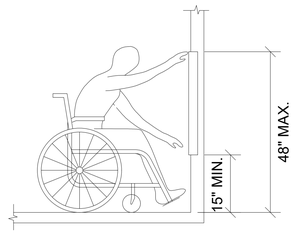
INSTALL ABOVE COUNTER DEVICE AT 44" ABOVE FINISHED FLOOR.



INSTALL ABOVE COUNTER DEVICE AT 40" ABOVE FINISHED FLOOR.

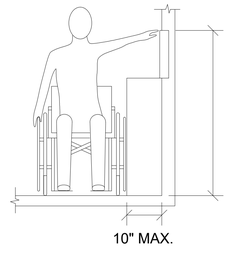


INSTALL DEVICE AT 18" ABOVE FINISHED FLOOR.

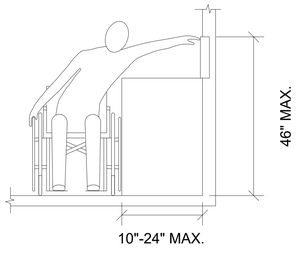


CBC/ADA GUIDELINES - FRONT ACCESS

INSTALL DEVICE AT 44" ABOVE FINISHED FLOOR.



INSTALL DEVICE AT 42" ABOVE FINISHED FLOOR.



CBC/ADA GUIDELINES - SIDE ACCESS

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE J-BOXES AT ADA REQUIRED HEIGHTS TO ALLOW FOR THE DEVICE CONTROLS TO FALL WITHIN THE ACCESSIBLE REACH RANGE SHOWN ABOVE.
2. PROVIDE INSTALLATION PER SECTION 11B-308.1.1 ELECTRICAL SWITCHES.
3. WALL PHONES, CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING VENTILATING EQUIPMENT, SHALL COMPLY WITH SECTION 11B-308 EXCEPT THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX.

FOR BID PURPOSES ONLY

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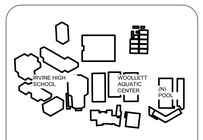

KEY PLAN NORTH: PLAN TRUE

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CITY OF IRVINE

DATE	PROJECT NUMBER
01-31-25	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

TECHNOLOGY SYMBOLS, LEGENDS & GENERAL NOTES

T0.0

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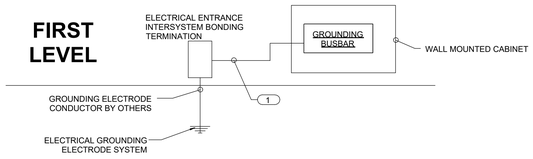


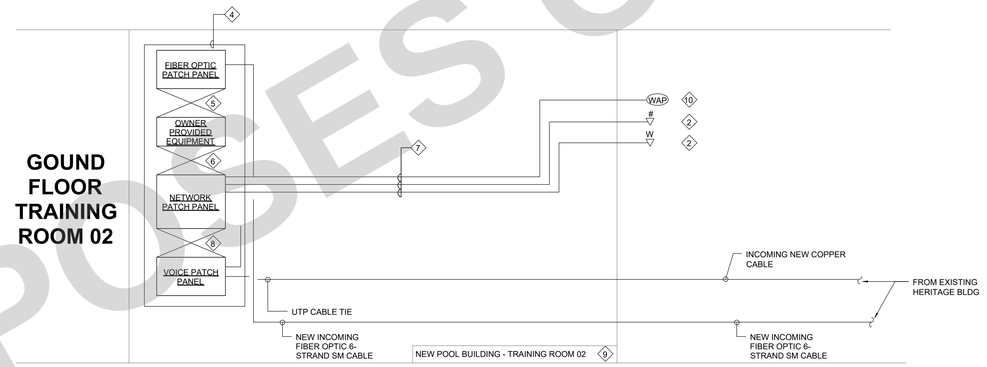
NOTES:
1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CONDUCTOR TYPE. ALL CONNECTIONS AND SYSTEM DEVICES SHOWN ARE TYPICAL AND NOT REPRESENTATIVE OF ACTUAL PROJECT QUANTITIES. REFER TO FLOOR PLANS AND ENLARGED FLOOR PLANS FOR ACTUAL QUANTITIES AND LOCATIONS OF DEVICES AND MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ALL CONDUCTORS IN THE TECHNOLOGY BONDING SYSTEM SHALL BE MINIMUM SIZE OF 3/0 AWG PLENUM RATED COPPER (GREEN OR MARKED WITH A DISTINCTIVE GREEN COLOR) UNLESS CONDUCTOR LENGTH IS LESS THAN 66 FEET. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING CRITERIA FOR CONDUCTORS LESS THAN 66 FEET IN LENGTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. ALL BONDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY COMPRESSION LUGS, EXOTHERMIC WELDING, OR IRREVERSIBLE COMPRESSION CONNECTORS. SOLDER IS NOT AN ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.

KEYNOTES:
1. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT). BCT SHALL BE THE SAME SIZE AS THE TBB OR LARGER. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING REQUIREMENTS.

BONDING CONDUCTOR SIZING SCHEDULE

CONDUCTOR LENGTH IN FEET	MINIMUM ACCEPTABLE SIZE -AWG
LESS THAN 13'	6
14' -20'	4
21' -26'	3
27' -33'	2
34' -41'	1
42' -52'	1/0
53' -66'	2/0
GREATER THAN 66'	3/0

TECHNOLOGY BONDING RISER DIAGRAM N.T.S. 1



NOTES:
1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION(S), LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO FLOOR PLANS FOR MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. REFER TO FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.
3. RUN CAT6 CABLES FROM THE TENANT OFFICES TO A IDF CABINET IN THE TELECOMMUNICATIONS ROOM AND SHALL BE TERMINATED ON A SEPARATE CABINET FROM FBO WIRING.

KEYNOTES:
1. CROSS-CONNECT BACKBONE RISER CABLE TO THE INCOMING SERVICE PROVIDER CABLE.
2. # INDICATES VOICE/DATA FACEPLATE CONFIGURATION. REFER TO TECHNOLOGY FLOOR PLANS FOR ADDITIONAL INFORMATION.
3. DATA OUTLET INSTALLED IN E.C. PROVIDED AND INSTALLED FLOOR BOX.
4. WALL CABINET AS DEFINED ON THE TELECOM ROOM LAYOUT.
5. REFER TO SPECIFICATIONS FOR FIBER PATCH CORD REQUIREMENTS.
6. RJ-45 TO RJ45 CATEGORY 6 UTP PATCH CORDS, REFER TO SPECIFICATIONS.
7. 23GAUGE 4-PAIR, CATEGORY 6A CABLES, UNSHIELDED TWISTED PAIR CABLE, REFER TO SPECIFICATIONS.
8. REFER TO SPECIFICATIONS FOR COPPER PATCH CORD REQUIREMENTS.
9. REFER TO FLOOR PLANS FOR TELECOMMUNICATIONS ROOM LOCATIONS.
10. PROVIDE 2-PORT PLENUM RATED SURFACE MOUNT BOX ABOVE ACCESSIBLE CEILING.

FIBER AND COPPER RISER DIAGRAM N.T.S. 2

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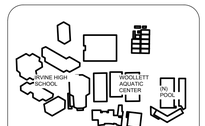

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TECHNOLOGY RISER DIAGRAM AND SCHEDULES

T0.1

TECHNOLOGY RISER DIAGRAM AND SCHEDULES
T0.1
FOR BLUEBEAM LABELING/OCR:

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TECHNOLOGY SITE PLAN
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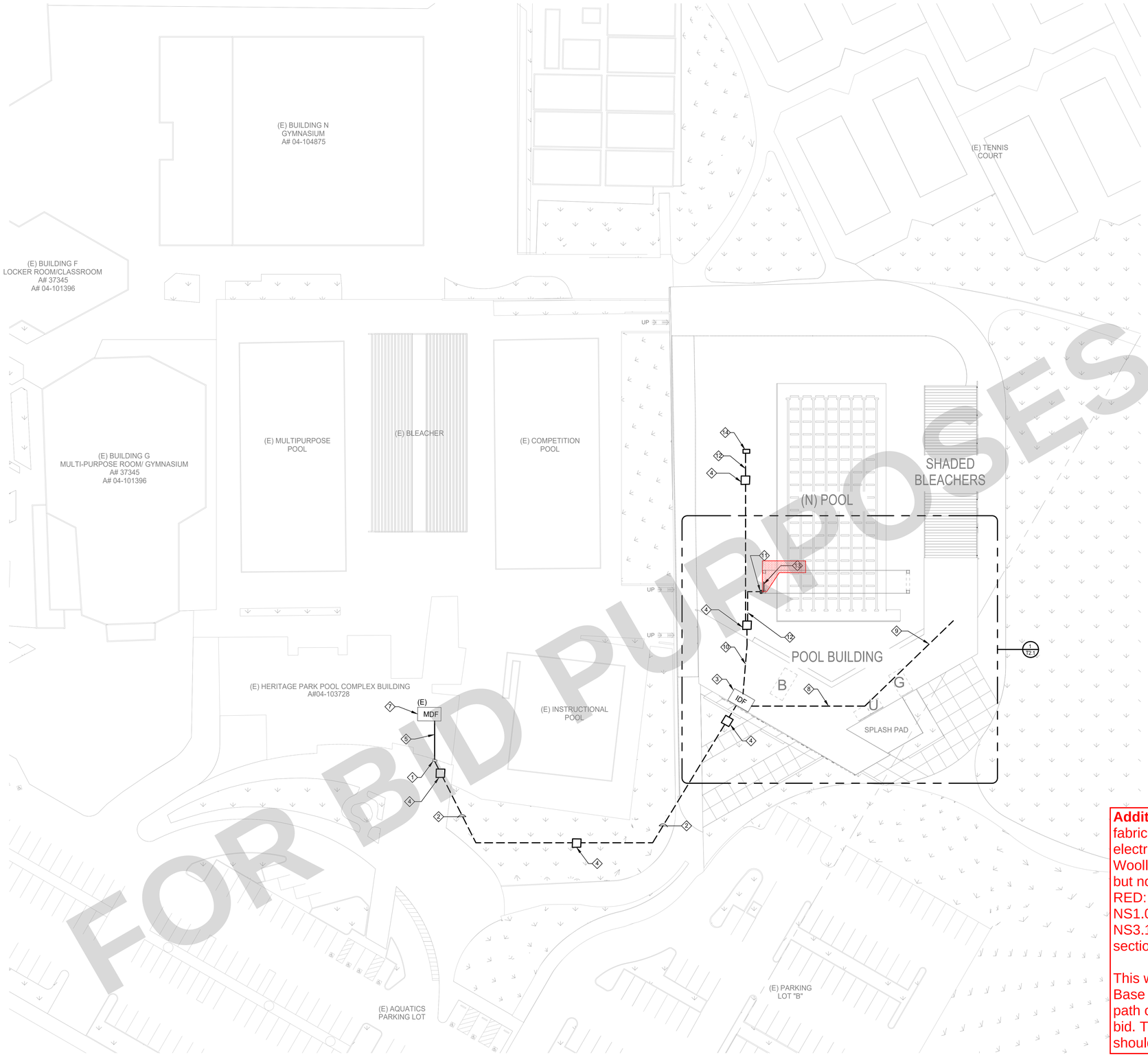

GENERAL NOTES

A. REFER TO SPECIFICATION FOR MATERIALS AND METHODS

B. ALL CONDUITS AND PULL BOXES SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR

C. PROVIDE PULL BOX EVERY 205' AND / OR 270 DEGRESS OF RADIUS.

D. ALL IN-GROUND PULL BOXES SHALL BE EQUIPPED WITH A 48" DEEP GRAVEL DRY WELL TO ALLOW FOR DRAINAGE. SEE CIVIL PLANS FOR DETAIL.

E. ALL DATA AND TELECOM UNDERGROUND CONDUITS SHALL BE AT 4' BELOW GRADE IF OPEN TRENCH DUG OR 8' BELOW GRADE IF BORING MACHINE IS USED.

F. PROVIDE BORING OR SAWCUT AND BACKFILL. VERIFY WITH ARCHITECT THE PREFERRED METHOD.

G. ALL CONDUIT PATHWAYS AND PULL BOX LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE CONTRACTOR SHALL VERIFY PROPER PATHWAY PRIOR TO INSTALLATION.

H. STUB OUT ALL UNDERGROUND CONDUITS INSIDE MDF / IDF ROOMS AT 8 IN A.F.F.

I. CONTRACTOR IS LIABLE FOR DAMAGE TO ALL EXISTING CABLING, SYSTEM AND UTILITIES THAT ARE TO REMAIN.

J. TECHNOLOGY CABLING CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENDS WITH A PERMAGUN SEALING COMPOUND / GUM AFTER CABLING IS INSTALLED.

K. ALL CABLING INSTALLED IN PLENUM SPACES SHALL BE PLENUM RATED OR INSTALLED IN EMT CONDUIT AFTER 50 FEET UPON ENTRANCE INTO THE PLENUM SPACE, OR THE NON-PLENUM RATED CABLING SHALL BE SPLICED IN AN ENCLOSURE WITH PLENUM RATED CABLING AND EXTENDED TO THE NEAREST IDF / MDF.

L. PROVIDE LIGHTING PROTECTION / POWER SURGE PROTECTION / BUILDING ENTRANCE TERMINALS AND PROPER GROUNDING AND BONDING ON ALL METALLIC CABLING ENTERING THE BUILDING FROM AN EXTERIOR, SEPARATE STRUCTURE OR LOCATION.

KEYNOTES

1	TECHNOLOGY CONDUITS/CABLING SHALL ROUTE FROM UNDERGROUND AND STUB UP AT EXTERIOR WALL. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY MATERIALS AND METHODS FOR CONDUIT PENETRATIONS TO BE ROUTED THROUGH PLENUM SPACE AND DISTRIBUTED TO EXISTING BUILDING'S MDF.
2	NEW UNDERGROUND COMMUNICATIONS CONDUIT/APPOXIMATE PATHWAY CONTRACTOR TO PROVIDE AND INSTALL QTY 2, 2" INCH CONDUITS WITH 2 QTY, 3-CELL MAXCELL INNERDUCT. CONTRACTOR SHALL PROVIDE AND INSTALL A 6-STRAND SINGLE MODE OS2 OSP FIBER CABLE AND 1 QTY 25 PAIR CAT3 CABLE. TERMINATE CONDUITS TO IDF RACK IN NEW BUILDING.
3	APPROXIMATE LOCATION OF NEW BUILDING'S IDF RACK LOCATION. CONDUITS SHALL TERMINATE TO IDF RACK.
4	INDICATES APPROXIMATE LOCATION OF NEW PULL BOX. ALL NEW PULL BOXES SHALL BE 24"x24"x24" CLEARLY MARKED WITH TELECOM OR MAINTAIN NAMING SCHEME OF SITE'S EXISTING COMMUNICATION PULLBOXES.
5	INDICATES APPROXIMATE ABOVE CEILING CABLING PATHWAY. CONTRACTOR SHALL UTILIZE PROPER IN-CEILING CONDUITS AND MATERIALS FOR STANDARD TECHNOLOGY CABLE DISTRIBUTION, CONTRACTOR SHALL PROVIDE AND INSTALL FULLY TESTED FIBER OPTIC CABLE BACK BONE TERMINATED AT MDF PATCH PANEL WITH SC CONNECTORS. FIBER CABLE SHALL BE 6 -STRAND OS2 SINGLE-MODE PLENUM RATED FOR MDF/IDF BACKBONE CONNECTIVITY.
6	NOT USED
7	INDICATES EXISTING MDF IN THE HERITAGE BUILDING.
8	PROVIDE (2) 2" UNDERGROUND CONDUITS ROUTED FROM IDF RACK TO ELECTRICAL ROOM "ELEC 14"
9	PROVIDE (2) 2" UNDERGROUND CONDUITS ROUTED FROM ELEC 14 TO PUMP EQUIPMENT 16.
10	PROVIDE (1) 2" UNDERGROUND CONDUITS ROUTED FROM IDF RACK TO PULLBOX 24"x24"x24"
11	TECHNOLOGY CONDUIT/CABLING TO THE SCOREBOARD AT THE POOL. PROVIDE REQUIRED JUNCTION BOXES PER MANUFACTURER REQUIREMENTS. COORDINATE EXACT LOCATION AND INSTALLATION REQUIREMENTS PER MANUFACTURER.
12	PROVIDE (1) 2" UNDERGROUND CONDUITS FROM PULLBOX TO JUNCTION BOX.
13	PROVIDE DATA CABLING FOR SCOREBOARD AT NINJA CROSS STRUCTURE
14	PROVIDE DATA CABLING FOR SCOREBOARD AT POOL AREA

Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.

FOR BID PURPOSES ONLY

1 SITE PLAN
1" = 30'-0"

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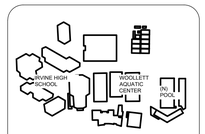
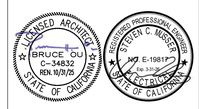
CLIENT LOGO



KEY PLAN NORTH: PLAN TRUE

DISCIPLINE



CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
01-31-25	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

TECHNOLOGY SITE PLAN

T1.1

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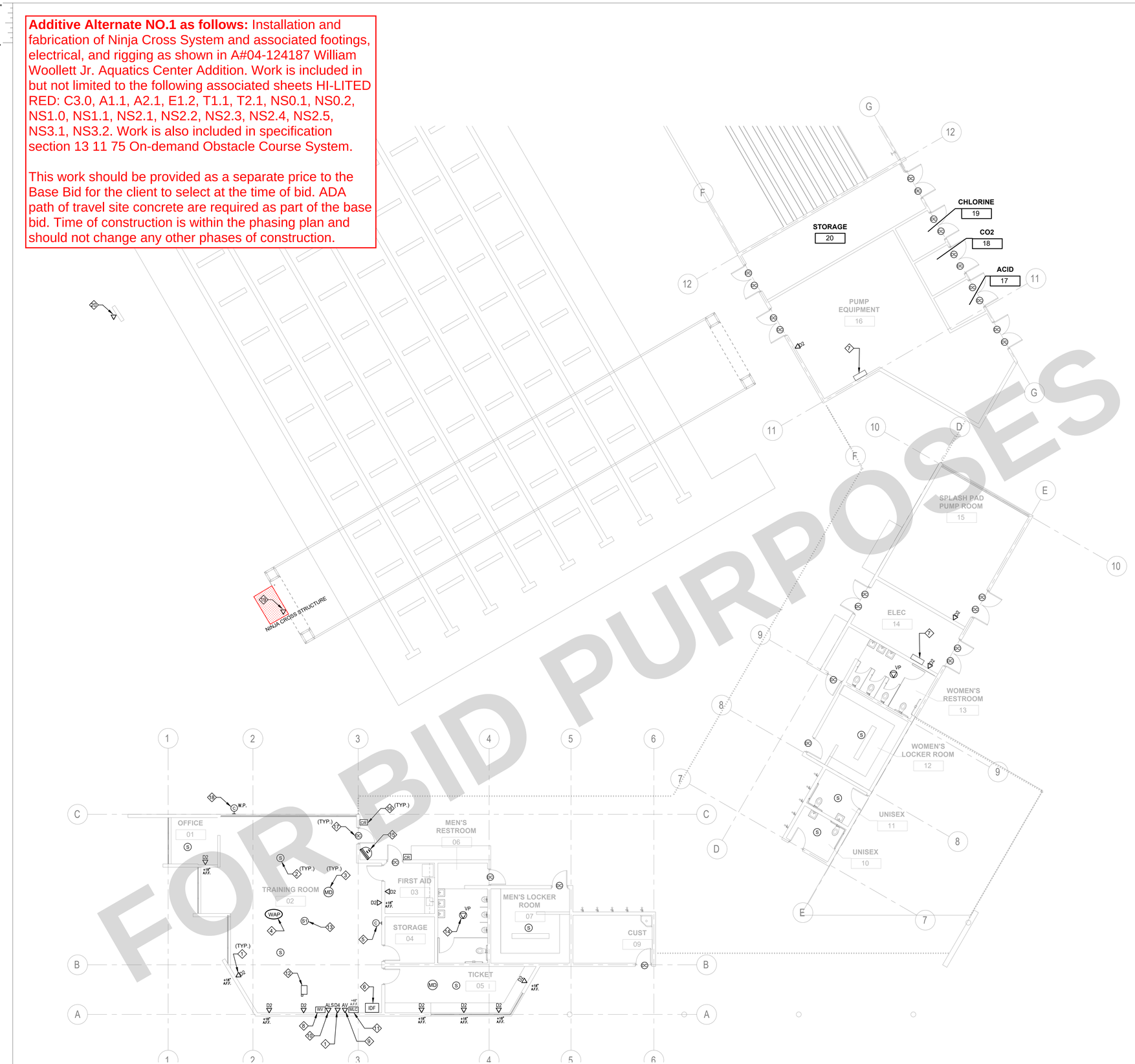
TECHNOLOGY FLOOR PLAN
T2.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.



FOR BID PURPOSES ONLY

1 FIRST FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES

A. REFER TO SPECIFICATION FOR MATERIALS AND METHODS

B. ALL EXTERIOR CAMERAS AND WIRELESS ACCESS POINT SHALL BE INSTALLED AT 12 FT. A.F.F. UNLESS OTHERWISE NOTED.

C. ALL EXTERIOR CAMERAS AT CANOPY LOCATIONS SHALL BE INSTALLED BELOW THE CANOPY . ELECTRICAL CONTRACTOR SHALL VERIFY LOCATIONS PRIOR TO ROUGH-IN OF CONDUIT INFRASTRUCTURE.

D. EXTERIOR PUBLIC ADDRESS SPEAKERS SHALL BE ZONED SEPARATELY FROM INTERIOR PUBLIC ADDRESS SPEAKERS.

E. SECURITY CONTRACTOR SHALL INSTALL ALL POP-ITS IN ACCESSIBLE LOW CEILING SPACE FOR ALL HIGH-VOLUME CEILING, CAFETORIUMS, COMMONS AND GYMNASIUMS.

F. ACCESS CONTROL CONTRACTOR SHALL CONNECT DOOR HARDWARE CABLE TO ACCESS CONTROL SYSTEM.

G. FOR ALL EXTERIOR MOUNTED IP DEVICE, PROVIDE A BISCUIT TERMINATED ON THE INTERIOR OF THE BUILDING AND A PRETERMINATED CABLE CONNECTED FROM THE BISCUIT TO THE DEVICE.

H. CAMERA ORIENTATION SHOWN DOES NOT INDICATE ACTUAL FIELD OF VIEW. COORDINATE WITH THE OWNER AND ADJUST CAMERAS FOR PROPER FIELD OF VIEW.

I. PROVIDE WIREGUARDS OR CLEAR POLYCARBONATE COVERS ON DEVICE INSTALLED IN GYMNASIUMS.

J. EVERY VIDEO DISPLAY (LCD, VIDEO PROJECTOR, ETC) SHALL RECEIVE 1 QTY. DATA CABLE ROUTED TO NEAREST IDF.

K. PROVIDE ONE DATA CABLE AT EACH IRRIGATION CONTROLLER.

L. INSTALLATION OF ALL DEVICE SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL BUILDING AND ELECTRICAL CODES.

M. PROVIDE SECTION FOR BLEACHERS FOR ASSISTIVE LISTENING. REFER TO SPECIFICATION SECTION 27 32 43.

KEYNOTES

1. PROVIDE A NEW WALL-MOUNTED DATA OUTLET. PROVIDE AND INSTALL DATA OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE-GANG PLASTER RING. INSTALL A (2) 1" EMT CONDUIT FROM BACKBOX UP TO ACCESSIBLE CEILING SPACE WITH (4) CAT6 CABLES, THEN RUN CAT6 CABLES IN ACCESSIBLE CEILING SPACE USING J-HOOKS TO IDF CABINET SERVING THIS AREA. PROVIDE 4-PORT FACEPLATES AND RJ45 JACKS . (PANDUIT OR APPROVED EQUAL). THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL TERMINATION FOR A COMPLETE WORKING SYSTEM.
2. CEILING MOUNT INTERCOM SPEAKER. CONTRACTOR TO PROVIDE DATA OUTLET FOR CEILING SPEAKER, (1) DATA CABLE, 2-PORT PLENUM RATED SURFACE MOUNT BOX ABOVE ACCESSIBLE USE J-HOOKS TO SUPPORT NEW CABLING ABOVE ACCESSIBLE CEILING SPACE, FOR INACCESSIBLE CEILINGS SPACES NEW CONDUIT SHALL BE PROVIDED ABOVE CEILING TO THE IDF CABINET SERVING THIS AREA.
3. PROVIDE CEILING MOTION DETECTOR "360 DEGREE", CABLES TO BE ROUTED AND CONNECTED TO THE PANEL LOCATED IN THE TRAINING ROOM. THE CONTRACTOR SHALL PROVIDE ALL CONNECTIONS AND PROGRAMMING FOR A COMPLETE WORKING SYSTEM.
4. WIRELESS ACCESS POINT, CEILING MOUNT, OWNER FURNISHED AND CONTRACTOR INSTALLED "OFCI". CONTRACTOR TO PROVIDE DATA OUTLET FOR WIRELESS ACCESS POINT, (2) DATA CABLE, 2-PORT PLENUM RATED SURFACE MOUNT BOX ABOVE ACCESSIBLE CEILING. USE J-HOOKS TO SUPPORT NEW CABLING ABOVE ACCESSIBLE CEILING SPACE, FOR INACCESSIBLE CEILINGS SPACES NEW CONDUITS SHALL BE PROVIDED ABOVE CEILING TO THE IDF CABINET SERVING THIS AREA. PROVIDE 20' SLACK CABLE COILS ABOVE CEILING AT OUTLET LOCATION FOR FUTURE RELOCATION.
5. PROVIDE WALL MOUNTED CLOCK. PROVIDE A DATA CABLE AND RUN CABLING TO ACCESSIBLE CEILING SPACE USING J-HOOKS TO IDF CABINET SERVING THIS AREA. PROVIDE ALL TERMINATION FOR A COMPLETE WORKING SYSTEM.
6. PROVIDE WALL MOUNTED IDF CABINET 6" BELOW THE CEILING,CUBE-iT Wall-Mount Cabinet , (48"H x 24"W x 24"D) 26 RACK UNITS. LOCKABLE FRONT VENTED DOOR, CHATSWORTH PRODUCTS PART NUMBER "11900-748" OR APPROVED EQUAL.
7. INDICATE APPROXIMATE LOCATION OF A 16" X 16" X 4" NEMA4 WALL MOUNT ENCLOSURE FOR LOW VOLTAGE CABLING. TERMINATE UNDERGROUND CONDUITS TO ENCLOSURE. VERIFY PROPER LOCATION PRIOR TO ROUGH-IN. PROVIDE (2) 2" CONDUITS EXISTING THE TOP OF THE ENCLOSURE TO ABOVE CEILING ELEVATION. PROVIDE (2) DATA CABLES ROUTED TO IDF SERVING THIS AREA.
8. PROVIDE EXTRON WALLVAULT DIGITAL WALL MOUNT KIT(WMK160 VAULT) PLENUMVAULT ENCLOSURE AND ALL ASSOCIATED EQUIPMENT FOR PLENUMVAULT KIT, CONTRACTOR TO PROVIDE (1) DATA CAT6 DROP INSIDE VAULT.
9. PROVIDE AV(INPUT1) PRIMERY OUTLET FOR VIDEO FEED FROM WORKSTATION AT THE DESK TO CEILING-MOUNTED EXTRON SWITCHER. AV OUTLET SHALL INCLUDE (1) HDMI CONNECTOR. PROVIDE AND INSTALL OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE-GANG PLASTER RING. INSTALL A (1) 1-1/4" EMT CONDUIT FROM BACKBOX UP TO CEILING SPACE THEN USE-HOOKS TO SUPPORT CABLE IN CEILING SPACE, THEN RUN AND TERMINATE AT AV OUTLET LOCATION PER PLAN. PROVIDE 2-PORT FACEPLATES, (1) HDMI CONNECTORS. (PANDUIT OR APPROVED EQUAL). THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL TERMINATION FOR A COMPLETE WORKING SYSTEM, +18"A.F.F.
10. CONTRACTOR TO PROVIDE AUDIO OUT ASSISTIVE LISTENING IN ONE GANG BOX, ROUTE CABLE THROUGH ADJACENT BOX KNOCKOUTS, REFER TO DETAILS# 5/T6.01 FOR MORE DETAILS, +18"A.F.F.
11. FURNISH AND INSTALL EXTRON MLC 200 Plus CONTROL PLATE (+48") AFF.
12. PROVIDE CEILING MOUNTED ULTRA SHORT THROW PROJECTOR TYPICAL FOR ALL CLASSROOMS,COMPLETE WITH MOUNTING AND ALL NECESSARY HARDWARE. VERIFY EXACT LOCATION PRIOR TO INSTALLATION. CONTRACTOR TO PROVIDE AND INSTALL ALL AUDIO/VIDEO CABLING, AUDIO/VIDEO COMPONENTS. CONTRACTOR SHALL COORDINATE WITH MECHANICAL INSTALLER DURING SHOP DRAWING PHASE TO ENSURE THAT NO CONFLICTS EXIST ON MOUNTING PRIOR TO INSTALLATION. PROVIDE (2) DATAS CABLE ROUTED TO IDF SERVIONG THIS AREA.
13. PROVIDE CEILING MOUNTED LOCAL SOUND SPEAKERS. COORDINATE EXACT LOCATION CEILING MOUNTED SPEAKERS WITH REFLECTED CEILING PLANS TO AVOID ALL LIGHTING FIXTURES, HVAC DIFFUSERS AND RETURNS, AND ANY OTHER CEILING DEVICES.
14. INDICATES THE LOCATION OF A CEILING MOUNTED VAPE SENSOR OUTLET. CONTRACTOR SHALL MOUNT THIS OUTLET AT +12" ABOVE THE CEILING AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE FROM THE FRONT OF THE FACEPLATE FOR OWNER ACCESS. ROUTE (1) 1" CONDUIT FROM THE BUILDING STRUCTURE TO A SINGLE GANG BACK OX MOUNTED AT 5' OR LESS ABOVE THE FINISHED CEILING. SECURE CONDUIT AND BACK BOX TO INSURE MINIMAL SWAY MOVEMENT. PROVIDE (1) DATA CABLE ROUTED TO IDF SERVING THIS ARFEA.
15. PROVIDE OUTDOOR SECURITY CAMERA 7MP MANUFACTURED BY AXIS PART# P3827-PVE MOUNTED OUTSIDE WALL 12' AFF, PROVIDE (1) 1" UNDERGROUND CONDUIT FROM BUILDING PLENUM, INSIDE EXTERIOR WALL TO LIGHT POLE BASE FOR CABLING PATHWAY. PROVIDE (1) DATA CABLE ROUTED TO IDF SERVING THIS AREA.
16. SEE DETAIL 7/T6.1 FOR CARD READER
17. SEE DETAIL 7/T6.1 FOR DOOR CONTACT
18. PROVIDE WETHER PROOF CLOCK FOR OUTSIDE BUILDING. REFER TO POOL CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION AND EXACT MOUNTING HEIGHT.
19. PROVIDE DATA FOR SCOREBOARD AT NINJA CROSS STRUCTURE AT POOL AREA. COORDINATE THE EXACT LOCATION OF THE DEVICE. SEE SHEET T1.1 SITE PLAN FOR PATHWAY FROM THE BUILDING.
20. PROVIDE DATA FOR SCOREBOARD AT POOL AREA. COORDINATE THE EXACT LOCATION OF THE DEVICE. SEE SHEET T1.1 SITE PLAN FOR PATHWAY FROM THE BUILDING.

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leafengineers.com

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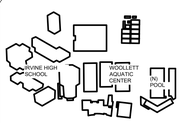
CLIENT LOGO
CITY OF IRVINE



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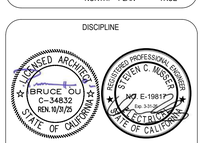

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
01-31-25	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

TECHNOLOGY FLOOR PLAN

T2.1

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CC
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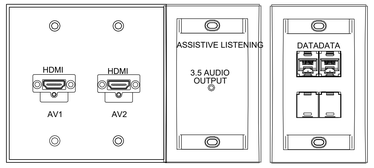
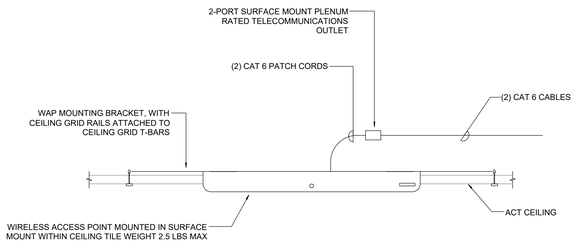
TECHNOLOGY DETAILS
T6.1
FOR BLUEBEAM LABELING/OCR:

0"
1"

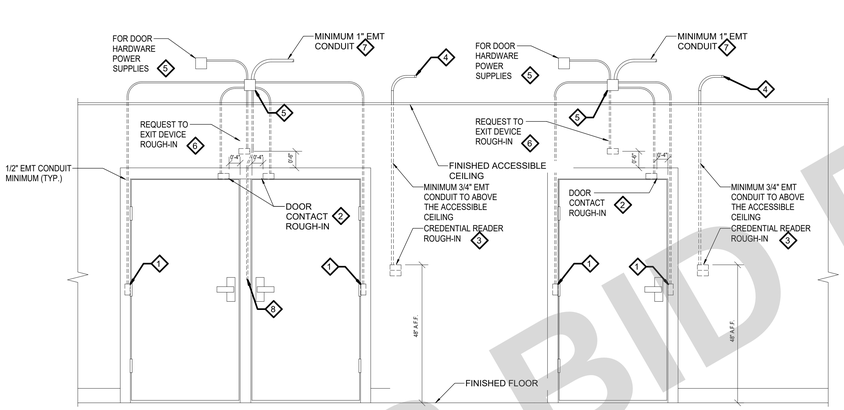


5 PS / D2 OUTLET DETAIL



WAP ACT INSTALLATION DETAIL

6 CEILING WIRELESS ACCESS POINT MOUNTING



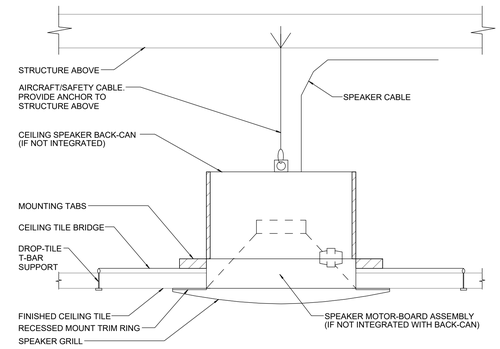
DOOR FRAME ROUGH-IN DIAGRAM (ALL DOUBLE DOORS WITH OR WITHOUT MULLION)

DOOR FRAME ROUGH-IN DIAGRAM (ALL SINGLE DOORS)

NOTES:
1. CONFIGURATIONS SHOWN IN THE DETAIL ABOVE ARE DIAGRAMMATIC. INTENDED TO DESCRIBE THE CONTROLLED SECURITY SCHEME ROUGH-IN REQUIREMENTS OF THE DOORS. DETAILS ABOVE MAY NOT ACCURATELY REPRESENT DOOR SIZE, DOOR SWING, DOOR HARDWARE, OR DOOR FUNCTIONALITY. REFER TO ARCHITECTURAL DOOR HARDWARE SCHEDULE, DOOR HARDWARE GROUPS AND DOOR HARDWARE SPECIFICATIONS FOR COMPLETE INFORMATION. MIRROR THE DETAIL AS REQUIRED.
2. ROUGH IN SHOWN IN THE DETAIL ABOVE REPRESENTS THE MINIMUM REQUIREMENTS FOR ALL CONTROLLED SECURITY SYSTEM DEVICES AND CABLING UNLESS OTHERWISE NOTED. COORDINATE EXACT REQUIREMENTS WITH SELECTED DOOR MATERIALS, DOOR HARDWARE, AND CONTROLLED SECURITY DEVICES AND CABLING PRIOR TO INSTALLATION.
3. ALL CABLING IN WALLS AND WHERE EXPOSED ON VERTICAL SURFACES SHALL BE INSTALLED IN EMT CONDUIT OR SURFACE MOUNT RACEWAY. CABLING ROUTED HORIZONTALLY ABOVE THE ACCESSIBLE CEILING MAY BE INSTALLED FREE-AIR CABLING PROPERLY RATED FOR THE CEILING ENVIRONMENT.
4. THE ELECTRICAL OR SECURITY CONTRACTOR SHALL NOT MODIFY ANY FIRE RATED DOOR AND/OR DOOR FRAME. REFER TO THE ARCHITECTURAL DOOR SCHEDULE, DOOR HARDWARE SCHEDULE, AND DOOR HARDWARE SPECIFICATION FOR ADDITIONAL INFORMATION. MODIFICATION TO ANY FIRE RATED DOOR AND/OR FRAME WILL REQUIRE A RE-CERTIFICATION OF THE DOOR AND FRAME WITH THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
5. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR ALL CONTROLLED SECURITY DEVICES ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. REFER TO THE ACCESS CONTROL WIRING DIAGRAM ON 2/T1.2 FOR CABLING REQUIREMENTS.
7. INSTALLATION SHALL INCLUDE ALL POWER REQUIRED FOR SYSTEM OPERATION INCLUDING +120VAC.

KEYNOTES:
1. PROVIDE JUNCTION BOXES IN THE DOOR FRAME WHERE SHOWN ON THIS DETAIL. ROUGH-IN SHALL BE PROVIDED WHETHER THE CURRENT CONTROLLED SECURITY DEVICES UTILIZES THEM OR NOT. ALL CONDUITS SHALL BE EMT CONDUIT UNLESS OTHERWISE NOTED. FLEXIBLE CONDUIT OF ANY TYPE WILL NOT BE ACCEPTED. COORDINATE INSTALLATION WITH ON-SITE DOOR FRAME INSTALLATION CONTRACTOR.
2. ALL DOOR POSITION SWITCHES ARE REQUIRED TO BE RECESSED UNLESS OTHERWISE NOTED. ELECTRIC HINGE MONITORS ARE NOT AN ACCEPTABLE REPLACEMENT FOR THE RECESSED DOOR POSITION SWITCH.
3. DOUBLE GANG BACKBOX WITH SINGLE GANG PLASTER RING. REFER TO FLOOR PLAN(S) FOR ACTUAL CREDENTIAL READER TYPE AND ROUGH-IN LOCATIONS.
4. CONDUIT SHALL ROUTE FROM THE CREDENTIAL READER TO THE SECURE SIDE OF THE DOOR. CONDUIT SHALL ROUTE A MINIMUM OF 12" FROM THE JUNCTION BOX. PROVIDE A NYLON BUSHING ON CONDUIT END.
5. MOUNT A MINIMUM 4" SQUARE 2-1/8" DEEP JUNCTION BOX WITH BLANK COVER PLATE ON THE SECURE SIDE OF THE DOOR ABOVE ACCESSIBLE CEILING. INSTALLING CONTRACTOR SHALL SIZE THE JUNCTION BOXES PER SYSTEM INSTALLATION REQUIREMENTS AND APPLICABLE CODES. MAINTAIN ACCESS TO THE JUNCTION BOX.
6. PROVIDE A HORIZONTALLY MOUNTED SINGLE GANG BACKBOX FOR THE REQUEST TO EXIT SENSOR.
7. CONDUIT SHALL ROUTE A MINIMUM OF 12" FROM THE JUNCTION BOX.PROVIDE A NYLON BUSHING ON CONDUIT END.
8. CONDUIT INSTALLED IN PERMANENT MULLIONS ONLY. REFER TO THE ARCHITECTURAL DOOR SCHEDULE AND DOOR HARDWARE GROUPS FOR LOCATIONS THAT REQUIRE THIS ROUGH-IN. PROVIDE A NYLON BUSHING ON THE CONDUIT END.

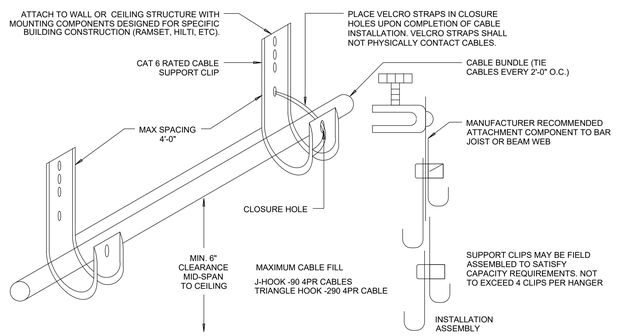
7 CONTROLLED SECURITY SCHEME ROUGH-IN OF DOORS
SCALE: N.T.S.



NOTES:

1. WHERE SUPPORTS ATTACH TO METAL ROOF DECKING, EXCLUDING CONCRETE ON METAL DECKING, DO 1. NOT EXCEED 25 LBS. PER HANGAR AND A MINIMUM SPACING OF 2'-0" ON CENTER. THIS 25 LB. LOAD AND 2'-0" SPACING INCLUDE ELECTRICAL AND MECHANICAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, THE ADDITION OF SUPPLEMENTAL FRAMING OFF STEEL FRAMING WILL BE REQUIRED.
2. SEE ARCHITECTURAL FOR ATTACHMENT DETAILS.

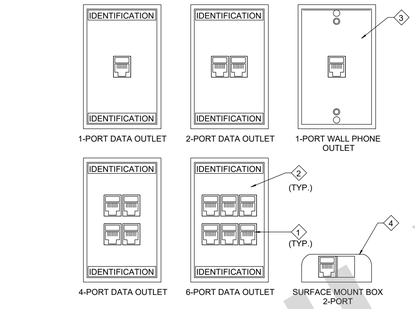
3 CEILING SPEAKER MOUNTING
12" = 1'-0"



NOTES:

1. SUPPORT CLIPS MUST SPECIFICALLY BE DESIGNED AND RATED FOR USE IN CATEGORY 6 CABLE INSTALLATION.
2. INSTALL APPROPRIATE SIZE AND QUANTITY SUPPORT CLIPS FOR CABLES TO BE SUPPORTED + 30% EXPANSION.
3. USE MANUFACTURERS RECOMMENDED MOUNTING HARDWARE, APPROPRIATE FOR ATTACHING TO WALL OR CEILING STRUCTURES.
4. CEILING TILE TEE GRID, DROP WIRES AND HVAC EQUIPMENT SHALL NOT BE USED AS MOUNTING POINTS.
5. SECURE CABLE IN SUPPORT CLIPS AS PER MANUFACTURERS RECOMMENDATION FOR CAT-6 CABLE. DO NOT EXCEED INDICATED FILL RATIOS.
6. CABLE SUPPORT CLIPS SHALL BE SPACED A MAXIMUM OF 4' APART.
7. INSTALL TRIANGULAR METAL BRACKETS (NOT SHOWN) FOR HIGH STATION CABLE CAPACITY REQUIREMENTS.
8. THIS DETAIL IS FOR REFERENCE ONLY AND DOES NOT REPRESENT ALL CONDITIONS OF J-HOOK INSTALLATION REQUIREMENTS (APPLY THIS DETAIL WHERE OCCURS). REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
9. SEE ARCHITECTURAL FOR ATTACHMENT DETAILS

4 TECHNOLOGY J-HOOK PATHWAY DETAIL
12" = 1'-0"



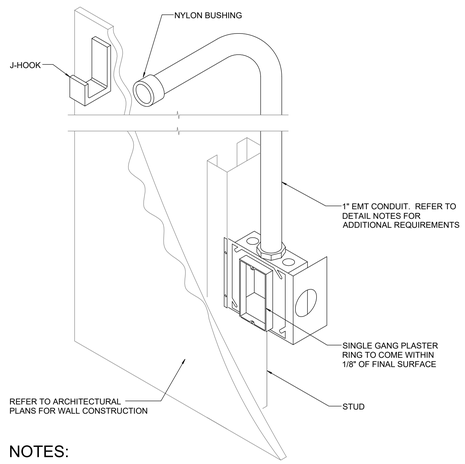
NOTES:

1. REFER TO SPECIFICATION -HORIZONTAL CABLING REQUIREMENTS FOR CATEGORY CABLE PERFORMANCE REQUIREMENTS.
2. REFER TO SPECIFICATION -IDENTIFICATION FOR DATA OUTLET PORT IDENTIFICATION.
3. DATA OUTLET SHALL BE INSTALL IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. REFER TO DETAIL 2/T6.01 TECHNOLOGY ROUGH-IN MOUNTING DETAILS FOR CONDUIT SIZE.
4. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS.
5. USE T568B WIRING SCHEME TO TERMINATE THE TWISTED-PAIR CABLE ONTO THE CONNECTOR INTERFACE.
6. WHERE APPLIES PER PLANS, PROVIDE AV OUTLET WITH HDMI CONNECTION PER BELOW.
   - PANDUIT COVER PLATE: CBEIWY OR APPROVED EQUAL
   - PANDUIT JACK:(HDMI 2.0) CMHDMIIW OR APPROVED EQUAL
   - PANDUIT MODULAR INSERT:CHF2IW-X OR APPROVED EQUAL

KEYNOTE NOTES:

1. PROVIDE CAT6 RJ-45 JACKS, 8-POSITION, 8-CONTACT (8P8C), COLOR BLUE FOR DATA, WHITE FOR VOICE, RED FOR SECURITY.
   - PANDUIT PRODUCTS "CJ688TGBU", COMMSCOPE "MGS400-318" OR APPROVED EQUAL.
2. PROVIDE 1,2,4,6-PORT FACEPLATE AS INDICATED ON DRAWINGS.
   - 1-PORT: PANDUIT PRODUCTS "CFPE1WHY", COMMSCOPE OR APPROVED EQUAL.
   - 2-PORT: PANDUIT PRODUCTS "CFPE2WHY", COMMSCOPE OR APPROVED EQUAL.
   - 4-PORT: PANDUIT PRODUCTS "CFPE4WHY", COMMSCOPE OR APPROVED EQUAL.
   - 6-PORT: PANDUIT PRODUCTS "CFPE6WHY", COMMSCOPE OR APPROVED EQUAL.
3. PROVIDE STAINLESS STEEL 1-PORT FACEPLATE FOR OUTLETS INDICATED WITH "W" ON DRAWINGS. "W" INDICATES WALL PHONE MOUNTED AT +48" AFF FOR WALL HUNG PHONE.
   - 1-PORT: WALL PHONE "W" PANDUIT PRODUCTS "KWP6PY", COMMSCOPE OR APPROVED EQUAL.
4. PROVIDE SURFACE MOUNT BOX, PLENUM RATED, MOUNTED ABOVE CEILING FOR CONNECTIONS TO WIRELESS ACCESS POINTS.
   - 2-PORT: PANDUIT PRODUCTS "CBX2WH-AY", COMMSCOPE OR APPROVED EQUAL.

1 DATA OUTLETS CONFIGURATION DETAIL
12" = 1'-0"



NOTES:

1. 1" EMT CONDUIT SHALL STUB UP TO NEAREST ACCESSIBLE CEILING AND TERMINATE ORIENTED HORIZONTALLY AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY OR J-HOOK ROUTE. CONDUIT RUN SHALL NOT CONTAIN MORE THAN 180 DEGREES OF BEND BETWEEN ACCESSIBLE JUNCTION BOXES OR BETWEEN JUNCTION BOX AND END OF CONDUIT.
2. WHERE CONDUIT STUB IS LOCATED IN A ROOM WITH AN ACCESSIBLE CEILING AND IS NOT REQUIRED TO RUN TO CABLE ROUTE LOCATED OUTSIDE THE ROOM, STUB MUST TERMINATE ABOVE THE ACCESSIBLE CEILING WITH A 90-DEGREE BEND AT THE TOP ORIENTED IN TO THE ROOM AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY OR J-HOOK ROUTE IN THE ROOM.
3. ALL STUBS MUST BE FITTED WITH A NYLON BUSHING ON EACH END OF THE CONDUIT.
4. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR TECHNOLOGY ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.

2 TECHNOLOGY ROUGH-IN MOUNTING
N.T.S.

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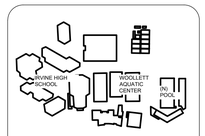


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

LICENSED ARCHITECT BRUCE OU C-34832 REN 10/31/25 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEVEN C. MISSEN No. E-19817 CIVIL STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
01-31-25	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

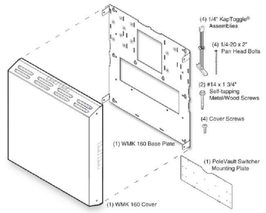
BUILDING NUMBER

TECHNOLOGY DETAILS

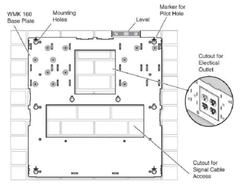
T6.1

TECHNOLOGY DETAILS
T6.1
FOR BLUEBEAM LABELING/OCR:

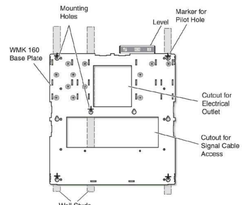
0"
1"



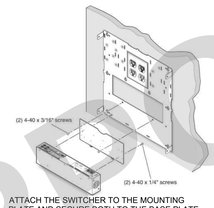
WMK 160 PARTS



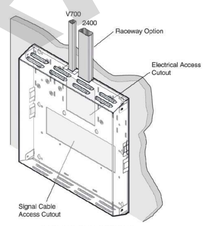
MASONRY WALL MOUNTING



NON-MASONRY WALL MOUNTING

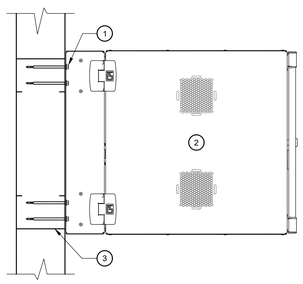


ATTACH THE SWITCHER TO THE MOUNTING PLATE AND SECURE BOTH TO THE BASE PLATE.



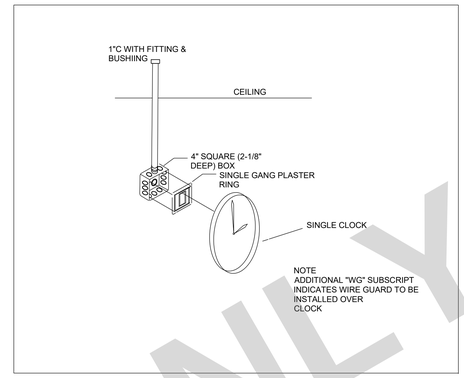
CABLING RUN OPTIONS

4 WALL MOUNTING VAULT DETAILS
12" = 1'-0"



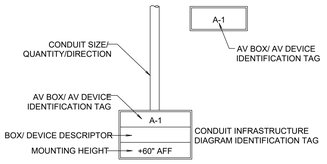
1. USE QTY (8) - 1/4" TEK SCREWS W/1/4" x 5/8" O.D. FENDER WASHERS TO METAL STUDS OR BACKING PLATE, THROUGH NON-SLOTTED HOLES IN UNIT PER OPM-0196-13.
2. CHASTSWORTH FIXED RACK WALL MOUNT 11996 x 24 (289 LBS.) OPM-0196-13
3. METAL STUDS OR BACKING PLATE (DESIGNED BY STRUCTURAL ENGINEER OF RECORD PER OPM-0196-13.

5 WALL MOUNT SERVER RACK DETAIL
N.T.S.

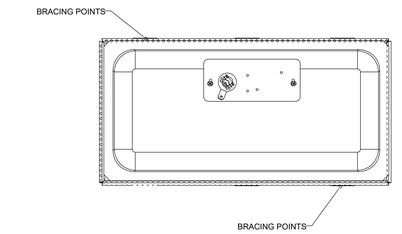


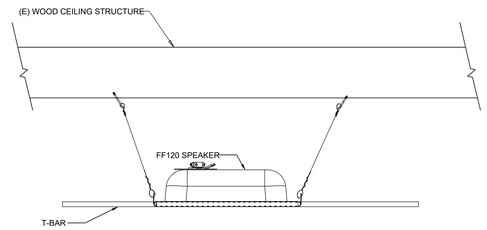
1 _DETAIL -SINGLE DIGITAL CLOCK MOUNTING
12" = 1'-0"

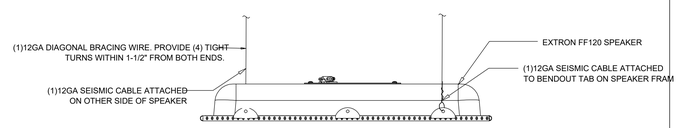
AV INFRASTRUCTURE IDENTIFIER KEY



2 POLEVAULT SYSTEM DIAGRAM-CLASS ROOMS
12" = 1'-0"







NOTES:
1. SEE ARCHITECTURAL FOR ATTACHMENT DETAILS.

3 EXTRON FF120 MOUNTING SUPPORT
N.T.S.

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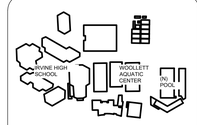

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
01-31-25	230538

DRAWING HISTORY

No.	Description	Date

DESIGN DEVELOPMENT

BUILDING NUMBER

TECHNOLOGY DETAILS

T6.2

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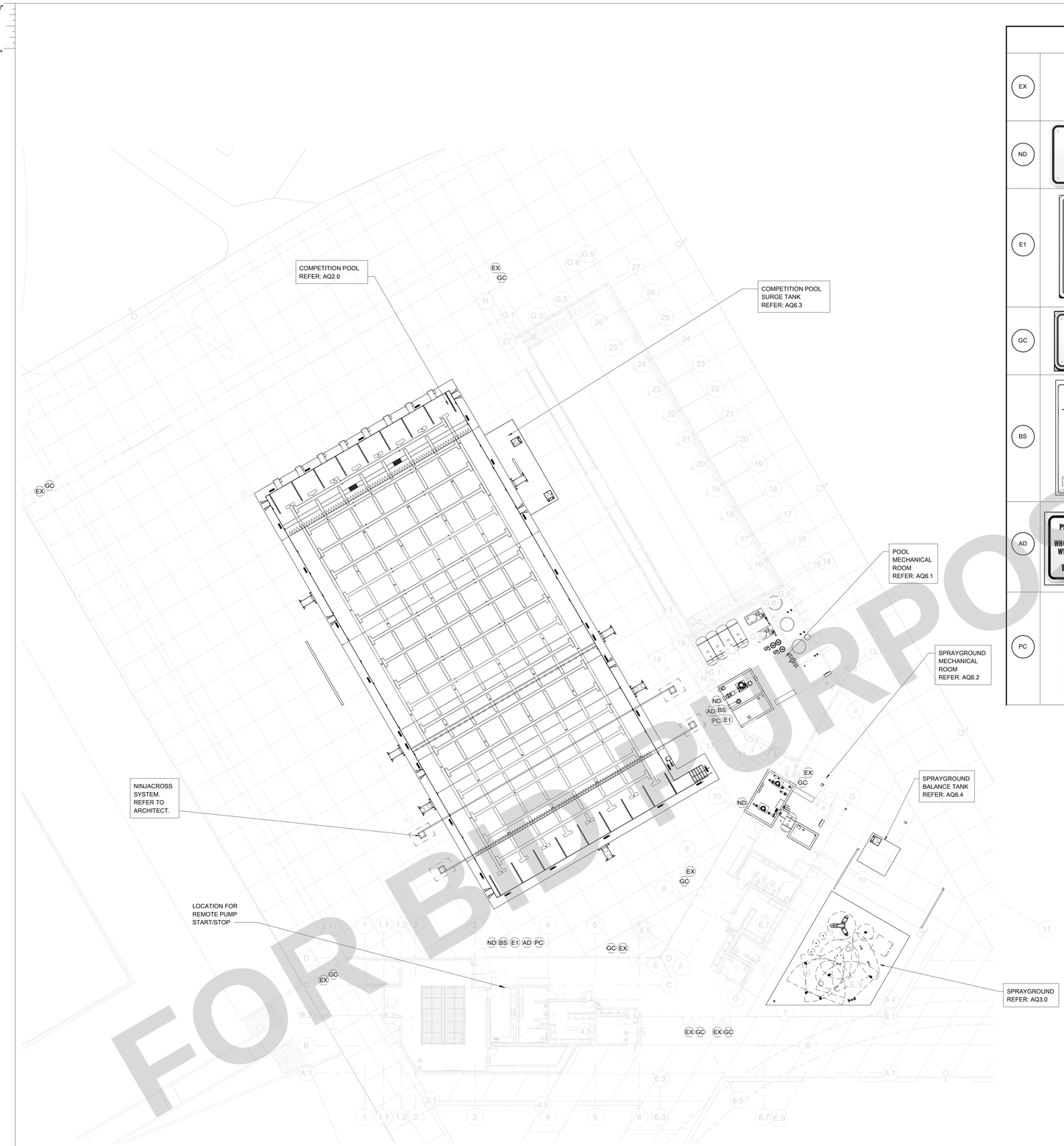

1 POOL REFERENCE PLAN
1/16" = 1'-0"

POOL SIGNAGE LEGEND

EX		ALL SIGNS SHALL HAVE A MINIMUM FOUR INCHES HIGH LEGIBLE LETTERS OR NUMBER, UNLESS OTHERWISE NOTED.
ND		
E1		NUMBERS NOT LESS THAN 4 INCHES, THE NUMBER OF THE NEAREST EMERGENCY SERVICE AND THE NAME AND STREET ADDRESS OF THE POOL FACILITY, WITH NUMBERS AND TEXT NOT LESS THAN 1 INCH.
GC		PROVIDE SIGN ON THE EXTERIOR SIDE OF THE GATE AND DOOR LEADING INTO THE POOL ENCLOSURE AREA STATING "KEEP CLOSED" OR "KEEP GATE CLOSED"
BS		DEMONSTRATION OF ARTIFICIAL RESPIRATION. AN ILLUSTRATION DIAGRAM WITH TEXT AT LEAST 1/4 INCH HIGH OF ARTIFICIAL RESPIRATION AND CPR PROCEDURES.
AD		DIARRHEA, A SIGN IN LETTERS AT LEAST 1 INCH HIGH AND IN A LANGUAGE OR DIAGRAM THAT IS CLEARLY STARTED SHALL BE POSTED AT THE ENTRANCE AREA OF THE PUBLIC POOL WHICH STATES THAT THE PERSON HAVING CURRENTLY ACTIVE DIARRHEA OR WHO HAVE HAD ACTIVE DIARRHEA WITHIN THE PREVIOUS 14 DAYS SHALL NOT BE ALLOWED TO ENTER THE POOL WATER.
PC		POOL CAPACITY SIGN - A SIGN SHALL INDICATE THE MAXIMUM NUMBER OF POOL USERS PERMITTED FOR EACH POOL. (IN LETTERS AND NUMBERS NOT LESS THAN 4 INCHES HIGH).

DESIGN DATA

	UNITS	POOL	SPLASHPAD
LENGTH	FT.	164'-1 5/16"	VARIES
WIDTH	FT.	75'-1"	29'-8"
WATER SURFACE AREA	SQ. FT	12,368	1,115
PERIMETER	FT.	501	139
VOLUME	GALLONS	540,877	4,005
RECIRCULATION SYSTEM			
POOL TURNOVER RATE	HOURS	5.38	0.23
RECIRCULATION RATE	GPM	1,675	290
SURGE CAPACTIY	GALLONS	12,609	N/A
SEWER CAPACITY	GPM		
BATHER LOAD	PERSONS	607	74

GENERAL POOL NOTES

1. ∿ DENOTES WATER DEPTH FROM WATER LEVEL.
2. POOL FINISH MUST BE A PROPRIETARY WHITE AGGREGATE PLASTER WITH A 6" CERAMIC TILE BAND WITH TILE DECK MARKINGS.
3. ALL STAIR TREADS MUST HAVE A SLIP RESISTANT FINISH.
4. TYPICAL POOL DIMENSIONS SHOWN ARE FROM THE INSIDE FINISHED POOL WALL & FLOOR.
5. REFER TO POOL STRUCTURAL DRAWINGS FOR ALL DIMENSIONS RELATING TO THE THICKNESS OF THE POOL SHELL.
6. THE JUNCTION BETWEEN THE SWIMMING POOL WALL AND THE FLOOR MUST BE COVED WITH A MAXIMUM 6" RADIUS.
7. DEPTH MARKERS AND WARNING SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS. DEPTH MARKERS AND WARNING SIGNS MUST NOT EXCEED 25'-0" APART FROM EACH OTHER AND MUST BE PLACED AT EVEN FOOT INTERVALS PER LOCAL CODE.
8. ALL PROPRIETARY NAMES MENTIONED ARE TO DESIGNATE PERFORMANCE STANDARDS. EQUIVALENT PRODUCTS MUST BE SUBMITTED FOR APPROVAL.
9. SLIP RESISTANT DECK FINISH REQUIRED. REFER TO ARCHITECT.
10. REFER TO PLUMBING FOR DECK DRAINS AND HOSE BIBBS.
11. ALL POOL DECK SURFACE WATER MUST DRAIN AWAY FROM THE POOL.
12. REFER TO SWIMMING POOL SPECIFICATIONS FOR COMPETITION RACE COURSE TOLERANCES.
13. REFER TO ELECTRICAL FOR GFCI OUTLETS ON POOL DECK.
14. NO GROUND WATER SHOULD BE ALLOWED TO RISE ABOVE ANY PORTION OF THE POOL BOTTOM DURING CONSTRUCTION.
15. COMPETITION POOL HAS BEEN DESIGNED TO BE IN COMPLIANCE WITH THE RULES AND REGULATIONS OF USA SWIMMING (USA-S) - NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (NFHS) - WORLD AQUATICS (WA).
16. TIMING SYSTEM SHOWN FOR REFERENCE ONLY. REFER ARCHITECTURAL AND ELECTRICAL DRAWINGS.
17. CONTRACTOR TO PROVIDE CHEMICAL QUANTITIES PER CONTRACTOR SUPPLIED POOL CHEMICAL SCHEDULE AFTER INITIAL WATER BALANCE IS REACHED PRIOR TO OWNER TURNOVER.
18. AQN ACCORDANCE TO THE HYDROSTATIC TIGHTNESS TESTING OF AN OPEN CONCRETE CONTAINMENT STRUCTURE AS REQUIRED BY THE AMERICAN CONCRETE INSTITUTE (ACI) 350.1-10 SECTION 2. REFER TO SPECIFICATIONS. REFER: 10/AQ6.7
19. ELECTRICAL INSPECTOR MUST APPROVE INSTALLATION OF BONDING GRID FOR POOL REINFORCING AND ALL POOL EMBEDS PRIOR TO PLACEMENT OF CONCRETE.
20. LIFEGUARD CHAIR LOCATIONS ARE APPROXIMATE AND ARE SHOWN FOR GENERAL GUIDANCE. IT IS RECOMMENDED THAT ZONE EVALUATIONS ACCORDING TO THE AMERICAN RED CROSS OR A SIMILAR APPLICABLE LIFEGUARD AGENCY ARE CONDUCTED PRIOR TO OPERATING THE FACILITY AND REGULARLY ACCORDING TO AGENCY GUIDELINES. ZONE EVALUATIONS ARE NECESSARY TO CONFIRM APPROPRIATE LIFEGUARD PLACEMENT AND ZONE COVERAGE. ADDITIONAL CHAIR LOCATIONS ARE SHOWN FOR THE NINJA CROSS. SPECIFIED CHAIRS ARE MOVEABLE AND THE LAYOUT CAN BE CHANGED BASED ON THE PROGRAMMING.
21. ALL POOL REINFORCING STEEL, METAL FITTINGS, EQUIPMENT WITHIN 5'-0" OF POOL EDGE AND ANY METAL PARTS OF POOL MECHANICAL EQUIPMENT IN CONTACT WITH POOL RECIRCULATION SYSTEM MUST BE BONDED PER ARTICLE 680 OF THE NATIONAL ELECTRICAL CODE. REFER: 4/AQ6.7

GENERAL SPRAYGROUND NOTES

1. ∿ DENOTES SPRAYGROUND FINISH FLOOR ELEVATION FROM DECK LEVEL.
2. SPRAYGROUND FINISH MUST BE MEDIUM FINISHED CONCRETE.
3. ALL PROPRIETARY NAMES MENTIONED ARE TO DESIGNATE PERFORMANCE STANDARDS. EQUIVALENT PRODUCTS MUST BE SUBMITTED FOR APPROVAL.
4. REFER TO SITE LAYOUT PLAN FOR CONCRETE WALKWAY LAYOUTS.
5. REFER TO UTILITY PLAN FOR DECK DRAINS AND HOSE BIBB LOCATIONS.
6. ALL SURFACE WATER WITHIN THE SPRAYGROUND FOOTPRINT MUST DRAIN TOWARD MAIN DRAINS.
7. ELECTRICAL INSPECTOR MUST APPROVE INSTALLATION OF BONDING GRID FOR SPRAYGROUND REINFORCING AND ALL SPRAYGROUND EMBEDS AND CONDUIT PRIOR TO PLACEMENT OF CONCRETE.
8. ALL METALLIC PORTIONS OF THE SPRAY FEATURE(S) MUST BE EPOXY COATED STAINLESS STEEL.
9. ALL SPRAYGROUND REINFORCING STEEL, METAL FITTINGS, EQUIPMENT WITHIN 5'-0" OF SPRAYGROUND EDGE, AND ANY METAL PARTS OF THE SPRAYGROUND MECHANICAL EQUIPMENT IN CONTACT WITH SPRAYGROUND RECIRCULATION SYSTEM MUST BE BONDED PER NEC 680. REFER: 5 / AQ6.7
10. REFER TO STRUCTURAL ENGINEER OF RECORD FOR ALL REBAR, CONCRETE THICKNESS, AND CONTROL JOINT REQUIREMENTS FOR THE SPRAYGROUND SLAB.

DRAWING INDEX

SHEET	DESCRIPTION
AQ0.0	POOL REFERENCE PLAN
AQ1.01	GENERAL NOTES
AQ1.02	TYPICAL DETAILS
AQ1.03	TYPICAL DETAILS
AQ1.04	POOL FOUNDATION PLAN
AQ1.05	POOL SECTIONS
AQ1.06	FOUNDATION DETAILS
AQ2.0	COMPETITION POOL 50 METER COURSE PLAN
AQ2.1	COMPETITION POOL 25 YARD CHAMP CROSS COURSE PLAN
AQ2.2	COMPETITION POOL 25 YARD CROSS COURSE PLAN
AQ2.3	COMPETITION POOL 25 METER WATER POLO PLAN
AQ2.4	NOT USED
AQ2.5	COMPETITION POOL TIMING SYSTEM PLAN
AQ2.6	COMPETITION POOL SECTIONS
AQ2.7	COMPETITION POOL DETAILS
AQ2.8	COMPETITION POOL DETAILS
AQ3.0	SPRAYGROUND PLAN & SECTIONS
AQ3.1	SPRAYGROUND DETAILS
AQ4.0	POOL STAKING PLAN
AQ5.0	POOL PIPING NOTES & SCHEDULES
AQ5.1	POOL SUCTION PIPING PLAN
AQ5.2	POOL GRAVITY PIPING PLAN
AQ5.3	POOL RETURN PIPING PLAN
AQ6.0	POOL MECHANICAL NOTES & SCHEDULES
AQ6.1	POOL MECHANICAL ROOM PLAN & SECTIONS
AQ6.2	SPRAYGROUND MECHANICAL ROOM PLAN & SECTIONS
AQ6.3	COMPETITION POOL SURGE TANK PLAN & SECTIONS
AQ6.4	SPRAYGROUND BALANCE TANK PLAN & SECTIONS
AQ6.5	POOL MECHANICAL DETAILS
AQ6.6	POOL MECHANICAL DETAILS
AQ6.7	POOL MECHANICAL DETAILS
AQ6.8	POOL MECHANICAL DETAILS
AQ6.9	POOL MECHANICAL DETAILS
AQ6.10	POOL MECHANICAL DETAILS
AQ7.0	POOL SYSTEMS SCHEMATICS
AQ7.1	SPRAYGROUND SYSTEMS SCHEMATICS

CONTRACTOR SUPPLIED POOL CHEMICALS

DESCRIPTION	AMOUNT
SODIUM HYPOCHLORITE	FULL BULK TANK(S): 500 GAL
MURIATIC ACID	FULL BULK TANK: 350 GAL
CO_2	FULL BULK TANK(S): 750 LBS
SODIUM BICARBONATE	200 LBS
CALCIUM CARBONATE	100 LBS
SODIUM THIOSULFATE	50 LBS

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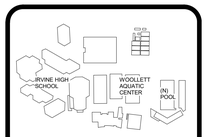


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date
1	ADDENDUM 1	12/19/2025

BID DOCUMENTS

BUILDING NUMBER

POOL REFERENCE PLAN

AQ0.0

SHOTCRETE

033713-0000-(DSA)

1. SHOTCRETING SHALL CONFORM TO ALL REQUIREMENTS OF ACI 506, EXCEPT AS MODIFIED BY THE FOLLOWING REQUIREMENTS: APPLICATORS OF STRUCTURAL WET MIX SHOTCRETE SHALL HAVE A COPY OF ACI 506 ON EACH WORK SITE AT THE TIME OF SHOTCRETING. THE WORD "SHALL" SHALL BE SUBSTITUTED WHENEVER THE WORD "SHOULD" OCCURS IN ACI 506. THE CONCRETE MIX SHALL COMPLY WITH CBC CHAPTER 19A REQUIREMENTS AND SHALL NOT BE BATCHED VOLUMETRICALLY. A TEST CONSISTING OF AT LEAST TWO CYLINDERS AT 28 DAYS SHALL ALSO BE REQUIRED. ALL OTHER APPLICABLE REQUIREMENTS OF THE CODE (INCLUDING ALL REQUIREMENTS FOR PNEUMATICALLY PLACED WET MIXED MORTAR) SHALL APPLY, INCLUDING MAXIMUM TIME-IN MIXER.
2. SHOTCRETE MIX DESIGN AND TESTING SHALL COMPLY WITH ACI 506.2 AND CONCRETE NOTES.
3. STRUCTURAL WET MIX SHOTCRETE SHALL NOT BE PLACED WHERE THE STREAM FROM THE NOZZLE CANNOT DIRECTLY IMPINGE ON THE SURFACE ON WHICH THE CONCRETE IS TO BE PLACED. WHERE THE CONDITION PRECLUDES THE POSSIBILITY OF OBTAINING CORES FROM THE STRUCTURE, THIS METHOD SHALL NOT BE USED.
4. SHOTCRETE CONTRACTOR SHALL SHOW A MINIMUM OF 5 YEARS EXPERIENCE ON SIMILAR SEISMIC BUILDING PROJECTS AND SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. ONLY A QUALIFIED PERSON ON THE NOZZLE WITH A MINIMUM OF THREE YEARS STRUCTURAL WET MIX SHOTCRETE EXPERIENCE AND POSSESSING WRITTEN DOCUMENTATION OF THAT EXPERIENCE SHALL APPLY WET MIX SHOTCRETE. THE WET MIX SHOTCRETE SUPERVISOR AND THE PERSON AT THE NOZZLE SHALL PROVIDE A RESUME APPROVED BY THE DEPARTMENT PRIOR TO PLACING. THE SUBCONTRACTOR WHO WILL PLACE THE SHOTCRETE SHALL SUPPLY A WRITTEN RESUME OF HIS/HER EXPERIENCE IN THE PLACING OF STRUCTURAL SHOTCRETE (OTHER THAN SWIMMING POOLS) AND LOCATIONS OF PREVIOUS JOBS APPROVED BY THE DEPARTMENT.
5. THE MINIMUM SPACING OF THE REINFORCING STEEL SHALL BE SIX BAR DIAMETERS FOR WALLS WITH ONE CURTAIN OF STEEL. WHERE TWO CURTAINS OF STEEL ARE PROVIDED, THE CURTAIN NEAREST THE NOZZLE SHALL HAVE A MINIMUM SPACING OF 12 BAR DIAMETERS AND THE REMAINING CURTAIN SHALL HAVE A MINIMUM SPACING OF SIX BAR DIAMETERS. REINFORCING STEEL SHALL HAVE A MINIMUM SPACING OF THREE BAR DIAMETERS AT SPLICES. IN ALL CASES, THE MINIMUM CLEAR DISTANCE BETWEEN REINFORCING BARS (OTHER THAN MESH) SHALL BE 2 1/2". EXCEPTION: CONTACT SPLICES MAY BE USED FOR NO. 5 BARS AND SMALLER.
6. CONTINUOUS INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR IS REQUIRED DURING PLACEMENT OF SHOTCRETE AND TAKING OF CORES.
7. EACH TEAM OF THE PERSON AT THE NOZZLE AND THE HELPER SHALL SHOOT A TEST PANEL OF THE THICKNESS AND WITH TYPICAL REINFORCING STEEL PATTERN USING EACH SHOOTING POSITION BEFORE COMMENCING ANY WET MIX SHOTCRETING WORK ON THE BUILDING. THE DEPUTY BUILDING INSPECTOR SHALL WITNESS THE ASSEMBLY, REINFORCING, SHOOTING AND DISASSEMBLY OF THE TEST. THE PANEL SHALL BE AT LEAST 4'x4'. AFTER SHOOTING, BUT BEFORE THE CONCRETE HAS FULLY SET, THE PANEL SHALL BE DISASSEMBLED TO ASSURE THAT THE TEAM AND EQUIPMENT TO BE USED IS CAPABLE OF PROVIDING SOUND CONCRETE BEHIND REINFORCING STEEL. THE PANEL SHALL BE FREE OF VOIDS, SAGS, ETC. APPLICATION OF STRUCTURAL WET MIX SHOTCRETE IN THE FINISHED WORK SHALL NOT PROCEED UNTIL THE TEST PANEL HAS BEEN SHOT, DISASSEMBLED, INSPECTED AND APPROVED BY THE DEPARTMENT. EXCEPTION: WHEN THE PERSON AT THE NOZZLE AND HIS/HER HELPER TEAM HAS PREVIOUSLY SUCCESSFULLY SHOT A TEST PANEL UNDER THE JURISDICTION OF THE DEPARTMENT, THE BUILDING INSPECTOR MAY ALLOW APPLICATION OF WET MIX SHOTCRETE TO PROCEED ON THE STRUCTURE PRIOR TO DISASSEMBLING THE TEST PANEL, IF ANY DEFECTS ARE FOUND IN THE TEST PANEL WHICH WOULD INDICATE THE POSSIBILITY OF STRUCTURAL FAILURE, WORK SHALL BE STOPPED IMMEDIATELY AND ALL STRUCTURAL WET MIX SHOTCRETE PLACED WHILE WAITING THE DISASSEMBLY OF THE PANEL SHALL BE REMOVED.
8. TESTING SHALL CONSIST OF FOUR-INCH OR LARGER DIAMETER CORES CUT FROM THE FULL DEPTH OF THE WALL WITH A MINIMUM OF ONE CORE FOR EACH 1000 SQUARE FEET OF WALL AND A MINIMUM OF TWO CORES FOR EACH DAYS APPLICATION BY ANY ONE NOZZLE TEAM. CORES MUST BE FREE OF VOIDS AND REBOUND. CORE LOCATIONS SHALL BE SELECTED BY THE BUILDING DEPARTMENT WITH APPROVAL BY THE SEOR. ALL CORES SHALL BE CUT WITHIN TWO TO FIVE CALENDAR DAYS OF PLACEMENT OF THE CONCRETE. CORES SHALL BE VISUALLY INSPECTED ON THE JOBSITE BY THE DEPUTY INSPECTOR AND REPLACED INTO THE HOLES FROM WHICH THEY WERE CUT. THE SURFACE AT THE CORES SHALL BE SEALED TO PREVENT HYDRATION AND SHALL BE MARKED TO AID IN IDENTIFICATION OF THE CORE FOR TESTING AT 28-DAY AGE. THE CORES SHALL BE TESTED IN ACCORDANCE WITH ASTM C42. THE CORES SHALL BE TESTED IN THE CONDITION THEY WERE REMOVED FROM THE WALL WITH NO FURTHER CURING ALLOWED. VERIFICATION OF THE FIELD INSPECTION SHALL BE REPORTED TO THE DEPARTMENT IMMEDIATELY BY THE DEPUTY INSPECTOR.
9. DETAILS OF COLD JOINTS, INCLUDING SLOPE OF JOINTS, SHALL BE PLACED ON THE APPROVED PLANS AND BE APPROVED WITH THE SIGNATURE OF THE DESIGN ENGINEER. WHEN SHOOTING UP TO UNDERSIDE OF EXISTING CONCRETE, THE LAST TWO INCHES SHALL BE DRY PACKED OR AN APPROVED METHOD OF DRY PNEUMATIC CONCRETE USED. EXCEPTION: PROVIDED THE DETAIL OF THE JOINT IS SLOPED SO THAT THE CLOSURE OF THE COLD JOINT MADE WITH STRUCTURAL WET MIX SHOTCRETE DOES NOT SAG AWAY FROM THE UPPER SURFACE AND PROVIDED BOTH SIDES OF THE COLD JOINT HAVE TAKEN THEIR INITIAL SET, THE JOINT CLOSURE MAY BE MADE WITH STRUCTURAL WET MIX SHOTCRETE.
10. REINFORCING STEEL WILL BE SECURELY TIED IN PLACE IN A MANNER THAT PREVENTS ANY MOVEMENT DURING THE WET MIX SHOTCRETING.
11. THE HEIGHT OF A LAYER SHALL BE LIMITED TO NOT MORE THAN THREE FEET AND A SUCCEEDING LAYER SHALL NOT BE PLACED IN LESS THAN THREE HOURS. NO SLOUGHING OR SAGGING SHALL BE PERMITTED. EXCEPTION: (A) A SEQUENCE AUTHORIZING A SUCCEEDING LAYER TO BE PLACED IN LESS THAN THREE HOURS. NO SLOUGHING OR SAGGING SHALL BE PERMITTED. (B) A CONCRETE MIX DESIGN PER CBC CHAPTER 19A REQUIREMENTS BY A LICENSED CIVIL ENGINEER MAY BE RECOMMENDED AND APPROVED BY THE SEOR FOR LESS THAN THREE HOURS BETWEEN LIFTS, BUT NOT LESS THAN TWO HOURS BETWEEN LIFTS, BASED ON THE MIX DESIGN, CLIMATE CONDITIONS AND JOB CONDITIONS. THE RECOMMENDED LESSER TIME MAY BE USED ON THE JOB WHEN APPROVED BY THE STRUCTURAL ENGINEER.
12. THE MINIMUM SLUMP SHALL BE 1 1/2" AND THE MAXIMUM SHALL BE 2 1/2". SLUMP SHALL BE MEASURED AT THE POINT OF DISCHARGE FROM THE MIXER. EXCEPT THE BUILDING INSPECTOR MAY REQUIRE SLUMP TESTS AT THE DISCHARGE POINT WHERE WATER MAY HAVE BEEN ADDED.
13. A CAPABLE NOZZLEPERSON'S HELPER WITH AN AIR BLOW PIPE SHALL BE PROVIDED TO ASSIST THE NOZZLEPERSON IN KEEPING ALL REBOUND BUILD-UP OUT OF THE WORK.
14. ADDITIONAL WORKERS MAY BE REQUIRED TO TAKE REBOUND FROM THE WORK IF THE REBOUND CANNOT BE REMOVED BY THE AIR BLOW PIPE.
15. SHOTCRETE PLACEMENT OVER EARTH:
    a. RIGID BACKING: PRIOR TO SHOTCRETE APPLICATION, PLACE RIGID OR OTHER APPROVED BACKING AGAINST EARTH WHERE THERE IS ANY LIKEHOOD OF SOIL BEING DISLODGED IN SUFFICIENT QUANTITY TO DAMAGE SHOTCRETE. ALSO, PLACE BACKING WHERE VOIDS IN EMBANKMENT ARE TO BE BRIDGED.
    b. SLOUGHING EARTH: IF PREVIOUSLY PRESUMED SOLID EMBANKMENT SHOULD SLOUGH DIRT IN SUFFICIENT QUANTITY TO DAMAGE SHOTCRETE, DISCONTINUE SHOTCRETE PLACEMENT WORK IN THAT AREA UNTIL A RIGID BACKING IS INSTALLED AND CONTAMINATED SHOTCRETE IS REMOVED.
16. REMOVE LOOSE MATERIAL FROM SURFACE TO RECEIVE SHOTCRETE AND THOROUGHLY CLEAN AND WASH DOWN WITH WATER AND COMPRESSED AIR SURFACES. CONCRETE SURFACES SHALL BE THOROUGHLY WETTED PRIOR TO APPLICATION OF SHOTCRETE.
17. NO KEYWAYS OR EMBEDMENTS SHALL BE PLACED IN FRONT FACE THAT WILL INTERFERE WITH THE STREAM FROM THE NOZZLE.
18. THE CONTRACTOR SHALL PROVIDE A DESIGNATED LIAISON BETWEEN HIS/HER CREW, THE DEPUTY INSPECTOR AND THE BUILDING INSPECTOR.
19. THE DEPUTY INSPECTOR SHALL BE INTERVIEWED AND APPROVED BY DEPARTMENT REPRESENTATIVES PRIOR TO INSPECTING THE WORK AT THE JOBSITE, AND ONE DEPUTY SHALL BE ASSIGNED TO EACH NOZZLE.
20. REMOVE REBOUND AND DO NOT REUSE. CUT AWAY LAITANCE, SAGS, AND DEFECTS.

STRUCTURAL CONCRETE

033100-0000 -(04/21/17)

1. CONCRETE SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH ACI 318 AND ACI 301 LATEST EDITION, AND PROJECT SPECIFICATIONS.
2. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL (AS IN WALLS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. IN SUCH CASES, HOPPERS AND VERTICAL CHUTES OR TRUNKS SHALL BE USED. CHUTES OR TRUNKS SHALL BE OF VARIABLE LENGTHS SO THAT FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED SIX FEET. A SUFFICIENT NUMBER OF CHUTES OR TRUNKS SHALL BE USED TO ENSURE THE CONCRETE IS KEPT LEVEL AT ALL TIMES.
3. CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED BY REMOVING THE ENTIRE SURFACE TO EXPOSE CLEAN AGGREGATE SOLIDLY EMBEDDED IN THE MORTAR MATRIX. SEE PLANS AND DETAILS FOR LOCATION AND TYPE OF CONSTRUCTION JOINT. LOCATIONS OF ADDITIONAL CONSTRUCTION JOINTS NOT SHOWN ON THESE PLANS SHALL BE SUBMITTED FOR APPROVAL TO THE EOR PRIOR TO PLACING ANY CONCRETE.
4. STRUCTURAL CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:

LOCATION	MIN 28-DAY COMP STRENGTH	CONC TYPE	MAX AGGREGATE SIZE	MAX W/C RATIO
POOL/PIT/TANK FOOTINGS, SLABS & WALLS	5,000 PSI	NWC	1 1/2"	0.45

   a. CONCRETE EXPOSURE CATEGORY IS W1 (IN CONTACT WITH WATER AND LOW PERMEABILITY REQUIRED)
   b. WHEN THE USE OF PLASTICIZER (ASTM C1017, TYPE I OR II) OR WATER REDUCER (ASTM C494, TYPE F OR G) IS USED, MAXIMUM SLUMP SHALL BE 4" PRIOR TO ADMIXTURE AND 8" INCLUDING ADMIXTURE AT THE POINT OF DELIVERY. IN THE ABSENCE OF PLASTICIZER AND WATER REDUCER, SLUMP AT THE POINT OF DELIVERY SHALL NOT EXCEED 4".
   c. W/C RATIO INDICATES WATER TO CEMENTITIOUS MATERIALS RATIO.
   d. FOR INTERIOR SLABS ON GRADE AND ALL OTHER SLABS RECEIVING ADHERED FLOORING FINISHES (I.E., GLUED, ETC.), THE MAXIMUM W/C RATIO SHALL NOT EXCEED 0.46. CURING COMPOUNDS USED ON CONCRETE THAT IS TO RECEIVE FINISHES SHALL BE COMPATIBLE WITH TILE AND ADHESIVES OR GROUTS IN ACCORDANCE WITH MANUFACTURER'S DATA AND BE APPROVED BEFORE USE.
   e. SLABS ON GRADE, TOPPING SLABS, AND ELEVATED CONCRETE FLOORS SHALL HAVE A MAXIMUM SHRINKAGE RATE OF 0.04% AT 28 DAYS PER ASTM C 157 (CURING TEST SPECIMENS SHALL BE CONSISTENT WITH FIELD CONDITIONS, OR USING EMBEDDED VIBRATING WIRE STRAIN GAUGES. RESULTS OF TESTING SHALL BE SUBMITTED TO ENGINEER.
   f. SEE ACI 318 FOR ADDITIONAL REQUIREMENTS REGARDING MAXIMUM AGGREGATE SIZE
   g. AGGREGATE GRADATION OF 3/8" MAXIMUM (PEA GRAVEL) SHALL NOT BE USED WHERE FINISHED CONCRETE SURFACE IS EXPOSED TO VIEW.
5. CONCRETE MIX DESIGN AND TESTING SHALL MEET THE REQUIREMENTS OF THE BUILDING CODE, AND SPECIFICATIONS. ALL CONCRETE MIXES SHALL BE DESIGNED PER ACI 318 SECTION 5.2 BY A RECOGNIZED TESTING LAB STAMPED AND SIGNED BY A LICENSED CALIFORNIA CIVIL ENGINEER AND SUBMITTED TO THE EOR FOR REVIEW PRIOR TO CONCRETE PLACEMENT. STRUCTURAL CONCRETE MIXES SHALL CONSIST OF 6 SACK MINIMUM UNO.
6. AGGREGATES IN NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C-33 (HARDROCK).
7. COMPRESSIVE STRENGTH TEST REPORTS SHALL BE SUBMITTED TO THE DIVISION OF THE STATE ARCHITECT AND THE EOR.
8. PORTLAND CEMENT SHALL BE TYPE V AND SHALL CONFORM TO ASTM C150 TYPE V, LOW ALKALI. MILL TESTS WITH CERTIFICATES OF COMPLIANCE SHALL BE SUBMITTED.
9. FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618 CLASS F MAY BE USED AS A PARTIAL SUBSTITUTION FOR PORTLAND CEMENT UP TO A MAXIMUM OF 25% TOTAL CEMENTITIOUS MATERIALS BY WEIGHT IF THE MIX DESIGN IS PROPORTIONED BY FIELD EXPERIENCE OR TRIAL MIXTURES.
10. CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C94.
11. LEAN CONCRETE, WHERE SPECIFICALLY INDICATED, SHALL CONTAIN 2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
12. DRYPACK OR NONSHRINK GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI, AND CONSIST OF MASTERFLOW 713, EUCON NS GROUT, OR SIKA GROUT 212. FOR THICK GROUT LAYER FOLLOW MANUFACTURER'S GUIDELINES TO ATTAIN THE REQUIRED STRENGTH, WHICH MAY INCLUDE THE ADDITION OF PEA GRAVEL. FOR BASE PLATES LARGER THAN 6 SQUARE FEET, USE HI-FLOW GROUT OR MASTERFLOW 928.
13. DO NOT USE ANY CONCRETE OR GROUT CONTAINING CHLORIDES. WATER USED IN MIX SHALL BE CLEAN AND POTABLE.
14. PRIOR TO ERECTING ANY ELEMENTS THAT LOAD THE FOUNDATION, CONCRETE MUST REACH AN UNCONFINED COMPRESSION STRENGTH OF 2000 PSI MINIMUM AS DETERMINED BY TESTING OR PREVIOUSLY DOCUMENTED DATA FOR THE MIX DESIGN USED UNDER SIMILAR CONDITIONS, AND MUST BE ALLOWED TO CURE FOR A MINIMUM OF 3 DAYS.
15. MAINTAIN CONCRETE ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT UNLESS OTHERWISE ACCEPTED BY EOR.
16. SEE ARCHITECTURAL DRAWINGS FOR WALL OPENINGS, WALL OFFSETS, CHAMFERS, KERFS, DRIPS AND FOR EXTENT OF DEPRESSIONS, RAMPS, ETC.
17. PROVIDE SLEEVES FOR ALL PIPES THROUGH CONCRETE WALLS AND FOOTINGS WHERE SHOWN ON THESE DRAWINGS. CORING IS NOT PERMITTED WITHOUT PRIOR APPROVAL BY THE EOR.
18. EXPOSED CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH 3/4" CHAMFER OR 1/2" RADIUS TOOLED EDGE, UNO.

PRODUCT REPORTS

010000-0006 -(03/09/17)

1. FOR ALL ITEMS IN THE CONSTRUCTION DOCUMENTS NOT NOTED WITH A SPECIFIC PRODUCT NAME OR MANUFACTURER, THE CONTRACTOR SHALL PROVIDE A PRODUCT SPECIFIED IN THE TABLE BELOW.
2. THE FOLLOWING PRODUCTS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE REFERENCED PRODUCT REPORTS BELOW, UNO.
3. A PRODUCT MAY BE SUBSTITUTED FOR A LIKE PRODUCT PER THE SCHEDULE BELOW IF APPROVED BY THE SEOR AND THE BUILDING OFFICIAL.
4. PRODUCTS SPECIFIED BY TYPE MAY USE ANY FROM THE SCHEDULE BELOW.

TYPE	PRODUCT	ICC#	IAPMO#
EXPANSION ANCHOR TO CONCRETE	HILTI KWIK BOLT TZ2	ESR-4266	-
	SIMPSON STRONG-BOLT 2	ESR-3037	-
ADHESIVE ANCHOR TO CONCRETE	HILTI HIT-HY 200	ESR-3187	-
	HILTI HIT-RE 500 V3	ESR-3814	-
	HILTI HIT-RE 100	ESR-3829	-
	SIMPSON SET-XP	ESR-2508	-
	SIMPSON AT-XP	-	0263

REINFORCING STEEL

032000-0000 -(04/21/17)

1. REINFORCING GRADES FOR CONCRETE OR MASONRY:
   A. ALL BARS EXCEPT THOSE TO BE WELDED..... ASTM A615, GRADE 60
   B. TIES AND STIRRUPS ..... ASTM A615, GRADE 60
   C. WELDED WIRE FABRIC ..... ASTM A1064
   D. ALL BARS TO BE WELDED ..... ASTM A706, GRADE 60

   NOTE: ALL BARS SHALL BE DEFORMED.
2. MAINTAIN MINIMUM CONCRETE COVER FROM FACE OF CONCRETE TO EDGE OF ALL REINFORCEMENT AS FOLLOWS (UNO):

CONDITION	COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
FORMED AND EXPOSED TO EARTH OR WEATHER	
- #6 BARS AND LARGER	2"
- #5 BARS AND SMALLER	1 1/2"
UNEXPOSED RAISED SLABS AND WALL FACES (#11 BARS AND SMALLER)	3/4"
UNEXPOSED COLUMNS AND BEAMS	1 1/2"
STRUCTURAL SLABS ON GRADE	
- FROM BOTTOM OF SLAB	2"
- FROM TOP OF SLAB	1 1/2"
OTHER CONCRETE NOT EXPOSED TO WEATHER OR EARTH FOR #11 BARS AND SMALLER	3/4"

   PROVIDE THE LARGEST COVER REQUIRED FOR ALL APPLICABLE CONDITIONS. WHERE #3 STIRRUPS OR TIES ARE USED, ENSURE THAT THE COVER FOR LONGITUDINAL BARS IS ADEQUATE.
3. REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE". EACH REINFORCING BAR SHALL BE WIRED TO A CROSS BAR AT A MAXIMUM SPACING OF 24"OC. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING IN POSITIONS SHOWN ON THE PLANS. DO NOT USE WOOD OR BRICK TO SUPPORT REINFORCING.
4. SPLICES IN CONTINUOUS REINFORCEMENT AS USED IN WALLS, WALL FOOTINGS, ETC., SHALL HAVE A CLASS "B" LAP (1'-6" MIN) AND THE SPLICES IN ADJACENT BARS SHALL BE NOT LESS THAN 5'-0" APART. VERTICAL WALL BARS SHALL BE SPLICED AT OR NEAR FLOOR LINES. BARS MAY BE WIRED TOGETHER AT SPLICES OR LAPS EXCEPT FOR TOP REINFORCING OF BEAMS AND SLABS OR WHERE SPECIFICALLY DETAILED TO BE SEPARATED. WELDED WIRE FABRIC SHALL BE LAPPED 12" MINIMUM.
5. ALL DOWELS, ANCHOR BOLTS AND OTHER HARDWARE TO BE SET IN CONCRETE SHALL BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. NO WET SETTING, STABBING, RODDING OR OTHER MOVEMENT OF EMBEDDED ITEMS SHALL BE PERFORMED DURING PLACEMENT OF CONCRETE.
6. BEND REINFORCING BARS COLD.
7. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST.
8. DOWELS BETWEEN FOOTING AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE MAIN REINFORCING UNO.
9. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN PLACE INSPECTION IS MADE.
10. CHAIRS OR SPACERS FOR REINFORCING SHALL BE PLASTIC WHEN RESTING ON EXPOSED SURFACES.
11. WHERE LONGITUDINAL REINFORCING BARS ARE PLACED IN 2 OR MORE LAYERS, BARS IN THE UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE BARS IN THE BOTTOM LAYER.
12. ALL BENDS WITHIN STIRRUPS, HOOPS, AND CROSS-TIES SHALL ENGAGE A LONGITUDINAL BAR. PROVIDE #4 SPACER BAR WHERE A LONGITUDINAL BAR IS NOT SPECIFICALLY DETAILED.
13. WELDING OF REINFORCING BARS SHALL BE PERFORMED PER AMERICAN WELDING SOCIETY (AWS) D1.4 USING E90XX ELECTRODES FOR A615 REINFORCING AND E80XX ELECTRODES FOR A706 REINFORCING.

POST-INSTALLED ANCHORS

032000-0000-(DSA/OSP)/ -(04/21/17)

1. REFER TO THE SPECIFIED PRODUCT EVALUATION REPORT FOR MANUFACTURER RECOMMENDED PROCEDURES.
2. CLEAN OUT ANCHOR HOLES AND SET ANCHORS PER THE PRODUCT'S ICC REPORT FOR THE APPROPRIATE CONDITIONS. INSTALL UNDER SUPERVISION OF THE SPECIAL INSPECTOR WHERE REQUIRED.
3. ALL POST-INSTALLED ANCHORS ARE TO BE TENSION TESTED WITH THE EXCEPTION THAT TORQUE TESTING IS ALLOWED IF THE ANCHORS ARE SPECIFICALLY DESIGNED AS TORQUE CONTROLLED.
4. TEST QUANTITY OF POST-INSTALLED ANCHORS AS NOTED BELOW:

APPLICATION	QUANTITY
SILL PLATES	10%
NON-STRUCTURAL (EQUIPMENT ANCHORAGE, ETC.)	50%
STRUCTURAL	100%

5. APPLY PROOF TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT AND INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS OF THE ORIGINAL NUT USING A TORQUE WRENCH AND APPLY LOAD.
6. TESTING SHOULD OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS. ALL TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE SPECIAL INSPECTOR/INSPECTOR OF RECORD.
7. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING OR RESTRICTED FROM A CONCRETE SHEAR CONE TYPE FAILURE MECHANISM.
8. TEST EQUIPMENT IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
9. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
   a. HYDRAULIC RAM METHOD: ANCHORS TESTED WITH A HYDRAULIC JACK OR SPRING LOADED DEVICES SHALL MAINTAIN THE TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNABLE MOVEMENT DURING THE TENSION TEST, E.G. AS EVIDENCED BY LOOSENING OF THE WASHER UNDER THE NUT.
   b. TORQUE WRENCH METHOD: ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH MUST ATTAIN THE MANUFACTURER RECOMMENDED TORQUE WITHIN 1/2 TURN OF THE NUT.
      EXCEPTIONS:
      i. WEDGE OR SLEEVE TYPE: ONE-QUARTER (1/4) TURN OF THE NUT FROM 3/8" SLEEVE ANCHOR ONLY.
      ii. THREADED TYPE: ONE-QUARTER (1/4) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD.
10. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME TYPE NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE ANCHORS PASS, THEN RESUME THE INITIAL TEST FREQUENCY. IF THE ANCHORS ARE USED FOR THE SUPPORT & BRACING OF NON-STRUCTURAL COMPONENTS (PIPE, DUCT OR CONDUIT), THE TWENTY (20) SHALL BE ONLY THOSE ANCHORS INSTALLED BY THE SAME TRADE.
11. TEST LOADS:

HILTI KB-TZ2 IN CONC (ICC ESR-4266)	
EXPANSION ANCHOR SIZE (IN)	TORQUE (FT-LBS)
3/8" DIA	30
1/2" DIA	40
5/8" DIA	60
3/4" DIA	125

12. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRESTRESSED CONCRETE (PRE- OR POST- TENSIONED) LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.
13. USE OF POST INSTALLED SCREW ANCHORS IS LIMITED TO DRY INTERIOR CONDITIONS. RE-USE OF SCREW ANCHORS OR HOLES IS NOT PERMITTED.
14. AN ACI-CRSI CERTIFIED ADHESIVE ANCHOR INSTALLER IS REQUIRED FOR THE INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL AND OVERHEAD CONDITIONS.

STRUCTURAL SUBMITTALS

010000-0008 -(07/09/14)

1. REVIEW OF SHOP DRAWINGS AND SUBMITTALS BY THE EOR IS FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS.
2. SHOP DRAWINGS SHALL BE SUBMITTED TO THE EOR FOR REVIEW PRIOR TO FABRICATION. THE CONTRACTOR WILL REMAIN RESPONSIBLE FOR ALL ERRORS OF DETAILING, FABRICATION, AND FOR CORRECT FITTING OF ALL STRUCTURAL MEMBERS INCLUDING COORDINATION WITH OTHER TRADES.
   A. SHOP DRAWINGS SHALL BE SUBMITTED TO THE EOR (ALLOW FOR A REVIEW DURATION OF 10 BUSINESS DAYS), AND SHALL CONSIST OF EITHER ELECTRONIC FILES OR ONLY ONE SET FOR OUR RECORDS AND ONE REPRODUCIBLE SET.
   B. EOR WILL RETURN THE REPRODUCIBLE SET CLEARLY MARKED WITH COMMENTS. ANY REQUIRED RECORD SET COPIES SHALL BE MADE FROM THIS RETURNED SET.
   C. REPRODUCTION OF STRUCTURAL PLANS & DETAILS FOR SHOP DRAWINGS IS PROHIBITED. SUBCONTRACTOR/FABRICATOR IS TO PROVIDE INDEPENDENTLY CREATED DRAWINGS BASED ON THE STRUCTURAL PLANS AND DETAILS.
3. SHOP DRAWINGS AND SUBMITTALS DO NOT CONSTITUTE CHANGE ORDERS. ANY PROPOSED CHANGES TO THE STRUCTURAL DOCUMENTS MUST BE SUBMITTED IN WRITING AS A REQUEST FOR SUBSTITUTION TO THE ARCHITECT AND EOR FOR APPROVAL.
4. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.
5. THE FOLLOWING LIST SUMMARIZES IMPORTANT STRUCTURAL SUBMITTALS FOR THIS PROJECT. REFER TO THE SPECIFICATIONS FOR A COMPLETE LIST AND ADDITIONAL REQUIREMENTS.

   GENERAL
   REQD: QUALIFICATION DATA FOR APPROVED INSTALLERS AND FABRICATORS
   REQD: CERTIFICATES OF CONFORMANCE FOR PREFABRICATED MEMBERS SEISMIC JOINT AND EXPANSION JOINT COVER PRODUCT DATA

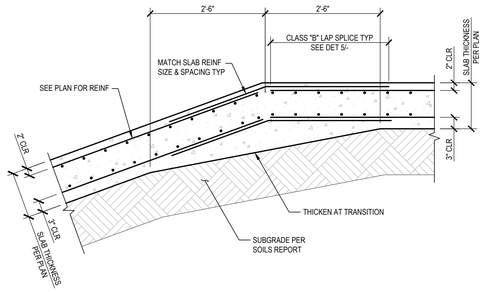
   CONCRETE REINFORCEMENT
   REQD: MANUFACTURER'S PRODUCT DATA, SPECIFICATIONS AND INSTALLATION PROCEDURES FOR PROPRIETARY MATERIALS AND REINFORCEMENT
   REQD: STEEL PRODUCER'S CERTIFICATES OF MILL ANALYSIS, TENSILE AND BEND TESTS
   REQD: SHOP DRAWINGS FOR FABRICATION, BENDING AND PLACEMENT

   CAST-IN-PLACE CONCRETE
   REQD: DESIGN MIX FOR EACH CONCRETE MIX
   REQD: MATERIAL TEST REPORTS
   REQD: MATERIAL CERTIFICATES FOR CEMENT, AGGREGATES AND ADMIXTURES
   REQE: SHOP DRAWINGS FOR PROPOSED LOCATIONS OF ADDITIONAL CONSTRUCTION OR CONTROL JOINTS NOT SHOWN ON THE STRUCTURAL PLANS
   REQD: MINUTES FROM PREINSTALLATION CONFERENCE

EXISTING CONDITIONS

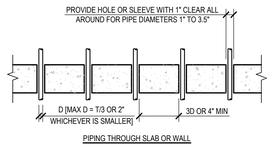
020000-0000 -(06/30/15)

1. SEE "AS BUILT" DRAWINGS FOR EXISTING BUILDING ITEMS NOT SHOWN OR NOTED.
2. FIELD VERIFY ALL CONDITIONS & DIMENSIONS PRIOR TO SHOP DRAWING PRODUCTION AND FABRICATION OF STRUCTURAL ELEMENTS.
3. WHERE ALL OTHER EXISTING CONDITIONS VARY SIGNIFICANTLY FROM THOSE SHOWN ON THESE DRAWINGS, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED PRIOR TO CONTINUED CONSTRUCTION RELATED TO SUBJECT CONDITIONS.
4. SHORE ALL EXISTING CONSTRUCTION AS REQUIRED, INCLUDING WHERE WELDING TO EXISTING STEEL FRAMING. SHORING DESIGN BY OTHERS.
5. ALL EXISTING CONCRETE SURFACES TO BE IN CONTACT WITH NEW CONCRETE SHALL BE CLEANED AND ROUGHENED TO 1/4" MINIMUM AMPLITUDE. USE ICC APPROVED BONDING AGENT ON EXISTING CONCRET



13 TYPICAL BOTTOM SLAB TRANSITION DETAIL

3/4"=1'-0"

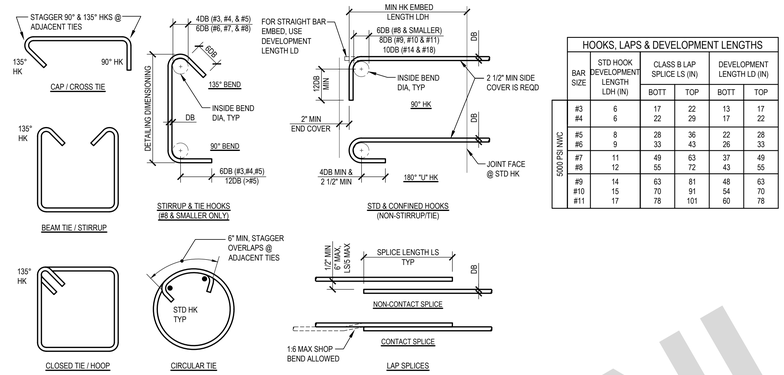


NOTES:
1. NO CONDUIT SHALL BE ALLOWED IN SLABS UNLESS "T" IS A MINIMUM OF 6".
2. WHERE CLEAR DISTANCE BETWEEN SLEEVES CANNOT BE ACHIEVED, THIS AREA SHALL BE TREATED AS A SLAB OPENING PER TYPICAL OPENING IN SLAB ON GRADE DETAIL.
3. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION.

9 PIPES & CONDUITS THROUGH SLAB & WALL

NTS

022100.00-0100 (12) (08/06/14)



HOOKS, LAPS & DEVELOPMENT LENGTHS

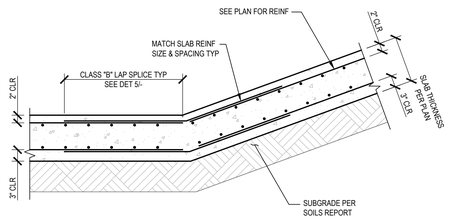
	BAR SIZE	STD HOOK DEVELOPMENT LENGTH LDH (IN)	CLASS B LAP SPLICE LS (IN)		DEVELOPMENT LENGTH LD (IN)	
			BOTT	TOP	BOTT	TOP
5000 PSI NWC	#3 #4	6 6	17 22	22 29	13 17	17 22
	#5 #6	8 9	28 33	36 43	22 26	28 33
	#7 #8	11 12	49 55	63 72	37 43	49 55
	#9 #10 #11	14 15 17	63 70 78	81 91 101	48 54 60	63 70 78

NOTES:
1. SEE BUILDING CODE AND ACI LATEST VERSION FOR ALL REQUIREMENTS NOT NOTED.
2. FOR LIGHTWEIGHT CONCRETE MULTIPLY LDH, LS AND LD VALUES SHOWN BY 1.33.
3. "TOP" BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW BARS. ALL OTHER BARS ARE "BOTT" BARS.
4. WHERE REQUIRED LS CANNOT BE OBTAINED WITH STRAIGHT BARS, EXTEND REINFORCING AS FAR AS POSSIBLE (LOW MINIMUM) AND PROVIDE STANDARD HOOK, WHERE LDH CANNOT BE OBTAINED, CONSULT SEOR.
5. VALUES SHOWN ARE FOR GRADE 60 (FY=60 KSI) REINFORCEMENT.
6. SPLICE LENGTHS SHOWN ARE FOR CLEAR SPACING NOT LESS THAN 2DB. CONCRETE COVER NOT LESS THAN DB.
7. FOR EPOXY-COATED AND/OR BUNDLED REINFORCEMENT CONSULT SEOR.
8. WHERE BARS OF DIFFERENT SIZES ARE LAP SPLICED IN TENSION, SPLICE LENGTH SHALL BE THE LARGER OF: LD OF THE LARGER BAR AND LS OF THE SMALLER BAR.

5 REINFORCEMENT DETAILS & DEVELOPMENT LENGTHS

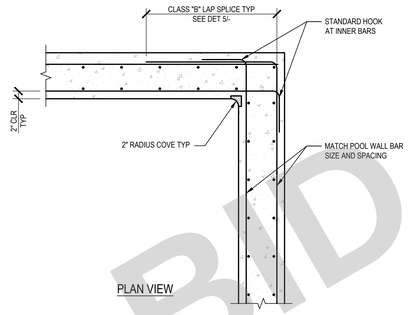
NTS

022000-0100 (1) (08/23/18)



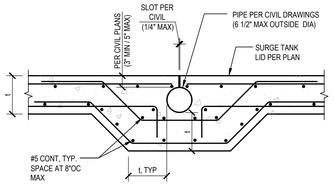
14 TYPICAL BOTTOM SLAB TRANSITION DETAIL

3/4"=1'-0"



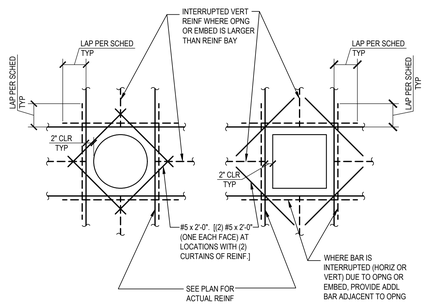
15 TYPICAL POOL WALL CORNER BAR DETAIL

3/4" = 1'-0"



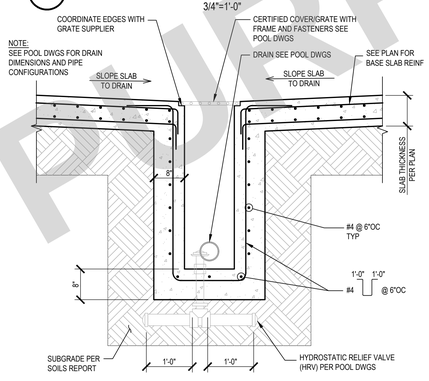
16 PIPE THRU SURGE TANK LID DETAIL

3/4"=1'-0"



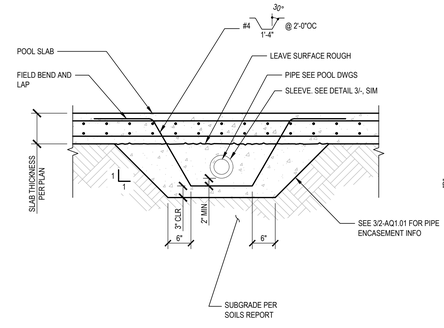
10 TYP REINFORCING AT SLAB/WALL EMBED & OPGS

3/4"=1'-0"



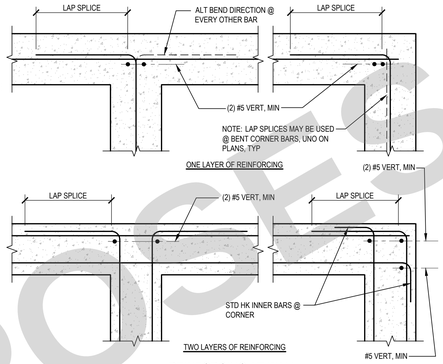
11 TYP REINFORCING AT RELIEF VALVE PIT

3/4" = 1'-0"



12 CONCRETE PIPE ENCASEMENT DETAIL

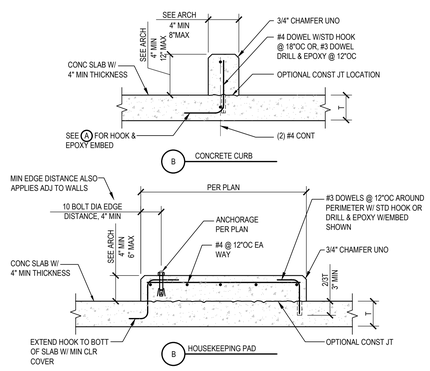
3/4"=1'-0"



6 REINFORCING AT WALL & FOOTING INTERSECTIONS

NTS

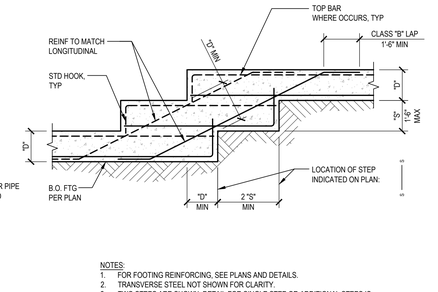
022302.01-0102 (12) (08/06/14)



7 CONCRETE PAD & CURB

NTS

033053.01-0100

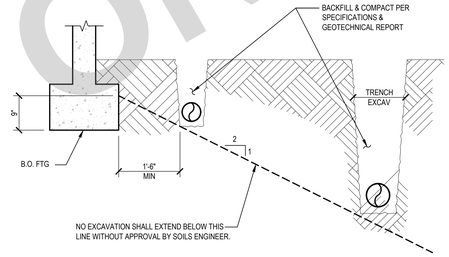


NOTES:
1. FOR FOOTING REINFORCING, SEE PLANS AND DETAILS.
2. TRANSVERSE STEEL NOT SHOWN FOR CLARITY.
3. TWO STEPS ARE SHOWN, DETAIL FOR SINGLE STEP OR ADDITIONAL STEPS IS SIMILAR.

8 STEPPED FOOTING

NTS

033302.01-0100 (12) (08/06/14)

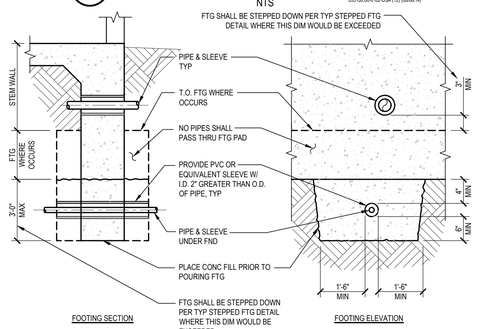


NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING OR OTHERWISE MAINTAINING THE SIDES OF THE EXCAVATION FROM CAVE-INS UNTIL ALL BACKFILL IS COMPLETED PER SPECIFICATIONS AND GEOTECHNICAL REPORT.

2 EXCAVATION PARALLEL TO FOOTINGS

NTS

033100.00-0102 DSA (12) (08/06/14)

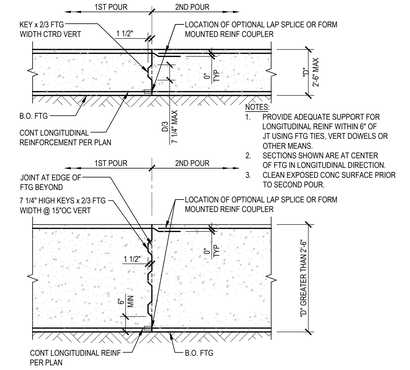


NOTES:
1. PIPES GREATER THAN 8" IN SIZE, BUNDLES OR BANKS NOT SPECIFICALLY SHOWN ON THE STRUCTURAL PLANS ARE NOT ALLOWED TO BE PLACED WITHOUT OBTAINING EOR APPROVAL.
2. CONTRACTOR SHALL COORDINATE ALL PIPE LOCATION WITH BUILDING FOUNDATION REQUIREMENTS.
3. IF REQUIREMENTS AS SHOWN CANNOT BE MET, STEP FOOTING PER TYPICAL "STEPPED FOOTING' DETAIL.
4. REFERENCE CBC SECTION 1809A.14.

3 PIPE THROUGH/BELOW FOOTING

NTS

033100.00-0101-DSA (12) (03/25/19)



4 FOOTING CONSTRUCTION JOINT

NTS

033302.01-0104 (24) (04/20/16)

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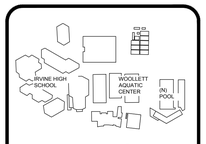
CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
DANIEL W. RIERA
No. 55566
STRUCTURAL
STATE OF CALIFORNIA
9/30/2025

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

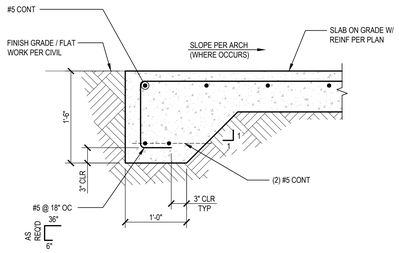
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

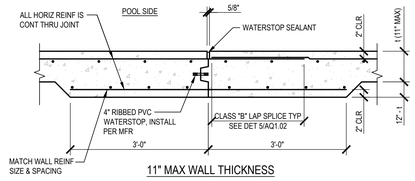
TYPICAL DETAILS

AQ1.02

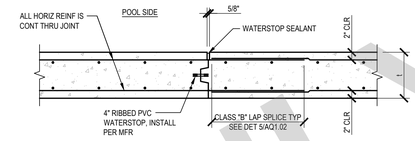


5 SPLASH PAD SLAB EDGE

1" = 1'-0"



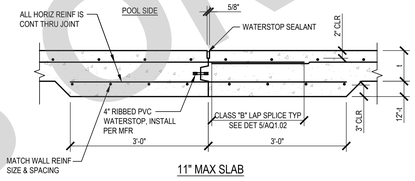
11" MAX WALL THICKNESS



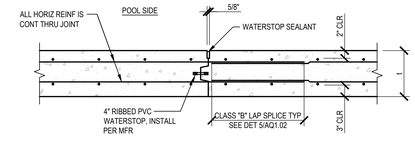
12" AND THICKER WALL

1 CONCRETE WALL CONSTRUCTION JOINT

3/4"=1'-0"



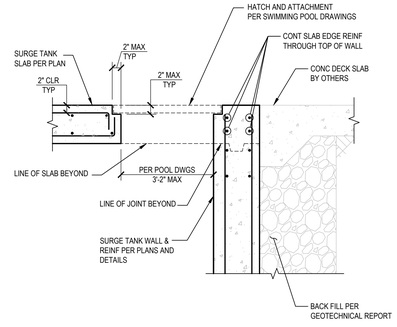
11" MAX SLAB



1'-0" MIN SLAB

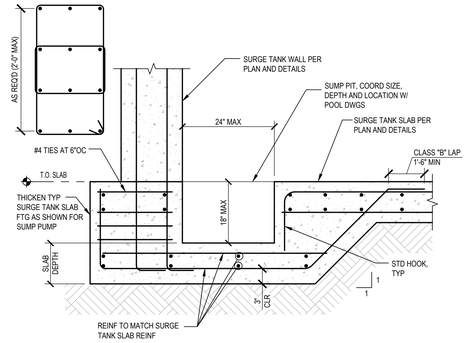
2 MAT FOUNDATION CONSTRUCTION JOINT

3/4"=1'-0"



3 TYPICAL OPENING IN SURGE TANK LID FOR HATCH

N.T.S.



4 TYPICAL SUMP PUMP PIT AT SURGE TANK

N.T.S

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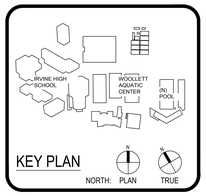
CITY OF IRVINE 1971



KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
DANIEL W. RIEBE
No. S5566
STRUCTURAL
STATE OF CALIFORNIA
9/30/2025

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

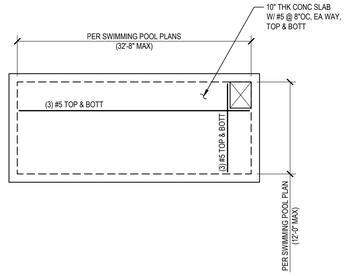
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

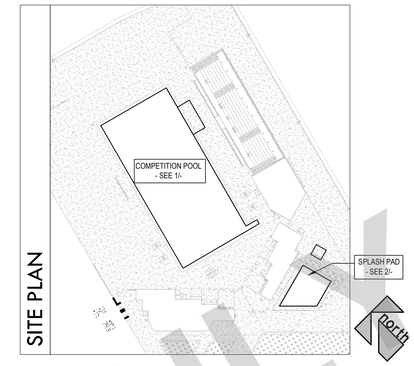
TYPICAL DETAILS

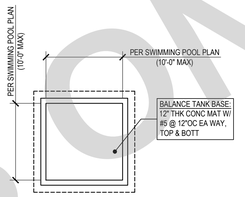
AQ1.03



1A COMPETITION POOL SURGE TANK TOP SLAB

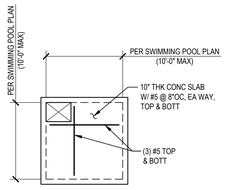
1/8" = 1'-0"

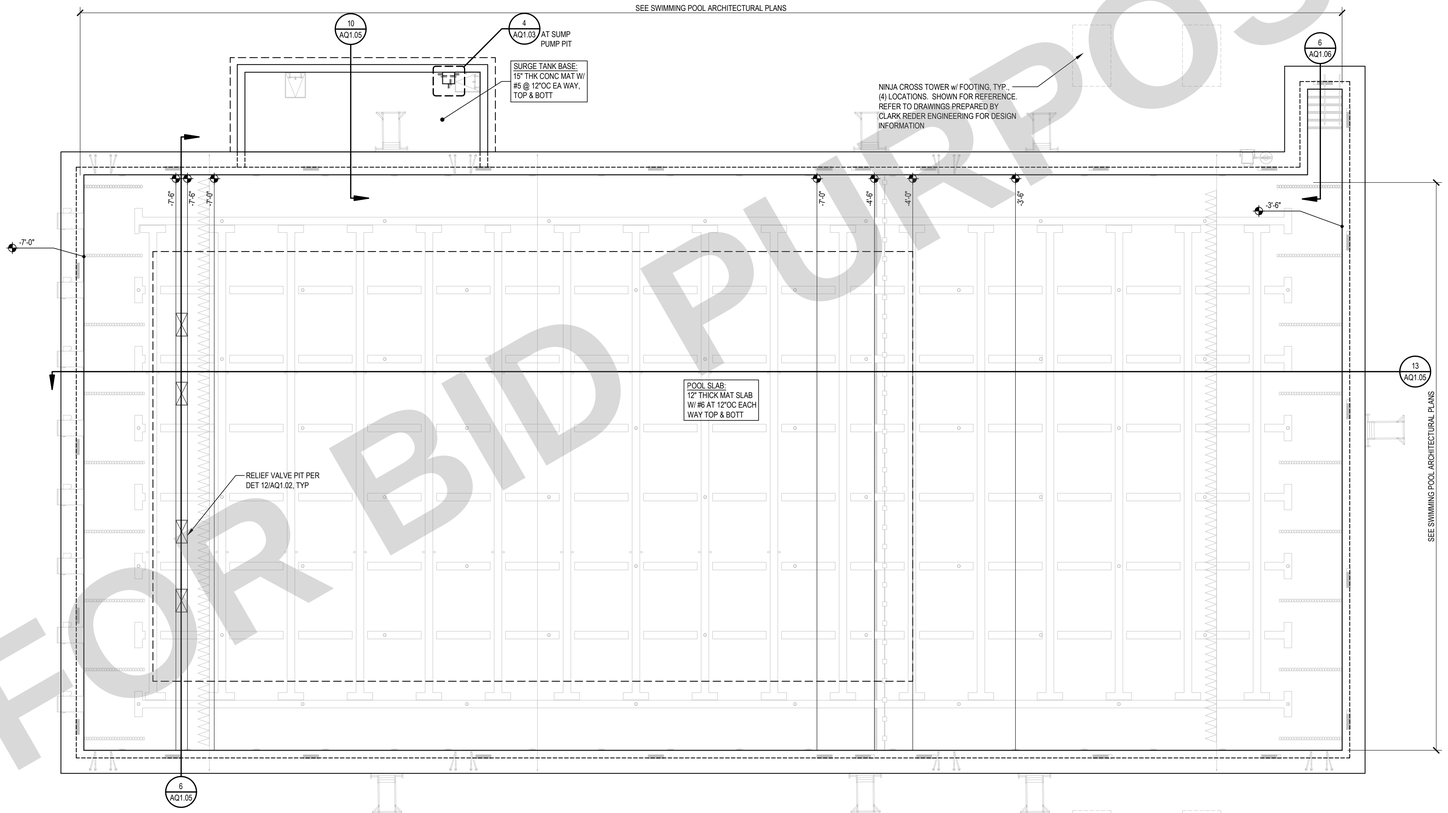




2A SPLASH PAD BALANCE TANK FOUNDATION PLAN

1/8" = 1'-0"



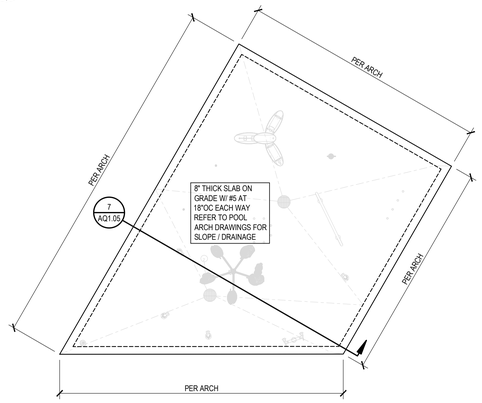


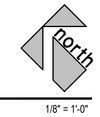
1 COMPETITION POOL & SURGE TANK FOUNDATION PLAN

1/8" = 1'-0"

2B SPLASH PAD BALANCE TANK TOP OF SLAB

1/8" = 1'-0"





2 SPLASH PAD FOUNDATION PLAN

1/8" = 1'-0"

1. REFERENCE TOP OF WATER ELEVATION OF POOL = +0'-0". REFER TO SWIMMING POOL AND CIVIL DRAWINGS FOR TRUE SITE ELEVATIONS AS REQUIRED.
2. ⌀ DENOTES WATER ELEVATION RELATIVE TO REFERENCE WATER ELEVATION. ELEVATIONS NOTED ARE TO POOL FINISH. COORDINATE WITH SWIMMING POOL DRAWINGS.
3. WALLS SHOWN ON THIS PLAN ARE TYPICAL AT FOUNDATION LEVEL. REFER TO DETAILS AND SWIMMING POOL DRAWINGS FOR WALL INFORMATION ABOVE FOUNDATION LEVEL.
4. PROVIDE ELECTRICAL GROUNDING FOR ALL REINFORCING AND EMBEDDED ITEMS. REFER TO ELECTRICAL DRAWINGS.
5. REFER TO SWIMMING POOL DRAWINGS FOR LOCATIONS OF POOLS ON PROJECT, AND FOR DIMENSIONS NOT SHOWN. REPORT DISCREPANCIES TO STRUCTURAL ENGINEER IMMEDIATELY.
6. ALL POST-INSTALLED ANCHORS SHALL BE STAINLESS STEEL.
7. SEE AQ1.01 FOR GENERAL NOTES AND SHEETS AQ1.02 AND AQ1.03 FOR TYPICAL DETAILS.

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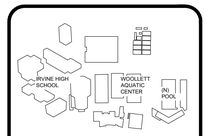
CLIENT LOGO

CITY OF IRVINE 1971



DISCIPLINE

DANIEL W. RIEBE No. S5566 STRUCTURAL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER
12/19/2025

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

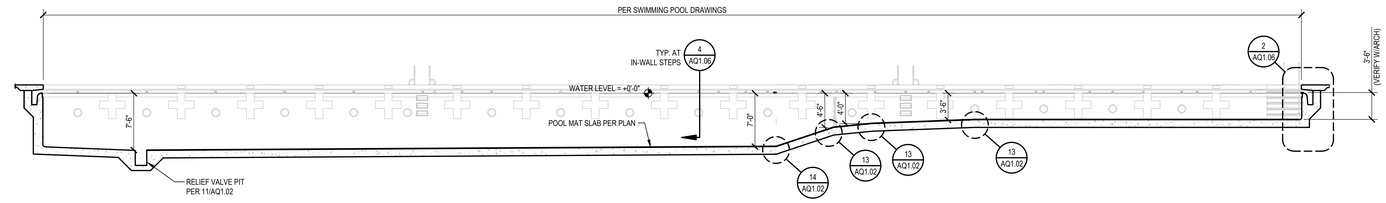
No.	Description	Date

BID SET

BUILDING NUMBER

POOL FOUNDATION PLAN

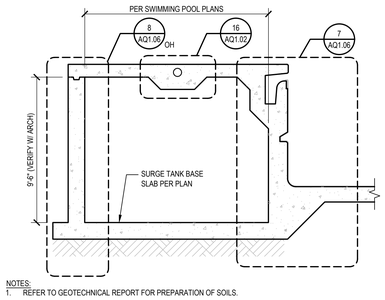
AQ1.04



NOTES:
1. REFER TO GEOTECHNICAL REPORT FOR PREPARATION OF SOILS.

13 COMPETITION POOL AND LAP POOL SECTION

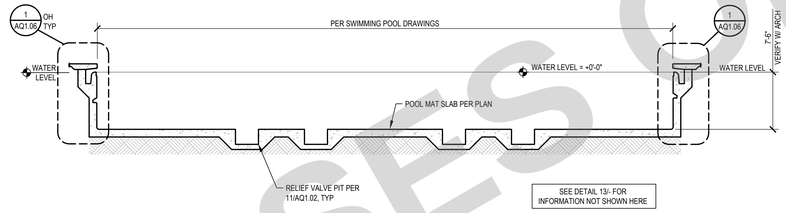
1/8" = 1'-0"



NOTES:
1. REFER TO GEOTECHNICAL REPORT FOR PREPARATION OF SOILS.

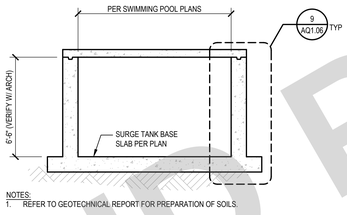
10 COMPETITION POOL SURGE TANK SECTION

1/4" = 1'-0"



6 COMPETITION POOL SECTION

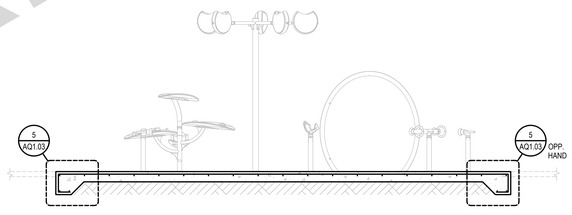
1/8" = 1'-0"



NOTES:
1. REFER TO GEOTECHNICAL REPORT FOR PREPARATION OF SOILS.

11 SPLASH PAD BALANCE TANK SECTION

1/4" = 1'-0"



NOTES:
1. REFER TO GEOTECHNICAL REPORT FOR PREPARATION OF SOILS.

7 SPLASH PAD SECTION

1/4" = 1'-0"

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DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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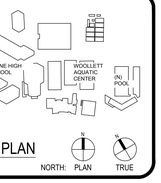


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
DANIEL W. RIEBE
No. 55566
STRUCTURAL
STATE OF CALIFORNIA
9/30/2025

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

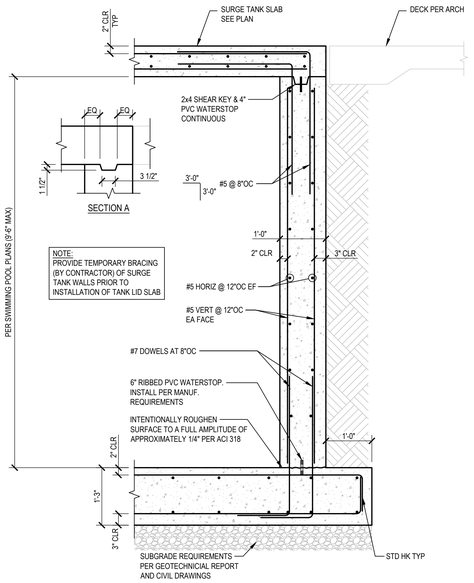
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

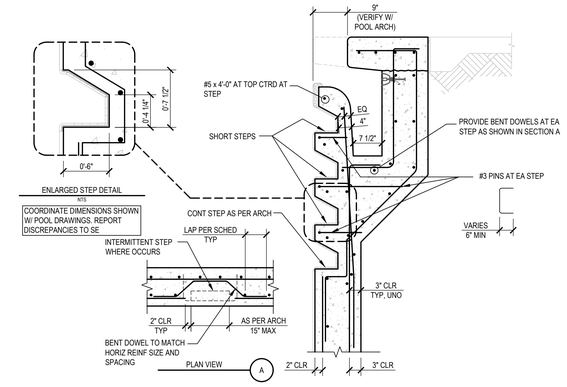
POOL SECTIONS

AQ1.05



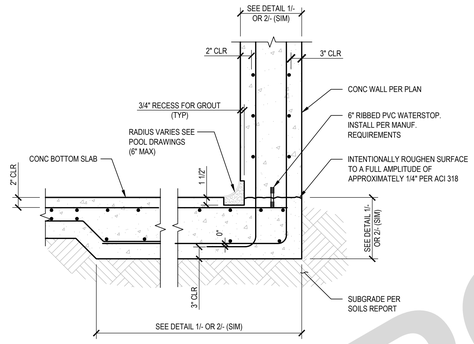
8 SECTION AT COMPETITION POOL SURGE TANK

3/4" = 1'-0"



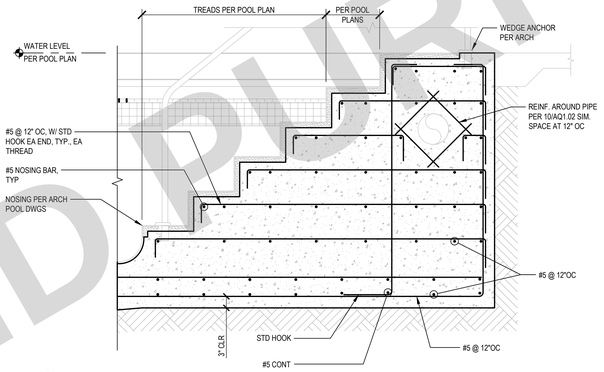
4 REINFORCING AT COMPETITION POOL RECESSED STEPS

N.T.S



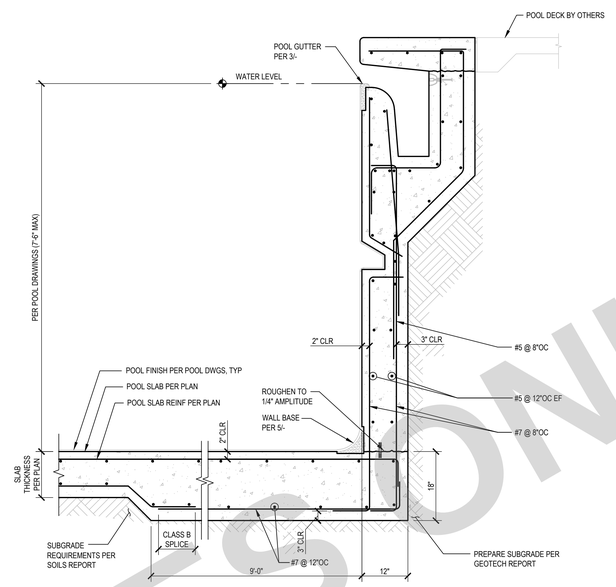
5 TYPICAL CAST-IN-PLACE WALL BASE

1" = 1'-0"



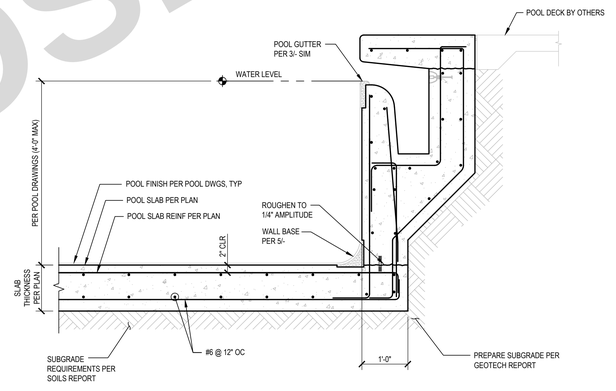
6 STAIR SECTION AT LESSON POOL

3/4" = 1'-0"



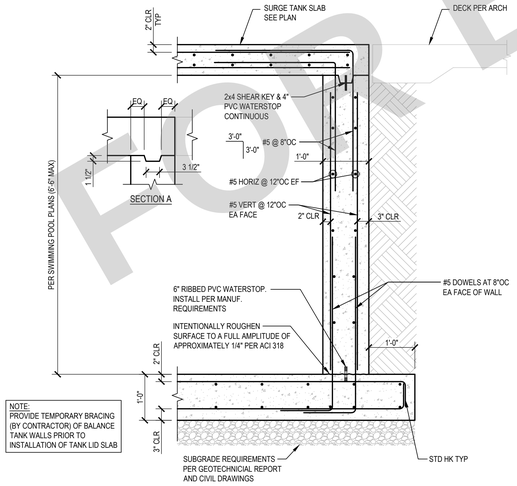
1 COMPETITION SWIMMING POOL WALL & SLAB DETAILS (7'-6" MAX WATER HEIGHT)

3/4" = 1'-0"



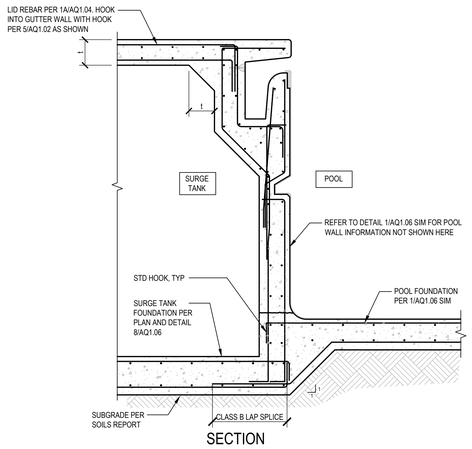
2 COMPETITION SWIMMING POOL WALL & SLAB DETAILS (4'-0" MAX WATER HEIGHT)

3/4" = 1'-0"



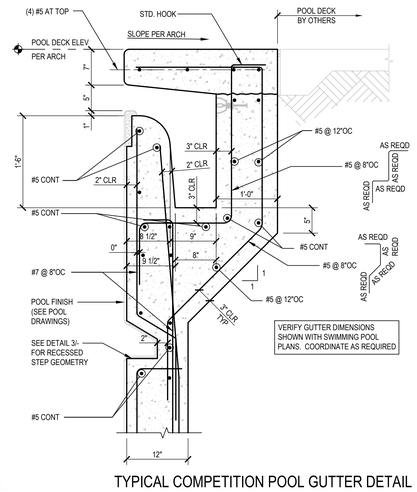
9 SECTION AT SPLASH PAD BALANCE TANK

3/4" = 1'-0"



7 SECTION

1/2" = 1'-0"



3 TYPICAL COMPETITION POOL GUTTER DETAIL

1" = 1'-0"

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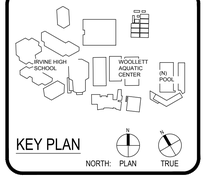


DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

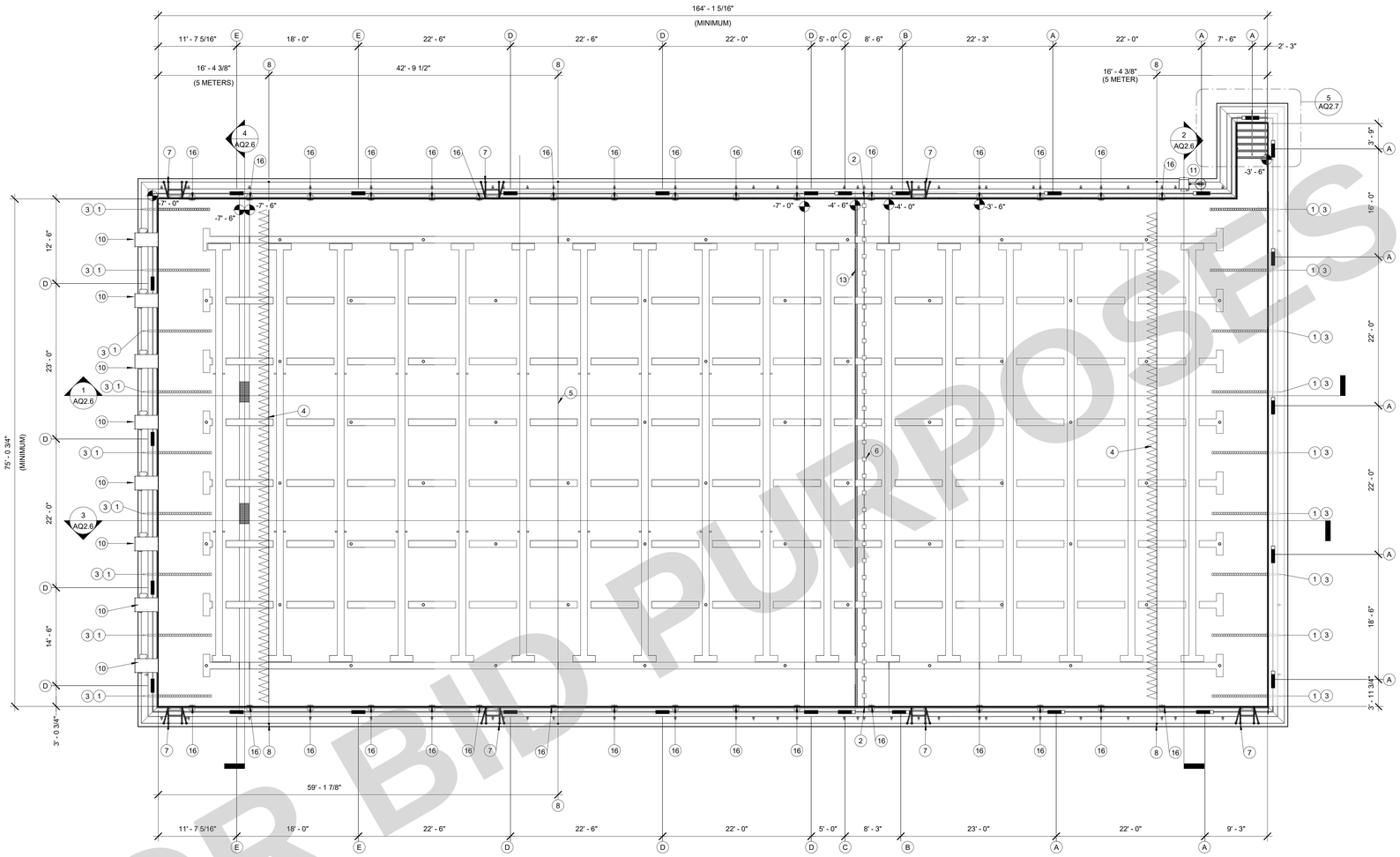
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

FOUNDATION DETAILS

AQ1.06



1 COMPETITION POOL 50 METER COURSE PLAN
1/8" = 1'-0"

DEPTH AND WARNING SIGNAGE SCHEDULE

ID	SIGNAGE
A	3 FT 6 IN
B	4 FT 0 IN
C	5 FT 0 IN
D	7 FT 0 IN
E	7 FT 6 IN

NOTES:
REFER: 9 / AQ2.7 FOR DETAIL.

EQUIPMENT SCHEDULE

ID	ITEM
1	LANE ROPE CUP ANCHOR REFER: 1 / AQ2.7
2	SAFETY ROPE CUP ANCHOR REFER: 1 / AQ2.7
3	LANE ROPE EXTENSION REFER: 3 / AQ2.7
4	BACKSTROKE PENNANT
5	FALSE START ROPE ASSEMBLY
6	SAFETY ROPE
7	GRAB RAILS & RECESSED STEPS REFER: 12 / AQ2.7
8	STANCHION POST & ANCHOR REFER: 6 / AQ2.8
9	TAGLINE POST & ANCHOR REFER: 11 / AQ2.7
10	DECK MOUNTED STARTING PLATFORM & ANCHOR REFER: 13 / AQ2.7
11	POOL LIFT & ANCHOR REFER: 14 / AQ2.7
12	RESURFACING MARKER REFER: 10 / AQ2.7
13	4" CONTRASTING TILE BAND COLOR BY ARCHITECT
14	WALL TARGET REFER:10 / AQ2.7
15	POOL COVE REFER: 4 / AQ2.7
16	UNDERWATER LIGHT REFER: 3 / AQ2.8
17	TOE LEDGE REFER: 5 / AQ2.8
18	FLOATING WATER POLO GOAL REFER: 2 / AQ2.8
19	DECK MOUNTED WATER POLO GOAL REFER: - / ---
20	WATER POLO BALL SAFETY NET REFER: SPECIFICATION 131100 2.11 A.12.

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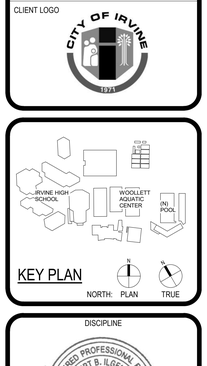


DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

COMPETITION POOL 50 METER COURSE PLAN

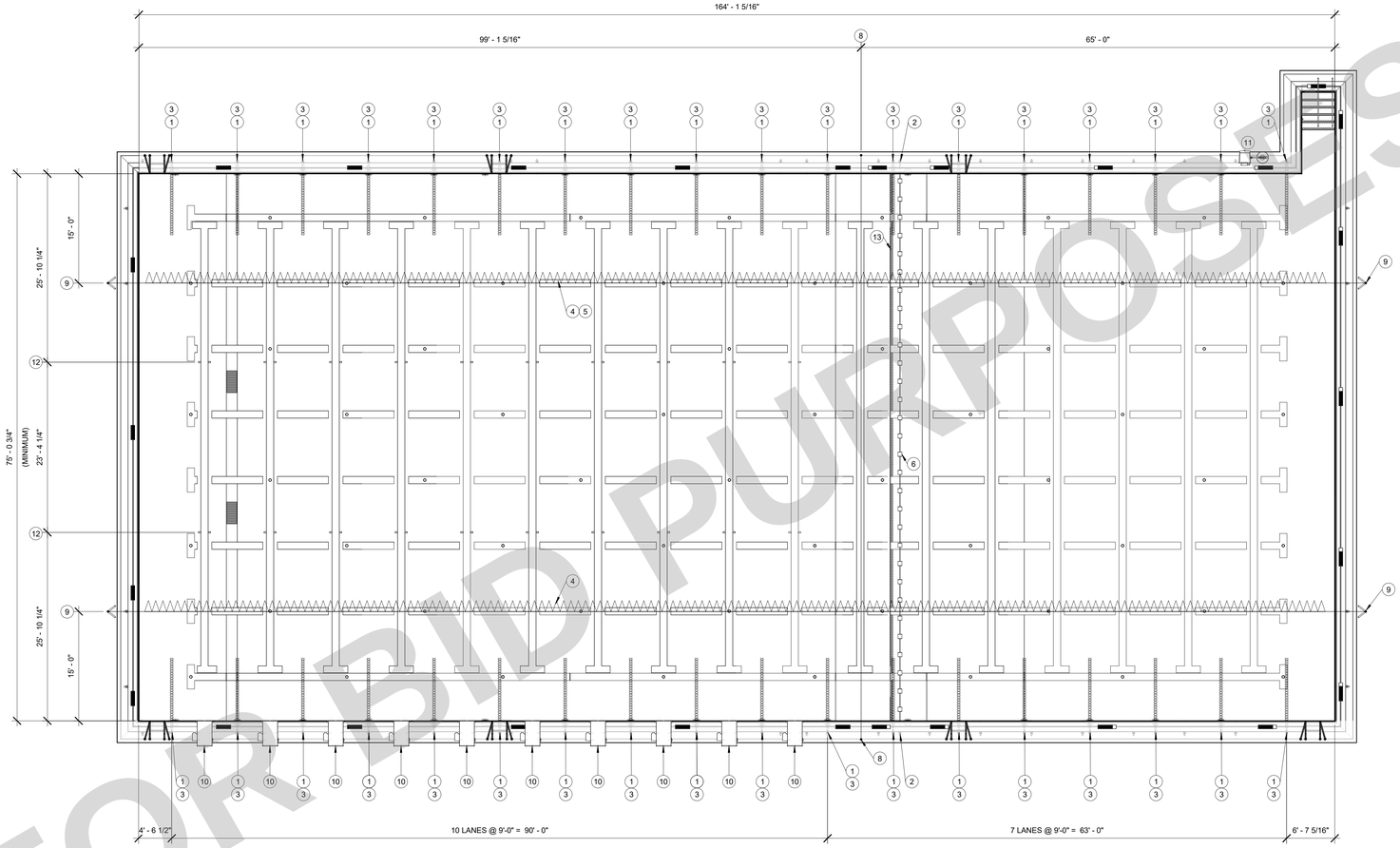
AQ2.0

0"

1"

EQUIPMENT SCHEDULE

ID	ITEM
1	LANE ROPE CUP ANCHOR REFER: 1 / AQ2.7
2	SAFETY ROPE CUP ANCHOR REFER: 1 / AQ2.7
3	LANE ROPE EXTENSION REFER: 3 / AQ2.7
4	BACKSTROKE PENNANT
5	FALSE START ROPE ASSEMBLY
6	SAFETY ROPE
7	GRAB RAILS & RECESSED STEPS REFER: 12 / AQ2.7
8	STANCHION POST & ANCHOR REFER: 6 / AQ2.8
9	TAGLINE POST & ANCHOR REFER: 11 / AQ2.7
10	DECK MOUNTED STARTING PLATFORM & ANCHOR REFER: 13 / AQ2.7
11	POOL LIFT & ANCHOR REFER: 14 / AQ2.7
12	RESURFACING MARKER REFER: 10 / AQ2.7
13	4" CONTRASTING TILE BAND COLOR BY ARCHITECT
14	WALL TARGET REFER:10 / AQ2.7
15	POOL COVE REFER: 4 / AQ2.7
16	UNDERWATER LIGHT REFER: 3 / AQ2.8
17	TOE LEDGE REFER: 5 / AQ2.8
18	FLOATING WATER POLO GOAL REFER: 2 / AQ2.8
19	DECK MOUNTED WATER POLO GOAL REFER: - / ---
20	WATER POLO BALL SAFETY NET REFER: SPECIFICATION 131100 2.11 A.12.



1 COMPETITION POOL 25 YARD CHAMP CROSS COURSE PLAN
1/8" = 1'-0"

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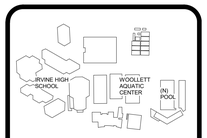
CITY OF IRVINE



KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

COMPETITION POOL 25 YARD CHAMP CROSS COURSE PLAN

AQ2.1

0"

1"

EQUIPMENT SCHEDULE

ID	ITEM
1	LANE ROPE CUP ANCHOR REFER: 1 / AQ2.7
2	SAFETY ROPE CUP ANCHOR REFER: 1 / AQ2.7
3	LANE ROPE EXTENSION REFER: 3 / AQ2.7
4	BACKSTROKE PENNANT
5	FALSE START ROPE ASSEMBLY
6	SAFETY ROPE
7	GRAB RAILS & RECESSED STEPS REFER: 12 / AQ2.7
8	STANCHION POST & ANCHOR REFER: 6 / AQ2.8
9	TAGLINE POST & ANCHOR REFER: 11 / AQ2.7
10	DECK MOUNTED STARTING PLATFORM & ANCHOR REFER: 13 / AQ2.7
11	POOL LIFT & ANCHOR REFER: 14 / AQ2.7
12	RESURFACING MARKER REFER: 10 / AQ2.7
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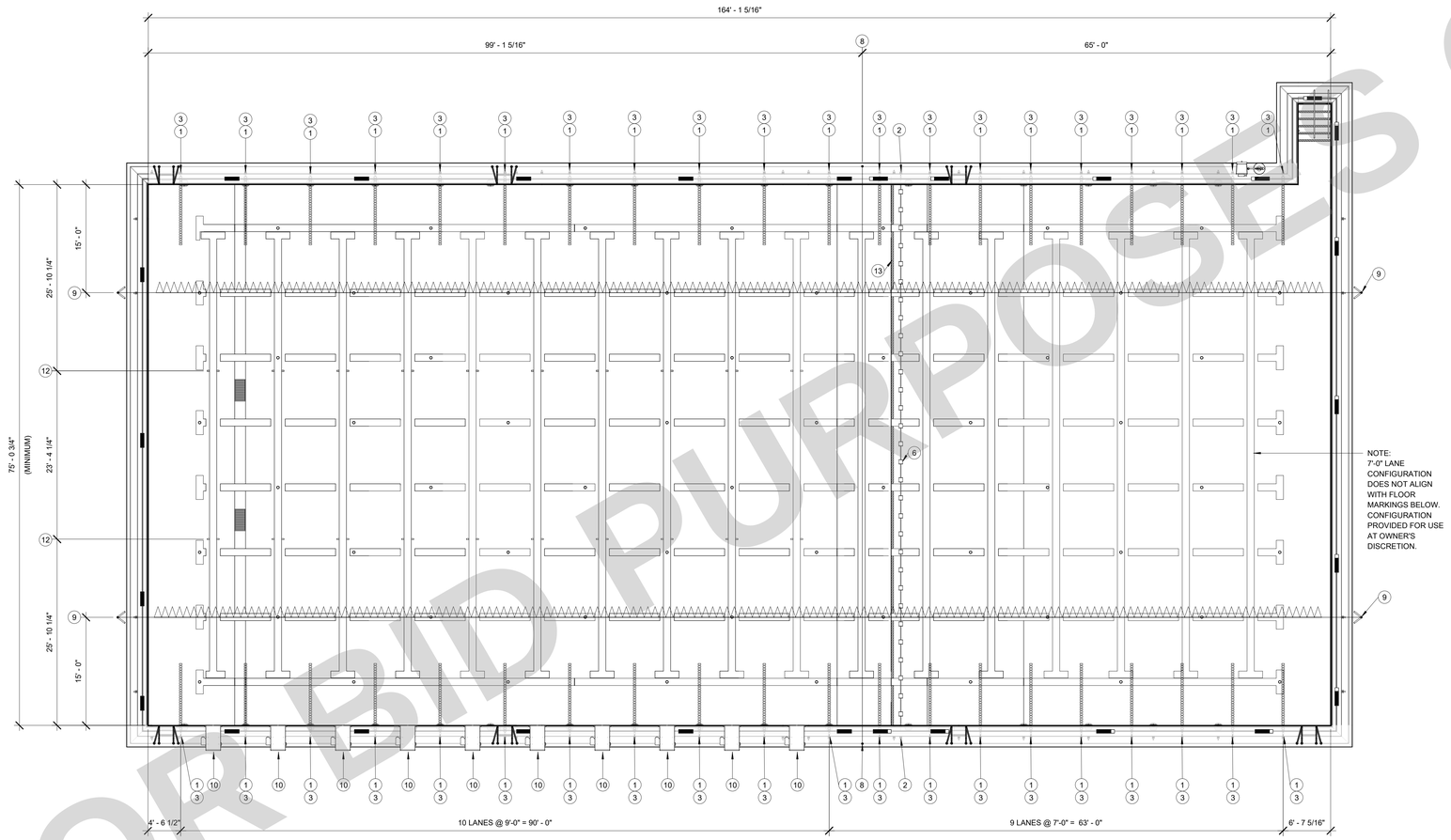
14	WALL TARGET REFER:10 / AQ2.7
15	POOL COVE REFER: 4 / AQ2.7
16	UNDERWATER LIGHT REFER: 3 / AQ2.8
17	TOE LEDGE REFER: 5 / AQ2.8
18	FLOATING WATER POLO GOAL REFER: 2 / AQ2.8
19	DECK MOUNTED WATER POLO GOAL REFER: - / ---
20	WATER POLO BALL SAFETY NET REFER: SPECIFICATION 131100 2.11 A.12.



1 COMPETITION POOL 25 YARD CROSS COURSE
1/8" = 1'-0"

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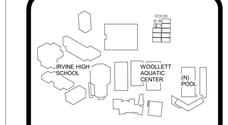
CLIENT LOGO

CITY OF IRVINE 1971



KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

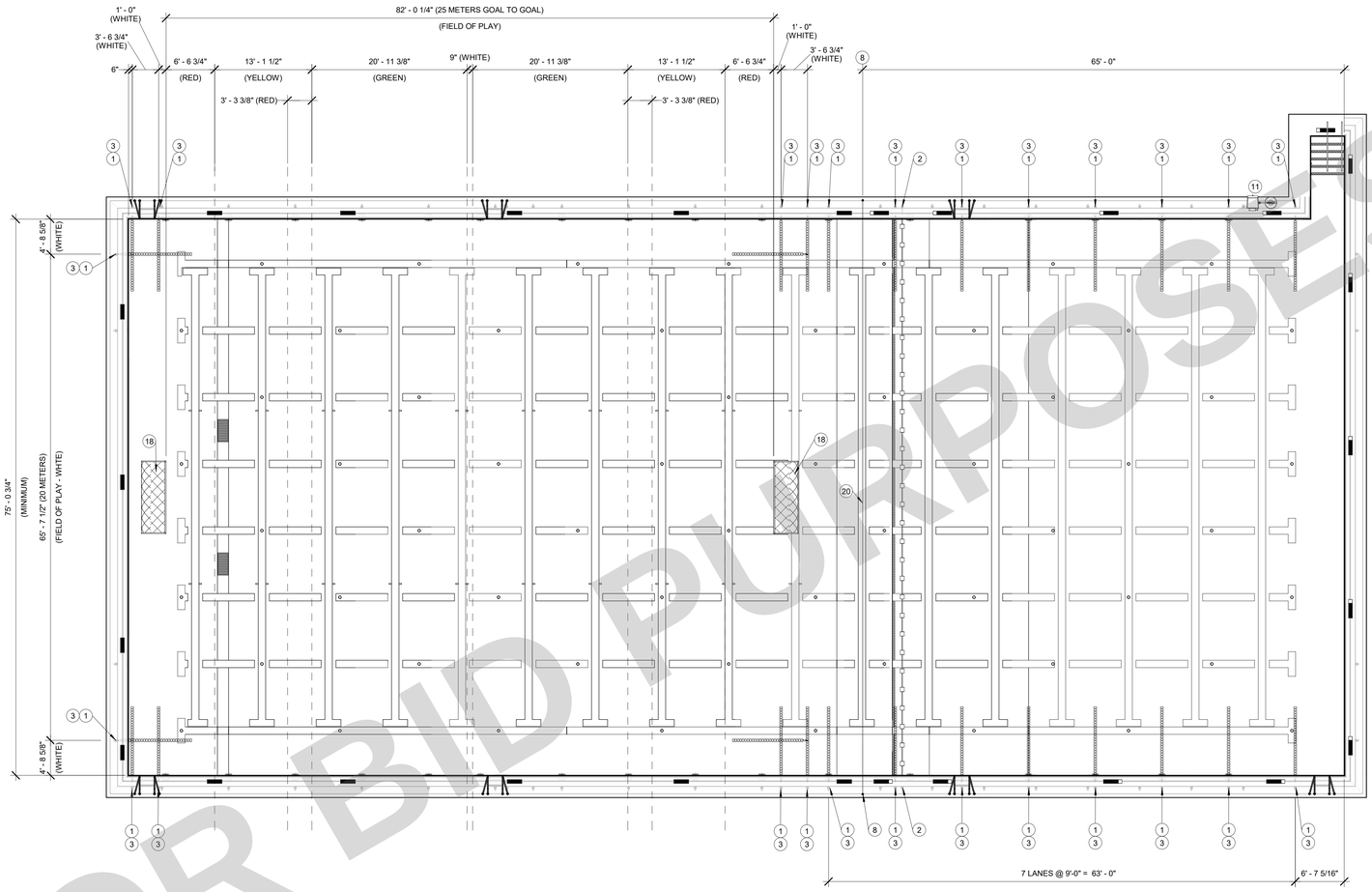
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

COMPETITION POOL 25 YARD CROSS COURSE PLAN

AQ2.2



1 COMPETITION POOL 25 METER WATER POLO PLAN
1/8" = 1'-0"

EQUIPMENT SCHEDULE

ID	ITEM
1	LANE ROPE CUP ANCHOR REFER: 1 / AQ2.7
2	SAFETY ROPE CUP ANCHOR REFER: 1 / AQ2.7
3	LANE ROPE EXTENSION REFER: 3 / AQ2.7
4	BACKSTROKE PENNANT
5	FALSE START ROPE ASSEMBLY
6	SAFETY ROPE
7	GRAB RAILS & RECESSED STEPS REFER: 12 / AQ2.7
8	STANCHION POST & ANCHOR REFER: 6 / AQ2.8
9	TAGLINE POST & ANCHOR REFER: 11 / AQ2.7
10	DECK MOUNTED STARTING PLATFORM & ANCHOR REFER: 13 / AQ2.7
11	POOL LIFT & ANCHOR REFER: 14 / AQ2.7
12	RESURFACING MARKER REFER: 10 / AQ2.7
13	4" CONTRASTING TILE BAND COLOR BY ARCHITECT
14	WALL TARGET REFER:10 / AQ2.7
15	POOL COVE REFER: 4 / AQ2.7
16	UNDERWATER LIGHT REFER: 3 / AQ2.8
17	TOE LEDGE REFER: 5 / AQ2.8
18	FLOATING WATER POLO GOAL REFER: 2 / AQ2.8
19	DECK MOUNTED WATER POLO GOAL REFER: - / ---
20	WATER POLO BALL SAFETY NET REFER: SPECIFICATION 131100 2.11 A.12.

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CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

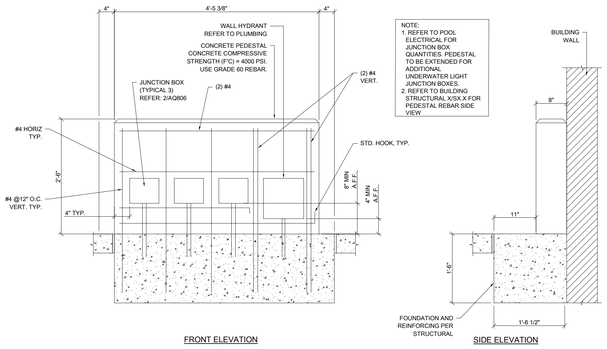
No.	Description	Date

BID DOCUMENTS

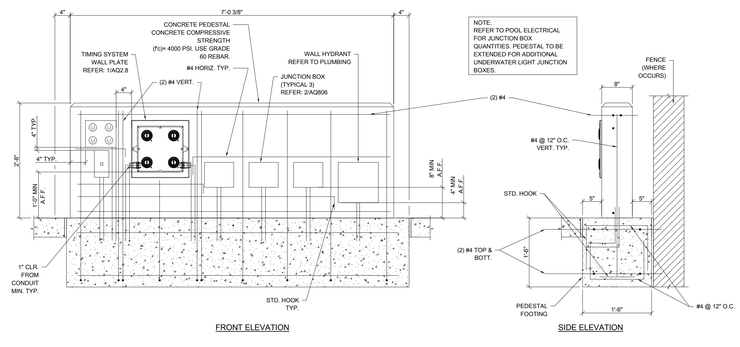
BUILDING NUMBER

COMPETITION POOL 25 METER WATER POLO PLAN

AQ2.3



3 OUTDOOR UNDERWATER LIGHT JUNCTION BOX PEDESTAL
1/16" = 1'-0"



2 OUTDOOR TIMING SYSTEM & UNDERWATER LIGHT JUNCTION BOX PEDESTAL
1/16" = 1'-0"

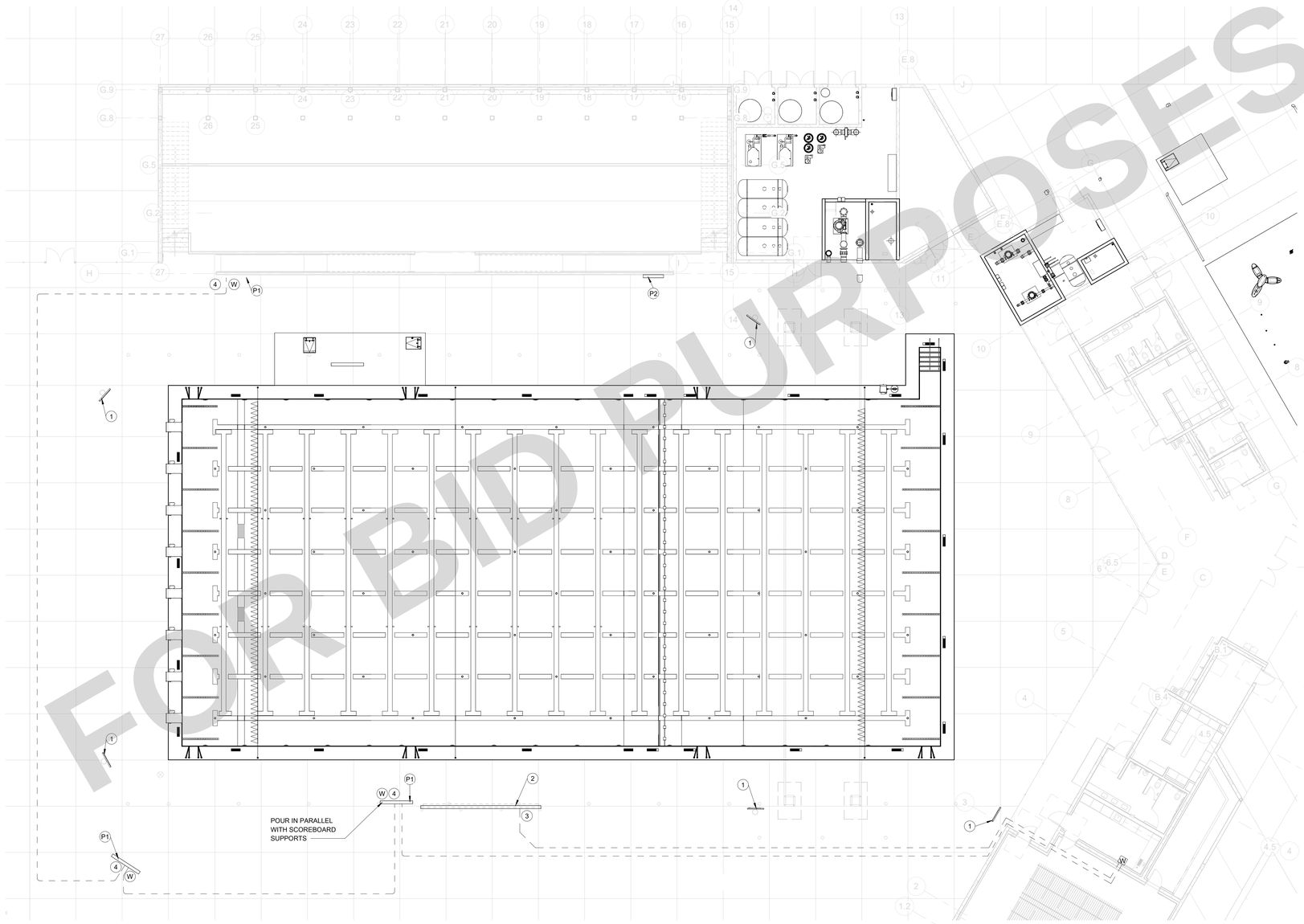
TIMING SYSTEM SCHEDULE

ID	QTY.	ITEM	DESCRIPTION
W	4	WALL PLATE REFER:	12"X12"X6" PVC JUNCTION BOX WITH 120V QUAD OUTLET & ETHERNET CONNECTION MOUNTED AT 18" A.F.F.
1	5	PACE CLOCK REFER: 4 / AQ2.8	PACE CLOCK WITH 120 V DUPLEX OUTLET MOUNTED AT 8'-0" A.F.F.
2	1	SCOREBOARD	SCOREBOARD WITH NINE (9) 120 V DUPLEX OUTLETS. REFER TO ARCHITECT FOR MOUNTING HEIGHT.
3	1	SCOREBOARD DATA BOX REFER: 8 / AQ2.8	SINGLE GANG BOX AT HEIGHT OF SCOREBOARD
4	4	ETHERNET CONNECTION	ETHERNET CONNECTION

NOTES:
1. COORDINATE FINAL LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS PRIOR TO INSTALLATION. REFERENCES TO MOUNTING HEIGHTS ARE MINIMUMS TO THE BOTTOM OF OUTLET/EQUIPMENT.
2. CONDUIT, JUNCTION BOXES, ETHERNET CONNECTIONS, AND POWER MUST BE PROVIDED BY ELECTRICAL. TIMING SYSTEM MANUFACTURER MUST PROVIDE ANY REQUIRED CABELING AND CONNECTIVITY SPECIFIC TO THEIR PRODUCT.
3. ALL JUNCTION BOXES MUST BE RECESSED INTO THE NATATORIUM WALLS AND POOL DECK. PVC CONDUIT MUST BE RUN IN THE WALLS OR IN POOL DECK. SURFACE MOUNTING IS NOT ALLOWED.
4. PVC CONDUIT MUST BE 1.5" UNLESS NOTED OTHERWISE.

PEDESTAL SCHEDULE

ID	QTY.	ITEM
P1	3	OUTDOOR TIMING SYSTEM & UNDERWATER LIGHT JUNCTION BOX PEDESTAL REFER: 2 / AQ2.5
P2	1	OUTDOOR UNDERWATER LIGHT JUNCTION BOX PEDESTAL REFER: 3 / AQ2.5



1 POOL TIMING SYSTEM PLAN
3/32" = 1'-0"

FOR BID PURPOSES ONLY

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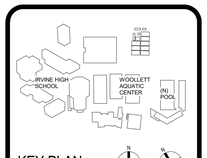
CLIENT LOGO
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

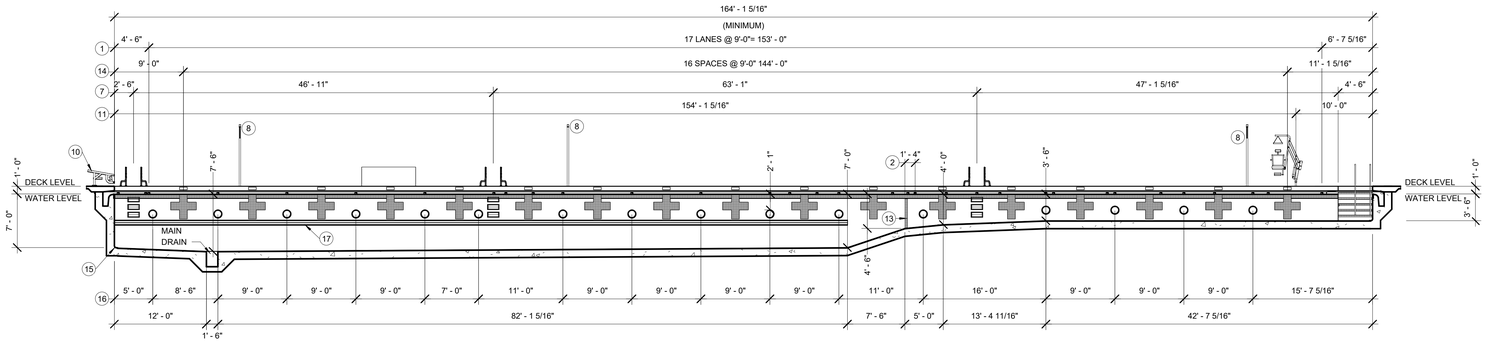
No.	Description	Date

BID DOCUMENTS

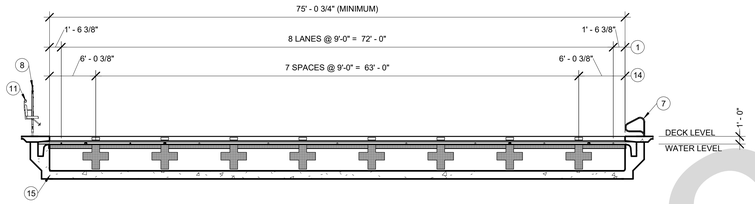
BUILDING NUMBER

COMPETITION POOL TIMING SYSTEM PLAN

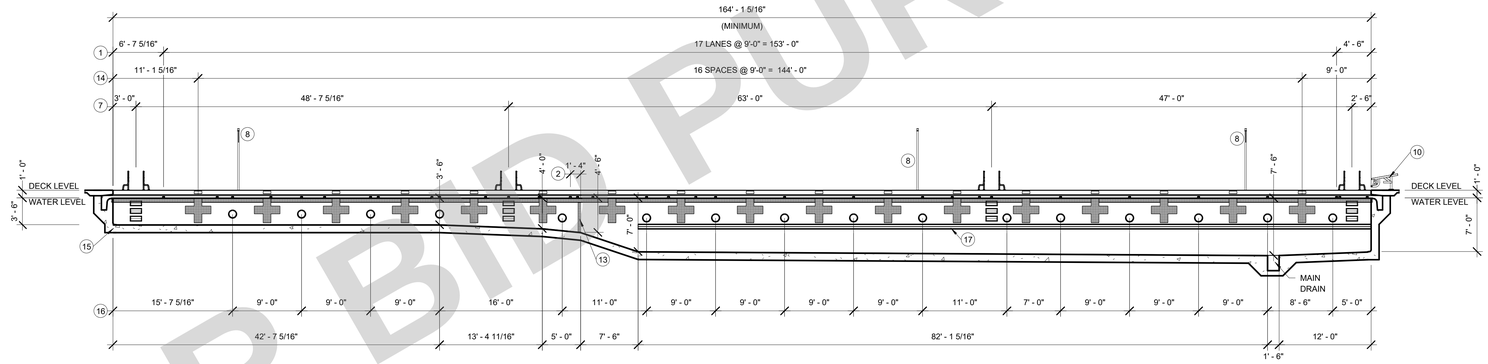
AQ2.5



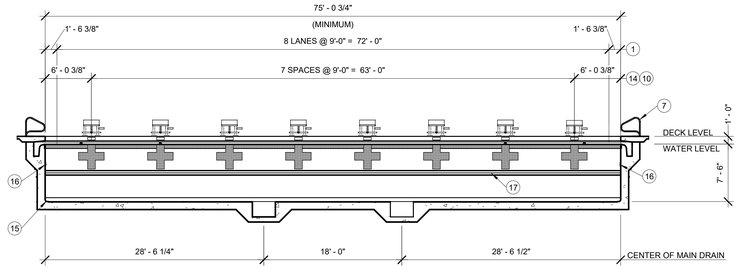
1 COMPETITION POOL SECTION
1/8" = 1'-0"



2 COMPETITION POOL SECTION
1/8" = 1'-0"



3 COMPETITION POOL SECTION
1/8" = 1'-0"



4 COMPETITION POOL SECTION
1/8" = 1'-0"

EQUIPMENT SCHEDULE

ID	ITEM
1	LANE ROPE CUP ANCHOR REFER: 1 / AQ2.7
2	SAFETY ROPE CUP ANCHOR REFER: 1 / AQ2.7
3	LANE ROPE EXTENSION REFER: 3 / AQ2.7
4	BACKSTROKE PENNANT
5	FALSE START ROPE ASSEMBLY
6	SAFETY ROPE
7	GRAB RAILS & RECESSED STEPS REFER: 12 / AQ2.7
8	STANCHION POST & ANCHOR REFER: 6 / AQ2.8
9	TAGLINE POST & ANCHOR REFER: 11 / AQ2.7
10	DECK MOUNTED STARTING PLATFORM & ANCHOR REFER: 13 / AQ2.7
11	POOL LIFT & ANCHOR REFER: 14 / AQ2.7
12	RESURFACING MARKER REFER: 10 / AQ2.7
13	4" CONTRASTING TILE BAND COLOR BY ARCHITECT
14	WALL TARGET REFER:10 / AQ2.7
15	POOL COVE REFER: 4 / AQ2.7
16	UNDERWATER LIGHT REFER: 3 / AQ2.8
17	TOE LEDGE REFER: 5 / AQ2.8
18	FLOATING WATER POLO GOAL REFER: 2 / AQ2.8
19	DECK MOUNTED WATER POLO GOAL REFER: - / ---
20	WATER POLO BALL SAFETY NET REFER: SPECIFICATION 131100 2.11 A.12.

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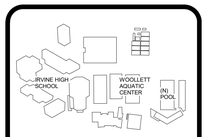


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

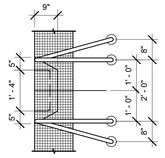
BUILDING NUMBER

COMPETITION POOL SECTIONS

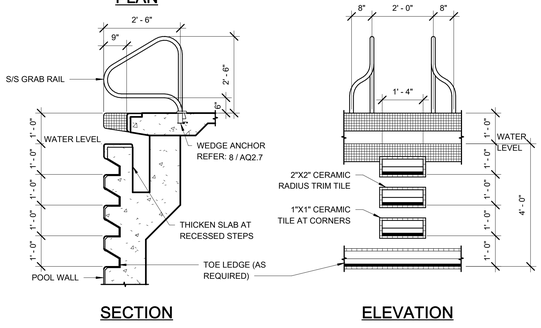
AQ2.6

FOR BID PURPOSES ONLY

NOTE:
1. POSITION THE WEDGE PORTION OF EACH ANCHOR 180 DEGREES FROM THE WEDGE PORTION OF THE ADJACENT ANCHOR.
2. REFER TO SECTIONS (AQ2.6) TO DETERMINE LENGTH & LOCATION OF TOE LEDGE.

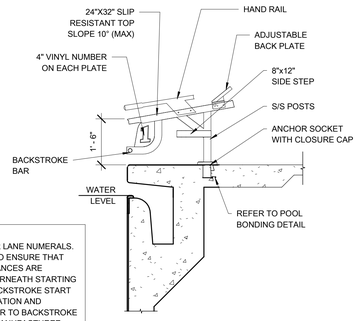


PLAN



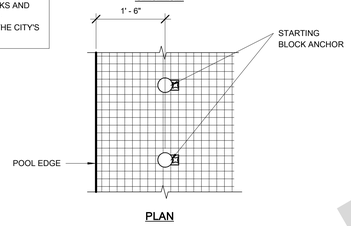
SECTION ELEVATION

12 GRAB RAILS & RECESSED STEPS
1/2" = 1'-0"



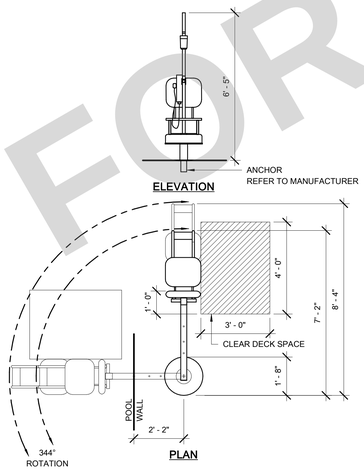
SECTION

NOTE:
1. SEE SPECS FOR LANE NUMERALS.
2. CONTRACTOR TO ENSURE THAT PROPER CLEARANCES ARE PROVIDED UNDERNEATH STARTING BLOCKS FOR BACKSTROKE START DEVICE INSTALLATION AND FUNCTION. REFER TO BACKSTROKE START DEVICE MANUFACTURER FOR REQUIRED CLEARANCES.
3. FIELD VERIFY THAT BLOCKS AND ANCHORS PROVIDED ARE INTERCHANGABLE WITH THE CITY'S EXISTING BLOCKS.



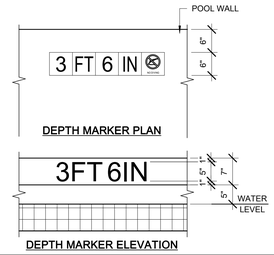
PLAN

13 STARTING BLOCK
3/4" = 1'-0"



ELEVATION PLAN

14 POOL LIFT
3/8" = 1'-0"

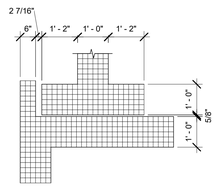


DEPTH MARKER PLAN

DEPTH MARKER ELEVATION

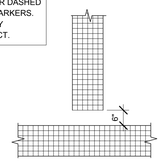
NOTE:
1. DEPTH MARKERS AND WARNING SIGNS MUST BE PROVIDED AS 6"x6" TILES WITH MINIMUM 4" TALL CONTRASTING LETTERS AND NUMBERS. COLOR BY ARCHITECT.
2. PROVIDE NO DIVING WARNING SIGNS WITH 6"x6" TILE DISPLAYING INTERNATIONAL NO DIVING SYMBOL.
3. ALL HORIZONTAL TILE INSTALLATIONS MUST HAVE A SLIP RESISTANT FINISH. ALL VERTICAL TILE INSTALLATIONS MUST HAVE A SMOOTH GLAZED FINISH.
4. LOCATE ALL DEPTH MARKER AND WARNING SIGN TILES SUCH THAT THEY DO NOT CONFLICT WITH PAVING JOINTS.

9 DEPTH MARKERS & WARNING SIGNS
3/4" = 1'-0"

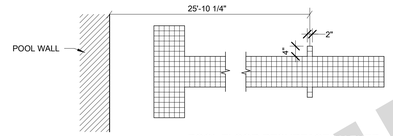


DEEP END CROSS COURSE FLOOR MARKER CONFLICT DETAIL

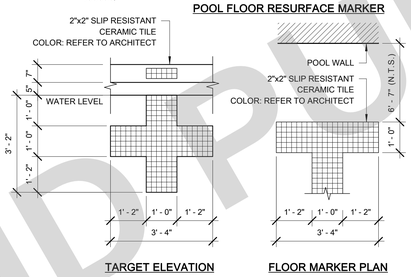
NOTE:
CONTINUOUS FLOOR MARKERS HAVE RIGHT OF WAY OVER DASHED FLOOR MARKERS. COLOR BY ARCHITECT.



CROSS COURSE FLOOR MARKER DETAIL

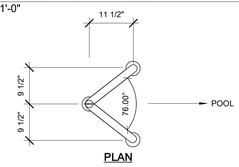


POOL FLOOR RESURFACE MARKER

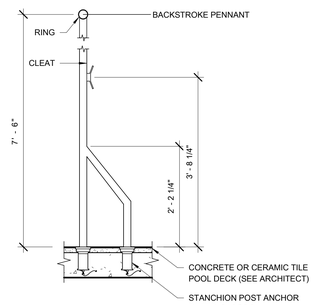


TARGET ELEVATION FLOOR MARKER PLAN

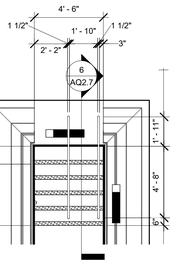
10 WALL TARGETS & FLOOR MARKERS
1/2" = 1'-0"



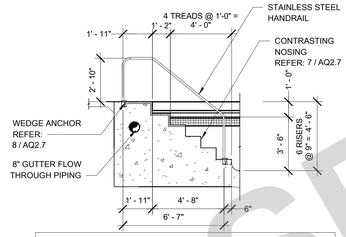
PLAN



11 TAGLINE STANCHION POST & ANCHOR
3/4" = 1'-0"



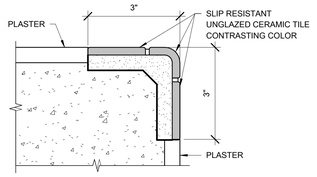
5 COMPETITION POOL ENLARGED STAIR PLAN
1/4" = 1'-0"



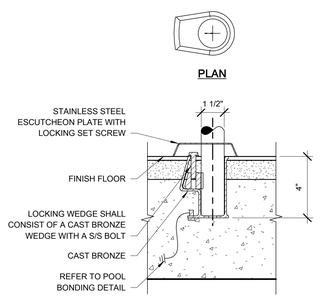
NOTE:
1. LOCATE HANDRAILS TO PROVIDE A MIN. 2 1/4" CLEARANCE BETWEEN HANDRAIL GRIPPING SURFACE AND ALL ADJACENT STRUCTURES.
2. PROVIDE ALL TILE ON TOP TREAD AND FIRST TWO RISERS ONLY.

6 POOL STAIR SECTION
1/4" = 1'-0"

NOTE:
PROVIDE ALL TILE ON TOP TREAD AND FIRST TWO RISERS ONLY.

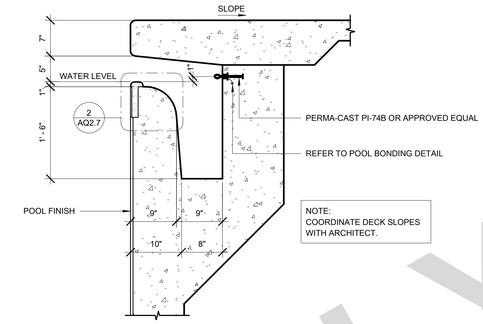


7 CONTRASTING NOSING
6" = 1'-0"



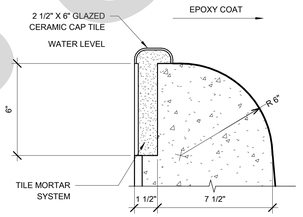
SECTION

8 WEDGE ANCHOR
3" = 1'-0"

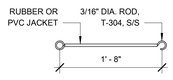


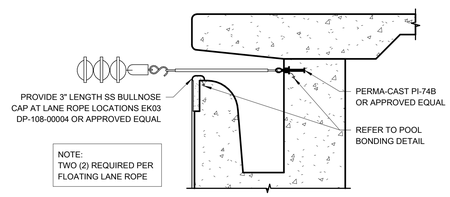
NOTE:
COORDINATE DECK SLOPES WITH ARCHITECT.

1 FULLY RECESSED GUTTER
1" = 1'-0"



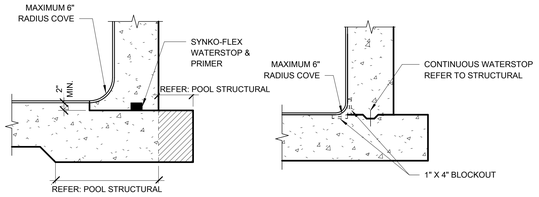
2 GUTTER LIP
3" = 1'-0"





NOTE:
TWO (2) REQUIRED PER FLOATING LANE ROPE

3 LANE ROPE EXTENSION
1" = 1'-0"



NOTE:
1. ALL JUNCTIONS BETWEEN THE SWIMMING POOL WALL AND THE FLOOR MUST BE COVED.
2. POOL FLOOR MUST BE CAST IN PLACE.

SHOTCRETE COVE CAST IN PLACE COVE

4 POOL COVE
3/4" = 1'-0"

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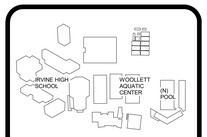


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE 09/30/2025
PROJECT NUMBER 230538

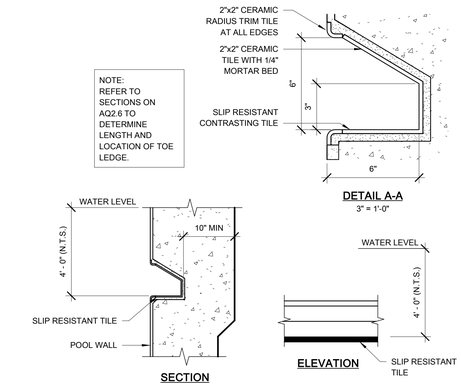
DRAWING HISTORY

No.	Description	Date

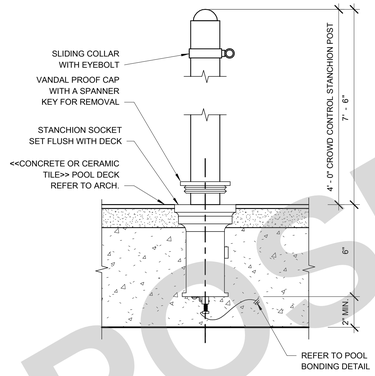
BID DOCUMENTS
BUILDING NUMBER

COMPETITION POOL DETAILS

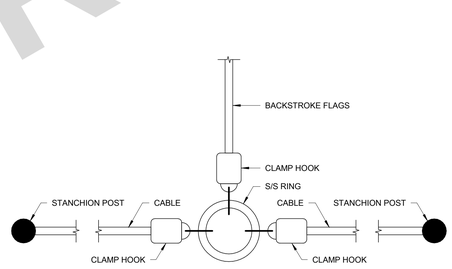
AQ2.7



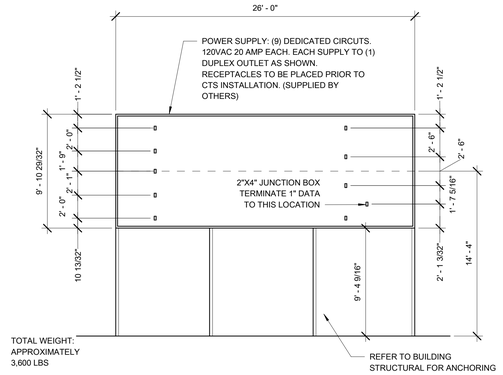
5 TOE LEDGE
1" = 1'-0"



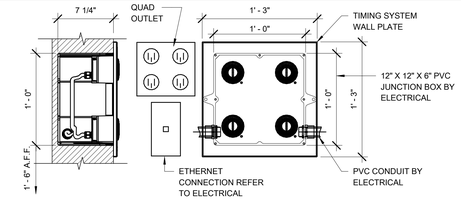
6 STANCHION POST & ANCHOR
3" = 1'-0"

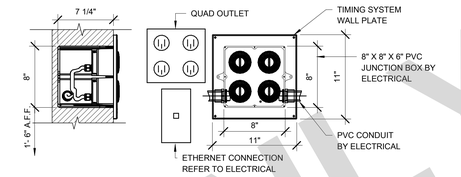


7 BACKSTROKE FLAG CABLE CLAMP
3" = 1'-0"

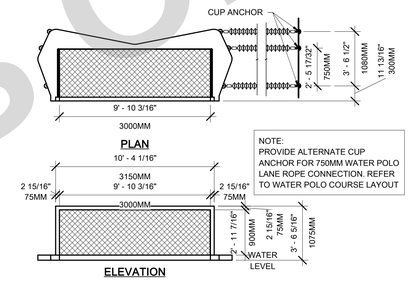


8 SCOREBOARD
3/16" = 1'-0"

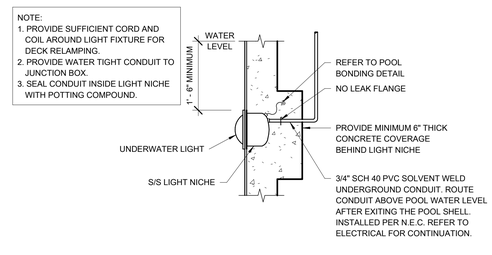




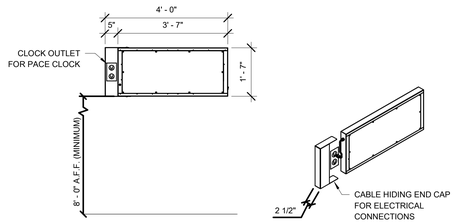
1 WALL PLATE
1 1/2" = 1'-0"



2 FLOATING WATER POLO GOAL
1/4" = 1'-0"



3 UNDERWATER LIGHT
3/4" = 1'-0"



4 PACE CLOCK
1/2" = 1'-0"

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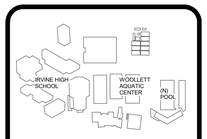


DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

COMPETITION POOL DETAILS

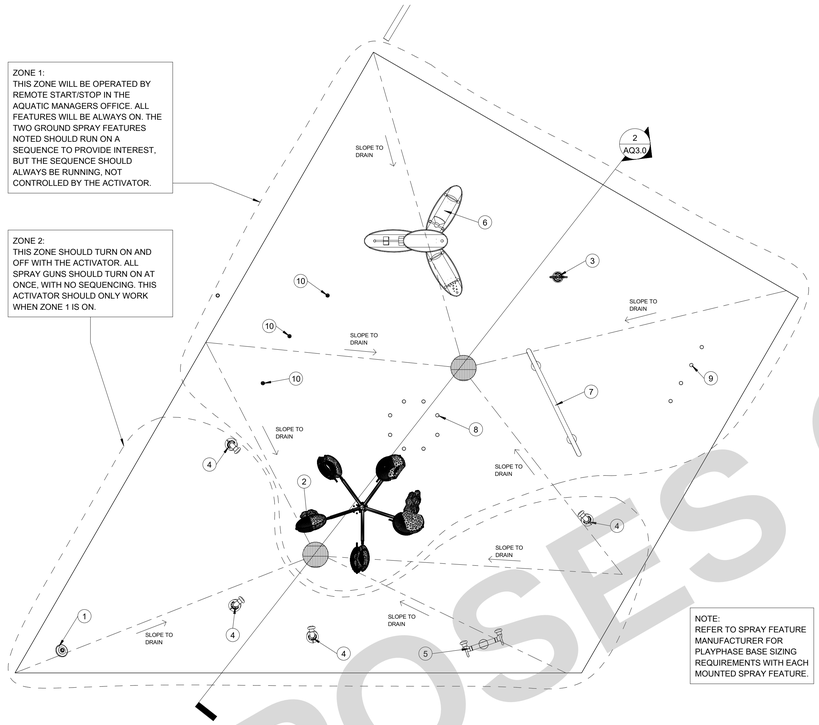
AQ2.8

EQUIPMENT SCHEDULE

ID	ITEM
1	ACTIVATOR POWER POST REFER: 2 / AQ3.1
2	AQUALUME SOAKER 5 FEATURE REFER: 3 / AQ3.1
3	FISH FEATURE REFER: 4 / AQ3.1
4	SPLASH BLASTER FEATURE REFER: 5 / AQ3.1
5	TEAM BLASTER FEATURE REFER: 6 / AQ3.1
6	WATERFALL 3 FEATURE REFER: 7 / AQ3.1
7	WATER-O FEATURE REFER: 8 / AQ3.1
8	DOUGHNUT FEATURE REFER: 9 / AQ3.1
9	SPRAY TUNNEL 4 FEATURE REFER:10 / AQ3.1
10	TULIP FEATURE REFER:11 / AQ3.1

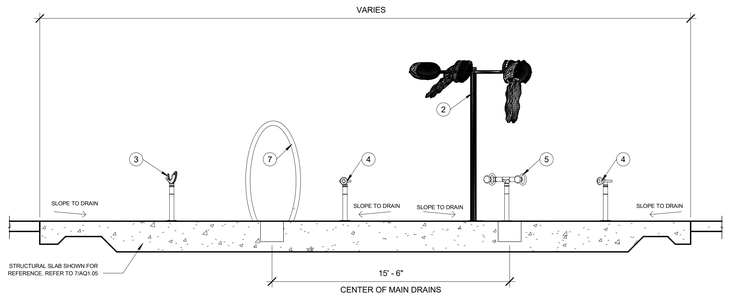
ZONE 1:
THIS ZONE WILL BE OPERATED BY REMOTE START/STOP IN THE AQUATIC MANAGERS OFFICE. ALL FEATURES WILL BE ALWAYS ON. THE TWO GROUND SPRAY FEATURES NOTED SHOULD RUN ON A SEQUENCE TO PROVIDE INTEREST, BUT THE SEQUENCE SHOULD ALWAYS BE RUNNING, NOT CONTROLLED BY THE ACTIVATOR.

ZONE 2:
THIS ZONE SHOULD TURN ON AND OFF WITH THE ACTIVATOR. ALL SPRAY GUNS SHOULD TURN ON AT ONCE, WITH NO SEQUENCING. THIS ACTIVATOR SHOULD ONLY WORK WHEN ZONE 1 IS ON.



NOTE:
REFER TO SPRAY FEATURE MANUFACTURER FOR PLAYPHASE BASE SIZING REQUIREMENTS WITH EACH MOUNTED SPRAY FEATURE.

1 SPRAYGROUND PLAN
1/4" = 1'-0"



2 SPRAYGROUND SECTION
1/4" = 1'-0"

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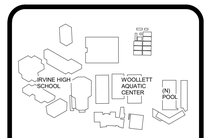


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

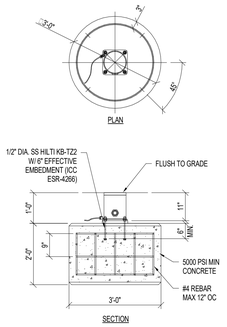
No.	Description	Date

BID DOCUMENTS

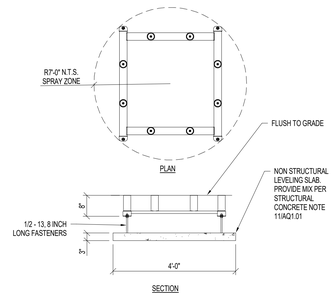
BUILDING NUMBER

SPRAYGROUND PLAN & SECTIONS

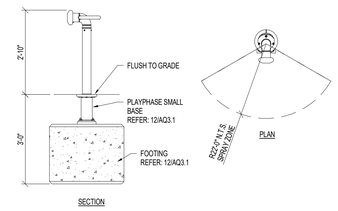
AQ3.0



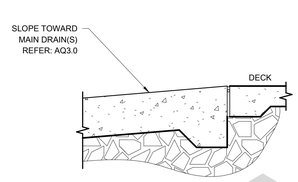
13 PLAYPHASE BASE MEDIUM
1/2" = 1'-0"



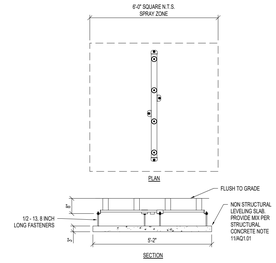
9 DOUGHNUT FEATURE
1/2" = 1'-0"



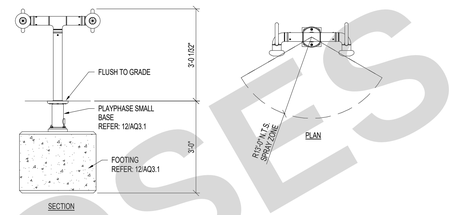
5 SPLASH BLASTER FEATURE
1/2" = 1'-0"



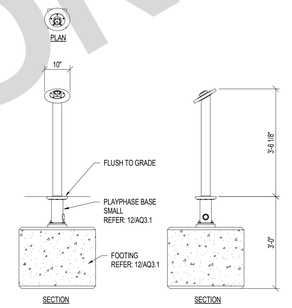
1 SPRAYGROUND DECK INTERFACE
1" = 1'-0"



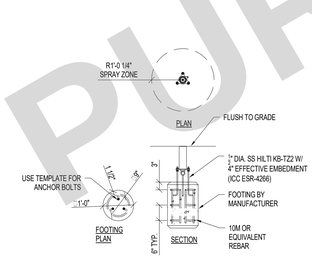
10 SPRAY TUNNEL 4 FEATURE
3/8" = 1'-0"



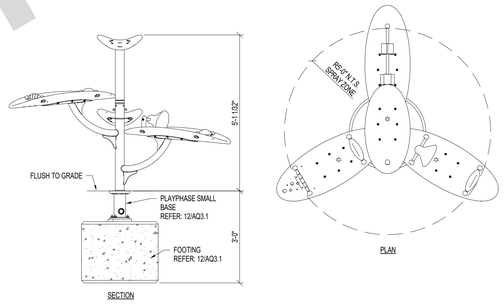
6 TEAM BLASTER FEATURE
1/2" = 1'-0"



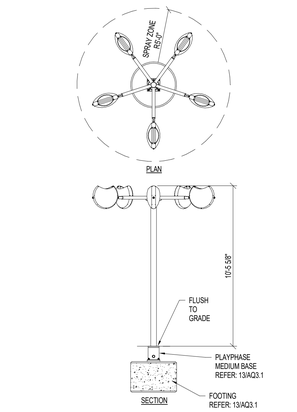
2 ACTIVATOR POWER POST
1/2" = 1'-0"



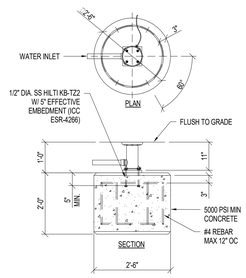
11 TULIP FEATURE
1/2" = 1'-0"



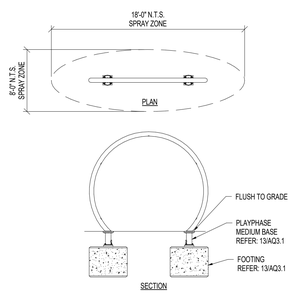
7 WATERFALL 3 FEATURE
1/2" = 1'-0"



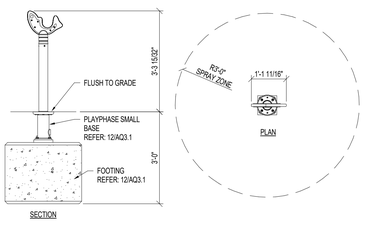
3 AQUALUME SOAKER 5 FEATURE
1/4" = 1'-0"



12 PLAYPHASE BASE SMALL
1/2" = 1'-0"



8 WATER-O FEATURE
1/4" = 1'-0"



4 FISH FEATURE
1/2" = 1'-0"

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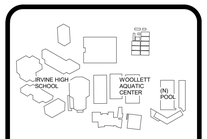


DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

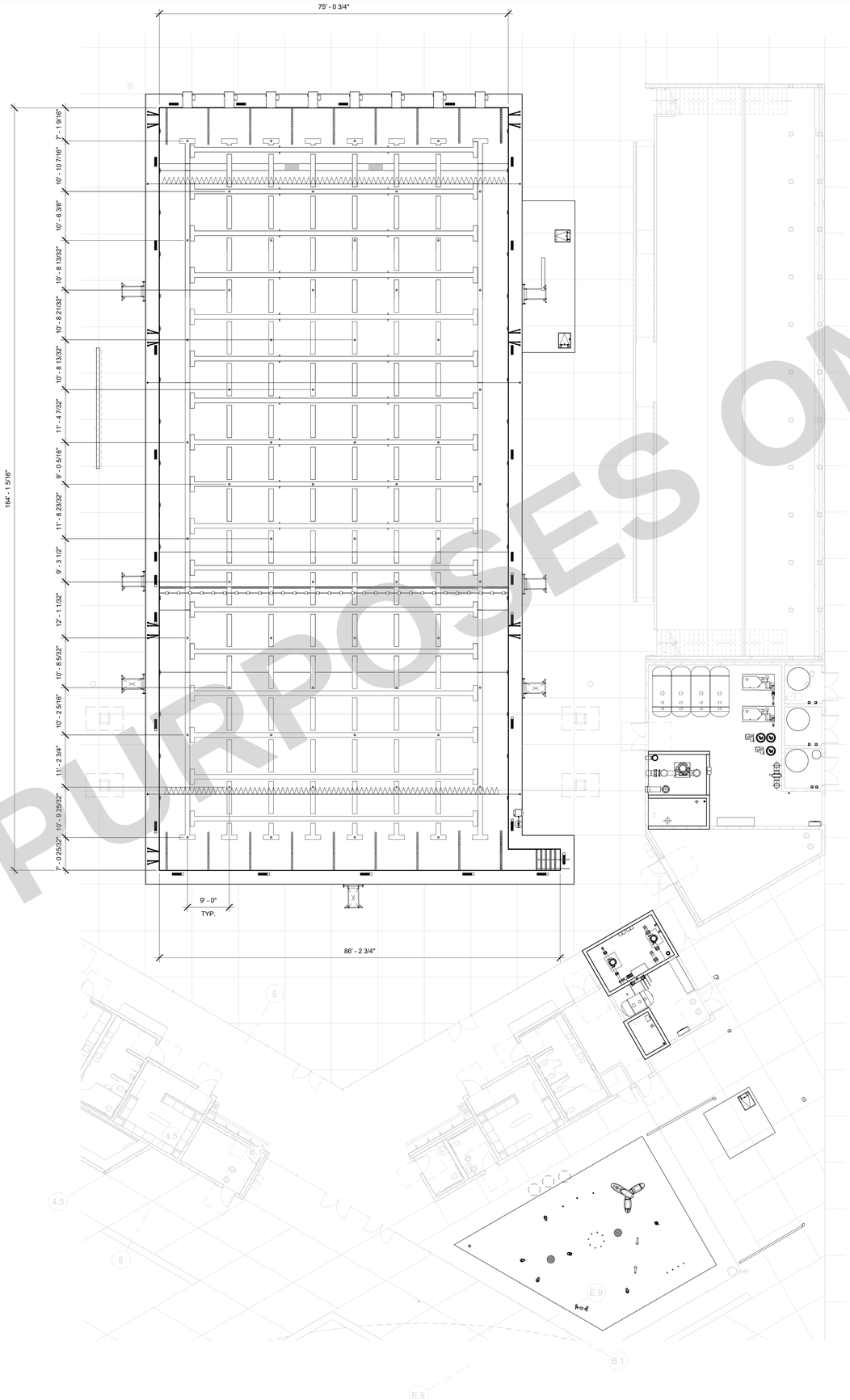
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

SPRAYGROUND DETAILS

AQ3.1



1 POOL STAKING PLAN
3/32" = 1'-0"

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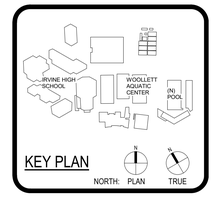

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BUILDING NUMBER

POOL STAKING PLAN

AQ4.0

PIPING DISTRIBUTION SYSTEM BRACING NOTE

MEP Distribution System Bracing Note for Piping, Ductwork, and Electrical Conduit:

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7 Section 13.3 as defined in ASCE 7 Sections 13.6.5, 13.6.6, 13.6.7, and 13.6.8; and 2022 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution systems are as noted below. The MEP design professional engineer responsible for content on these sheets has verified that the design methods identified below are in accordance with DSA IR 16-13.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP ☐ MD ☐ PP ☒ E ☐ Option 1: Project-Specific Design.

MP ☐ MD ☐ PP ☐ E ☐ Option 2: Design Based on OSHPD OPM, Within Project Submittal

MP ☐ MD ☐ PP ☐ E ☐ Option 3: Design Based on OSHPD OPM, Deferred Submittal

MAIN DRAIN SCHEDULE

ID	DESCRIPTION	SIZE	QTY.	DESIGN FLOW (GPM)	DESIGN VELOCITY (FPS)	MFG ALLOWABLE FLOW @ COVER (GPM)	MAX SYSTEM FLOW (GPM)	MODEL	MANUFACTURER	NOTES
M1	COMPETITION POOL MAIN DRAINS	18"X36"	2	1675	0.67	1875	1875	DALMAX-SG-183634	DALDORADO	1,3-8
M2	SPRAYGROUND MAIN DRAINS	18" DIA.	2	138	N/A	N/A	N/A	0010-4133	WATERPLAY	2,5,6,9

NOTES:
1. MAIN DRAIN SUMP AND GRATE MUST BE MANUFACTURED BY NEPTUNE BENSON, DALDORADO, AQUASTAR, PADDOCK OR APPROVED EQUAL.
2. MAIN DRAIN SUMP AND GRATE MUST BE MANUFACTURED BY WATERPLAY OR APPROVED EQUAL.
3. MAXIMUM FACE VELOCITY MUST NOT EXCEED 1.5 FEET PER SECOND.
4. OPEN AREA IS BASED ON MANUFACTURER'S DATA.
5. THE INSTALLED LIFE OF THE MAIN DRAIN GRATE MUST BE A MINIMUM OF 10 YEARS.
6. FASTEN MAIN DRAIN GRATE TO SUMP WITH S/S TAMPER PROOF FASTENERS AT A SPACING NO GREATER THAN 24" O.C. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. PROVIDE WATER BONDING FITTING IN MAIN DRAIN SUMP AT DEEPEST SECTION OF THE POOL. BASIS OF DESIGN: PERMA-CAST SWIMMING POOL PRODUCTS MODEL PB-SK-20 OR APPROVED EQUAL.
8. PROVIDE HYDROSTATIC RELIEF VALVE IN EACH MAIN DRAIN. SUMP BASIS OF DESIGN: HAYWARD MODEL SP1056 & SP1055, AQUASTAR HVC101 OR APPROVED EQUAL.
9. MAIN DRAIN IS FOR GRAVITY FLOW ONLY. NO SUCTION WILL OCCUR.

PUMP SCHEDULE

ID	DESCRIPTION	MANUFACTURER	MODEL	SIZE	GPM	TDH	HP	NPSHR	HAIR/LINT		NOTES	MAX. WEIGHT
									MAKE	SIZE		
PP1	COMPETITION POOL RECIRCULATION PUMP REFER: 1 / AQ6.5	PACO	8015-3/4 KPVS	10X8	1,675	73	50	6.96	FLUIDTROL	12x10	1-6,8,9	2,200 LBS
PP2	SPRAYGROUND RECIRCULATION PUMP REFER: 1 / AQ6.5	PACO	3014-7/8 KPVS	4X3	290	70	10	4.33	FLUIDTROL	6x4	1-6,8	550 LBS
PP3	SPRAYGROUND FEATURE PUMP REFER: 1 / AQ6.5	PACO	2013-5/6 KPVS	2.5X2	138	60	5	6.40	FLUIDTROL	4x2.5	1-8	440 LBS

NOTES:
1. THE MANUFACTURER INDICATED IS THE BASIS OF DESIGN. PUMP MANUFACTURERS: GRISWOLD, HERBORNER OR AURORA ARE CONSIDERED EQUALS PROVIDED THEY MEET SPECIFICATIONS AS INDICATED IN BID DOCUMENTS.
2. POOL PUMPS AND STRAINERS MUST BE INSTALLED ON HOUSEKEEPING PADS.
3. PROVIDE INFLUENT AND EFFLUENT GAUGES FOR EACH PUMP. PRESSURE GAUGES MUST HAVE A RANGE OF 0-60 PSI. COMPOUND GAUGES MUST HAVE A RANGE OF 0-30 HG / 0-60 PSI.
4. PROVIDE WITH 460 VOLT, 3 PHASE, 60HZ, 1187 RPM MOTOR.
5. PROVIDE WITH CHECK VALVE.
6. PROVIDE VARIABLE FREQUENCY DRIVE WITH BYPASS.
7. PROVIDE REMOTE PUMP START.
8. PROVIDE ALL PUMPS WITH SEPARATE "ON/ OFF" SWITCHES AND A MASTER CONTROL SWITCH WITH "ON/OFF" FOR EMERGENCY OPERATION.
9. PROVIDE WITH 12.69IN DIAMETER IMPELLER. REFER TO SPECIFICATION 131100 2.02A.2

GENERAL PIPING NOTES

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERATIONAL PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. PIPE SIZES INDICATED ARE NOMINAL, I.P.S.
3. UNLESS OTHERWISE NOTED, ALL OVERHEAD PIPING MUST BE TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB.
4. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
5. ALL PIPING WORK MUST BE COORDINATED WITH ALL TRADES AND SITE CONDITIONS. OFFSETS, EXPANSION LOOPS, OR TRANSITIONS IN PIPING AROUND OBSTRUCTIONS MUST BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
6. ALL PIPING INDICATED MUST BE CONSIDERED DIAGRAMMATIC.
7. ALL SWIMMING POOL PIPING ROUTED BELOW THE POOL SHELL MUST BE CONCRETE ENCASED SCHEDULE 40 PVC, REFER: 13/AQ6.6
8. UNDERGROUND SWIMMING POOL PIPING NOT UNDER THE POOL FLOOR OR EXPOSED SWIMMING POOL PIPING MUST BE SCHEDULE 80 PVC, REFER TO PLANS AND SPECIFICATIONS FOR ANY SPECIFIC REQUIREMENTS REGARDING PLACEMENT AND BACKFILLING OF BELOW GRADE POOL PIPE. REFER: 4/AQ6.8
9. ALL DIMENSIONS INDICATED FROM THE FINISH WALL SURFACE AND DO NOT ACCOUNT FOR ANY VARIATIONS IN EITHER GRADE OR SLOPE DISTANCES.
10. THE CHEMICAL SENSOR LINE MUST BE A 3/4" TO 1" DIAMETER, SCHEDULE 80 PVC PIPE EXTENDED FROM THE WET CELL SENSOR TO ITS RESPECTIVE FILL FUNNEL AND THE BACKWASH CATCH BASIN OR PUMP SECTION.
11. ALL FLOOR INLETS MUST BE ADJUSTED TO ACHIEVE AN EVEN FLOW DISTRIBUTION.
12. ALL PIPE TEES MUST BE SIZED FOR LARGEST PIPE CONNECTION.
13. SURGE/BALANCE TANK VENT PIPING TO ATMOSPHERE.
15. ALL DROPOUT LINES MUST SLOPE 1/8" PER FOOT MINIMUM.
17. ALL SPRAYGROUND PIPING MUST HAVE THE CAPABILITY TO BE DRAINED FOR WINTERIZATION.
18. ALL SPRAYGROUND PIPING EXITING THE MECHANICAL ROOM BELOW GRADE MUST BE ROUTED BENEATH THE BUILDING FOUNDATIONS. REFER S1.1, S/S4.1, AND 5/S4.2.
19. 2" SCHEDULE 40 PVC CONDUIT FROM POOL MECHANICAL ROOM TO SPRAYGROUND MECHANICAL ROOM. PROVIDE WITH SWEPT FITTINGS. CAP AT BOTH ENDS. REFER: P45/AQ5.3

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
P1	12"	FROM M1 TO PP1
P2	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P3	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P4	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P5	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P6	12"	FROM PP1 TO F1
P7	12"	FROM F1 TO RETURN INLETS
P10	6"	FROM P6 TO BACKWASH BASIN
P11	8"	FROM L1 TO SURGE TANK
P12	4"	FROM SURGE TANK TO ATMOSPHERE
P13	12"	FROM F1 TO BACKWASH BASIN
P14	6"	FROM PP2 TO F2
P15	6"	FROM M2 TO BALANCE TANK
P16	2"	FROM RAIN DIVERTER TO STORM
P17	6"	FROM BALANCE TANK TO PP2
P18	6"	FROM F2 TO BACKWASH BASIN
P19	6"	FROM F2 TO BALANCE TANK
P20	3"	FROM L2 TO BALANCE TANK
P21	4"	FROM PP3 TO WATER FEATURE MANIFOLD
P22	4"	FROM BALANCE TANK TO PP3
P23	1"	FROM P21 TO TEAM BLASTER
P24	1 1/2"	FROM WATER FEATURE MANIFOLD TO TULIP FEATURES
P25	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
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P45	2"	FROM POOL MECHANICAL ROOM TO SPRAYGROUND MECHANICAL ROOM. FOR FUTURE USE TO PULL FLEX TUBING OR CONDUIT BETWEEN ROOMS.

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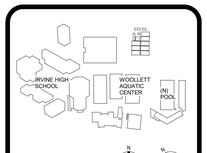

KEY PLAN
NORTH: PLAN TRUE

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DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

POOL PIPING NOTES & SCHEDULES

AQ5.0

PIPING LEGEND

LEGEND	QTY	ITEM	MAKE	MODEL
COMPETITION POOL				
▲	1	WALL INLET REFER: 7 / AQ6.6	HAYWARD	SP1421D & SP1022S
◉	60	FLOOR INLET REFER: 8 / AQ6.6	STA-RITE	8417-0200 (BLACK)
⊠	1	SIGHT SUMP REFER:12 / AQ6.6	QUAZITE	#BO3151712A WITH COVER MODEL #C10151702A
▭	8	GUTTER DROPOUT BOX REFER: 9 / AQ6.6 14 / AQ6.6	FIELD FABRICATED	
▬	2	MAIN DRAIN REFER: 10 / AQ6.6	REFER TO MAIN DRAIN SCHEDULE	
SPRAYGROUND				
○	2	MAIN DRAIN REFER: 11 / AQ6.6	REFER TO MAIN DRAIN SCHEDULE	
□	1	RAIN DIVERTER REFER: 3 / AQ6.7	WATERPLAY	0010-4666
- - - -	N/A	BELOW GRADE PIPING	HARVEL	SCH 40 PVC, SCH 80 PVC

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
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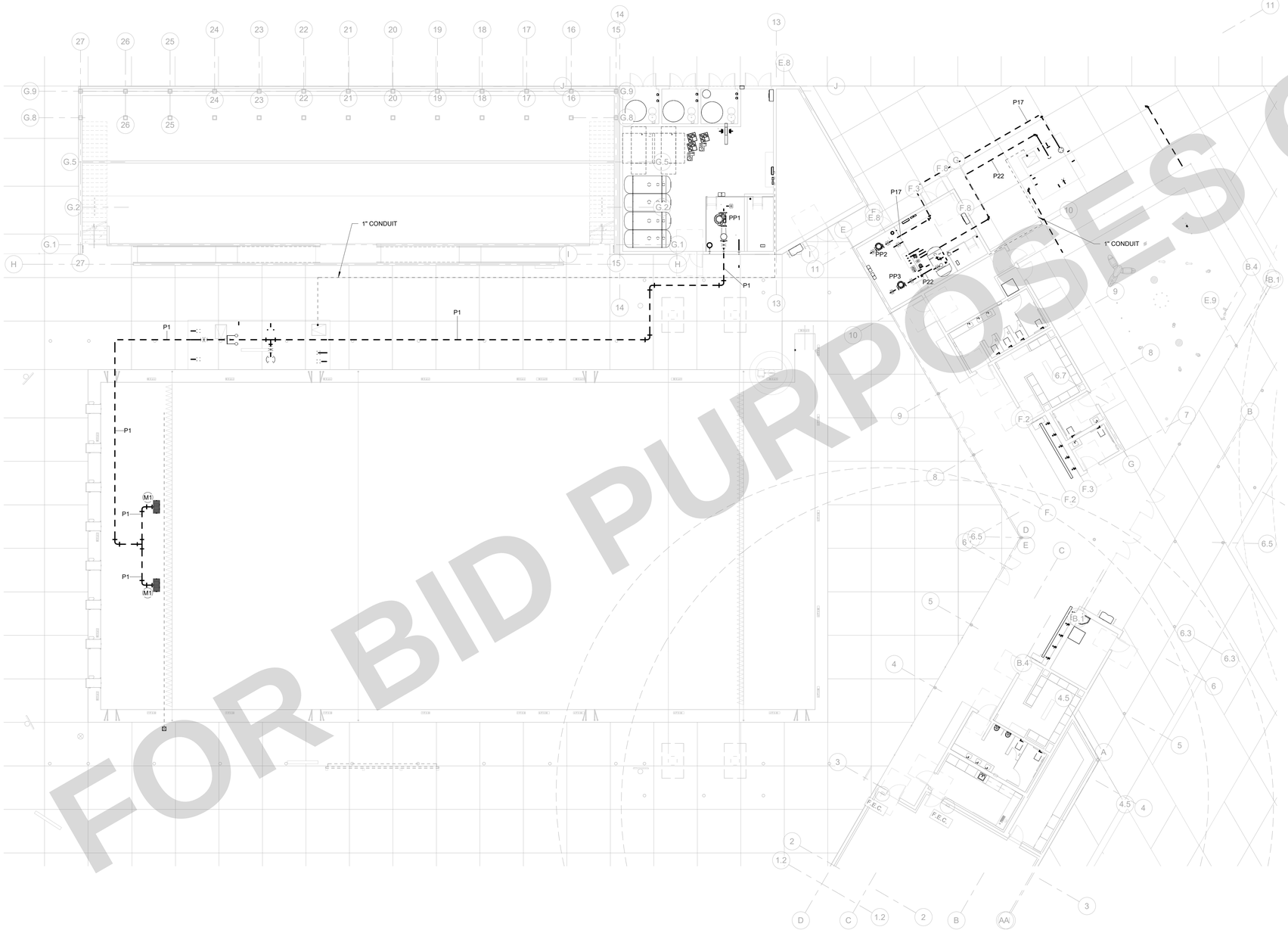

1 POOL SUCTION PIPING PLAN
3/32" = 1'-0"

FOR BID PURPOSES ONLY

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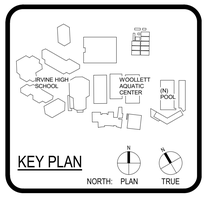

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42368
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

POOL SUCTION PIPING PLAN

AQ5.1

0"

1"

PIPING LEGEND

LEGEND	QTY	ITEM	MAKE	MODEL
COMPETITION POOL				
▲	1	WALL INLET REFER: 7 / AQ6.6	HAYWARD	SP1421D & SP1022S
◉	60	FLOOR INLET REFER: 8 / AQ6.6	STA-RITE	8417-0200 (BLACK)
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▬	2	MAIN DRAIN REFER: 10 / AQ6.6	REFER TO MAIN DRAIN SCHEDULE	
SPRAYGROUND				
○	2	MAIN DRAIN REFER: 11 / AQ6.6	REFER TO MAIN DRAIN SCHEDULE	
□	1	RAIN DIVERTER REFER: 3 / AQ6.7	WATERPLAY	0010-4666
- - - -	N/A	BELOW GRADE PIPING	HARVEL	SCH 40 PVC, SCH 80 PVC

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
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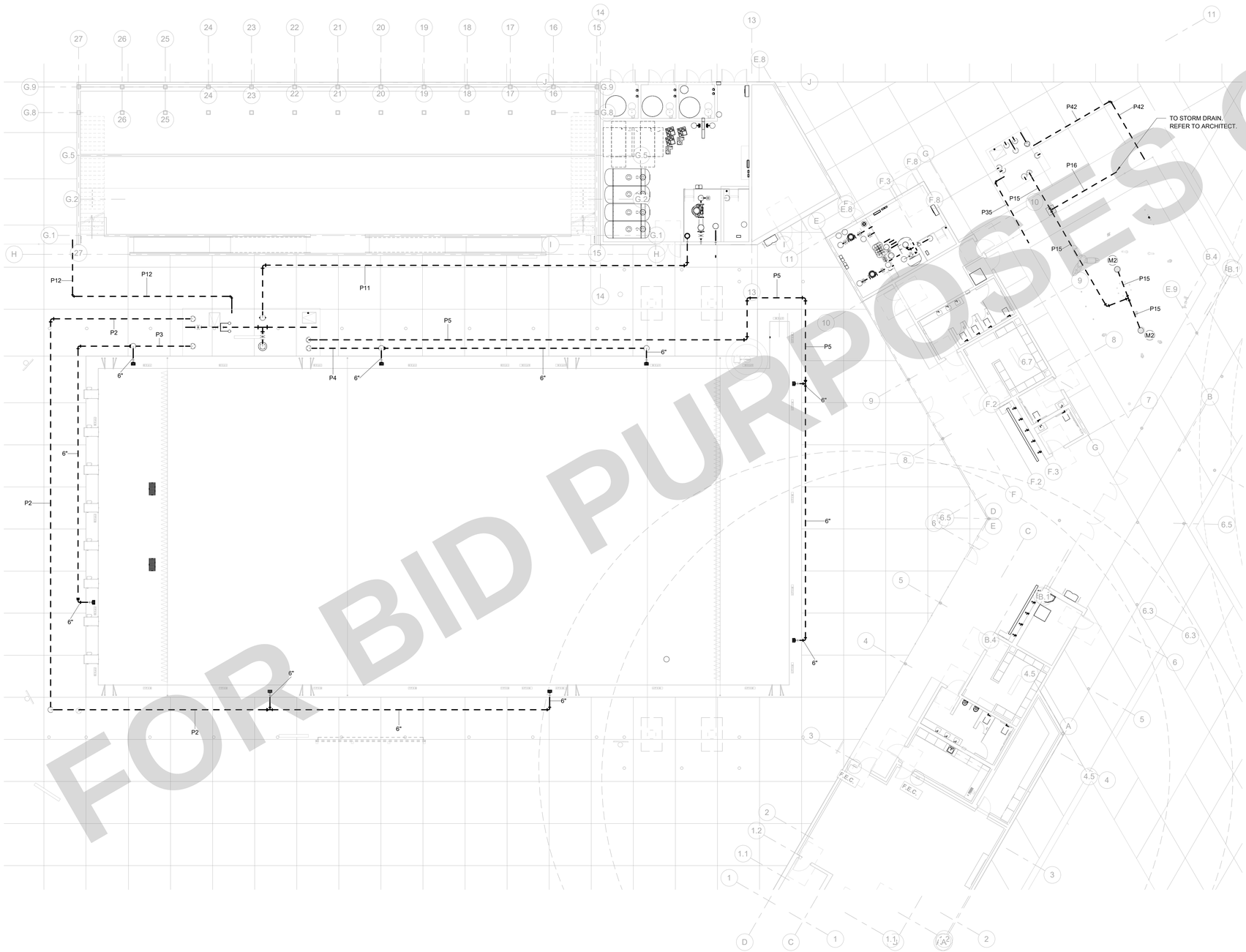

1 POOL GRAVITY PIPING PLAN
3/32" = 1'-0"

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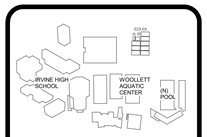
CLIENT LOGO

CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

POOL GRAVITY PIPING PLAN

AQ5.2

PIPING LEGEND

LEGEND	QTY	ITEM	MAKE	MODEL
		COMPETITION POOL		
	1	WALL INLET REFER: 7 / AQ6.6	HAYWARD	SP1421D & SP1022S
	60	FLOOR INLET REFER: 8 / AQ6.6	STA-RITE	8417-0200 (BLACK)
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	2	MAIN DRAIN REFER: 10 / AQ6.6	REFER TO MAIN DRAIN SCHEDULE	
		SPRAYGROUND		
	2	MAIN DRAIN REFER: 11 / AQ6.6	REFER TO MAIN DRAIN SCHEDULE	
	1	RAIN DIVERTER REFER: 3 / AQ6.7	WATERPLAY	0010-4666
	N/A	BELOW GRADE PIPING	HARVEL	SCH 40 PVC, SCH 80 PVC

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
P1	12"	FROM M1 TO PP1
P2	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P3	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
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P11	8"	FROM L1 TO SURGE TANK
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P23	1"	FROM P21 TO TEAM BLASTER
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PROVIDE WITH SWEPT FITTING

STACKED WATER FEATURE PIPING P23-P34 REFER: AQ6.2

PROVIDE WITH SWEPT FITTING

1 POOL RETURN PIPING PLAN
3/32" = 1'-0"

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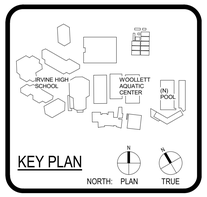

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

POOL RETURN PIPING PLAN

AQ5.3

HEATER SCHEDULE

ID	POOL	QTY	MAKE	MODEL	BOILER EFF (%)	INPUT (MBH)	AIR INLET SIZE (INCHES)	PIPE SIZE (IN/OUT)	VENT SIZE (INCH)	ELECTRICAL DATA (2 REQUIRED CONNECTIONS PER HEATER) V	PH	HZ	AMP	MAX. WEIGHT
H1	COMPETITION	2	LOCHINVAR	AQUAS	96	2,000	8	3	8	120 120	1 1	60 60	13 9	3,400 LBS

NOTES:
1. THE BASIS OF DESIGN MANUFACTURER IS LOCHINVAR. ALTERNATE MANUFACTURER: RAYPACK OR APPROVED EQUAL.
2. HEATERS MUST BE INSTALLED ON HOUSEKEEPING PADS.
3. REFER: 9 / AQ6.7

FILL SCHEDULE

ID	POOL	FRESH WATER SUPPLY GPM (MIN)	FILL FUNNEL SIZE	REDUCER SIZE	SPLASH COLLAR SIZE	FILL LINE SIZE TO POOL	DESIGN FILL TIME (HOURS)
L1	COMPETITION	125	12	12x8	10	8	72
L2	SPRAYGROUND	17	6	6x3	4	3	4

NOTE:
REFER: 14 / AQ6.5

FILTER SCHEDULE

ID	POOL	MANUFACTURER	FILTER MODEL	QTY.	FILTRATION TYPE	MAXIMUM FILTRATION RATE (GPM/SQ.FT)	REQUIRED FILTRATION AREA (SQ.FT.)	DESIGN FILTRATION RATE (GPM/SQ.FT.)	DESIGN FILTRATION AREA (SQ.FT.)	FILTER BACKWASH RATE (GPM/SQ.FT.)	BACKWASH FLOW RATE PER FILTER (GPM)	MAX. OPERATING WEIGHT
F1	COMPETITION	EKO3	48-340	4	HRS	13.0	134.0	12.32	136.0	15.3	521	12,580 LBS
F2	SPRAYGROUND	EKO3	42-230	1	HRS	13.0	22.0	12.61	23.0	15.6	368	8,155 LBS

NOTES:
1. BACKWASH METHOD MUST BE FULLY-AUTOMATIC. REFER 12/AQ6.8
2. ALL FILTER SUPPORTS MUST BE SEISMICALLY RATED FOR THE SEISMIC ZONE IN WHICH IT IS INSTALLED IN ACCORDANCE WITH LOCAL AND/OR STATE REQUIREMENTS. REFER 14/AQ6.7
3. FILTER MANUFACTURER MUST CERTIFY FILTER MEDIA.
4. THE BACKWASH PIPING MUST TERMINATE NO CLOSER THAN 6" ABOVE THE FLOOD RIM OF THE BACKWASH CATCH BASIN OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER.
5. FILTER TANK ASSEMBLIES MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL FOR A MAXIMUM FLOW RATE 20 GPM PER SQUARE FOOT OF FILTER MEDIA.
6. THE BACKWASH THROTTLING VALVE(S) HANDLE MUST BE REMOVED AND TURNED OVER TO THE OWNER ONCE THE BACKWASH FLOW RATE(S) HAVE BEEN TESTED, ADJUSTED, AND BALANCED.
7. PROVIDE 1" DIAMETER, SCHEDULE 80 PVC PIPE FROM THE AUTOMATIC AIR VENT ON EACH OF THE FILTER TANKS TO THE NEAREST FLOOR DRAIN OR BACKWASH CATCH BASIN. THE VENT PIPE MUST BE SLOPED TO THE DRAIN.
8. VALVES MUST BE PROVIDED TO BACKWASH EACH FILTER TANKS INDEPENDENTLY.
9. FILTER TANK MUST BE BACKWASHED AT NO LESS THAN 15.0 GPM/SF OR 3 GPM/SF GREATER THAN THE FILTRATION RATE. WHICHEVER IS GREATER.
10. PROVIDE FILTERS WITH ACTIVATED FILTER MEDIA.

PUMP SCHEDULE

ID	DESCRIPTION	MANUFACTURER	MODEL	SIZE	GPM	TDH	HP	NPSHR	HAIR/LINT MAKE	HAIR/LINT SIZE	NOTES	MAX. WEIGHT
PP1	COMPETITION POOL RECIRCULATION PUMP REFER: 1 / AQ6.5	PACO	8015-3/4 KPVS	10X8	1,675	73	50	6.96	FLUIDTROL	12x10	1-6,8,9	2,200 LBS
PP2	SPRAYGROUND RECIRCULATION PUMP REFER: 1 / AQ6.5	PACO	3014-7/8 KPVS	4X3	290	70	10	4.33	FLUIDTROL	6x4	1-6,8	550 LBS
PP3	SPRAYGROUND FEATURE PUMP REFER: 1 / AQ6.5	PACO	2013-5/6 KPVS	2.5X2	138	60	5	6.40	FLUIDTROL	4x2.5	1-8	440 LBS

NOTES:
1. THE MANUFACTURER INDICATED IS THE BASIS OF DESIGN. PUMP MANUFACTURERS: GRISWOLD, HERBORNER OR AURORA ARE CONSIDERED EQUALS PROVIDED THEY MEET SPECIFICATIONS AS INDICATED IN BID DOCUMENTS.
2. POOL PUMPS AND STRAINERS MUST BE INSTALLED ON HOUSEKEEPING PADS.
3. PROVIDE INFLUENT AND EFFLUENT GAUGES FOR EACH PUMP. PRESSURE GAUGES MUST HAVE A RANGE OF 0-60 PSI. COMPOUND GAUGES MUST HAVE A RANGE OF 0-30 HG / 0-60 PSI.
4. PROVIDE WITH 460 VOLT, 3 PHASE, 60HZ, 1187 RPM MOTOR.
5. PROVIDE WITH CHECK VALVE.
6. PROVIDE VARIABLE FREQUENCY DRIVE WITH BYPASS.
7. PROVIDE REMOTE PUMP START.
8. PROVIDE ALL PUMPS WITH SEPARATE "ON/ OFF" SWITCHES AND A MASTER CONTROL SWITCH WITH "ON/OFF" FOR EMERGENCY OPERATION.
9. PROVIDE WITH 12.69IN DIAMETER IMPELLER. REFER TO SPECIFICATION 131100 2.02A.2

CHEMICAL FEED SCHEDULE

ID	DESCRIPTION	MANUFACTURER	MODEL	TUBE #	PUMP HP	FLOW	NOTES	MAX. WEIGHT
CF1	COMP SODIUM HYPOCHLORITE PUMP REFER: 4 / AQ6.5	LMI	SD43-88P-KSI	4	FRAC	244 GAL/DAY	1,3,4	45 LBS
CF2	COMP ACID FEED PUMP REFER: 5 / AQ6.5	LMI	B12	5	FRAC	60 GAL/DAY	1,3,4	15 LBS
CF3	COMP CO_2 FEED SYSTEM REFER: 8 / AQ6.5	EK03	PH-MTS	N/A	3/4	60-160 SCFH	2,3,4	200 LBS
CF4	SPRAY SODIUM HYPOCHLORITE PUMP REFER: 4 / AQ6.5	LMI	B12	4	FRAC	38.8 GAL/DAY	1,3,4	15 LBS
CF5	SPRAY ACID FEED PUMP REFER: 5 / AQ6.5	LMI	B12	4	FRAC	38.8 GAL/DAY	1,3,4	15 LBS
CF6	SPRAY CO_2 FEED SYSTEM REFER: 8 / AQ6.5	EK03	PH-MTS	N/A	3/4	60-160 SCFH	2,3,4	200 LBS

NOTES:
1. THE MANUFACTURER INDICATED IS THE BASIS OF DESIGN. ALTERNATE MANUFACTURER: PROMINENT OR APPROVED EQUAL.
2. THE MANUFACTURER INDICATED IS THE BASIS OF DESIGN. ALTERNATE MANUFACTURER: PROMINENT, BECS OR APPROVED EQUAL.
3. PROVIDE WITH 120 VOLT, SINGLE PHASE, ADJUSTABLE FEED.
4. INTERLOCK WITH POOL RECIRCULATION PUMP.

UV TREATMENT SYSTEMS SCHEDULE

ID	POOL	MODEL NUMBER	CALCULATED 60 MJ/CM2 (GPM)	NSF 50 3-LOG MAX. FLOW RATE (GPM)	LAMPS	POWER (KW)	VOLTAGE (V) WITH BREAKER SIZE (50 OR 60 HZ)	MAX. OPERATING WEIGHT
U1	COMPETITION	WF-230-10-N	1,980		2 @ 3.0KW	6.0	380 V (3ϕ)-30A 400 V (3ϕ)-30A 415 V (3ϕ)-30A 440 V (3ϕ)-30A 480 V (3ϕ)-30A	UNIT: 250 LBS PANEL: 165 LBS
U2	SPRAYGROUND	WF-215-6	880		2 @ 1.5KW	3.0	208 V (1ϕ)-30A 230 V (1ϕ)-30A 240 V (1ϕ)-30A	UNIT: 150 LBS PANEL: 110 LBS

NOTES:
1. THE BASIS OF DESIGN MANUFACTURER IS EVOQUA WATER TECHNOLOGIES. ALTERNATE MANUFACTURER: PROMINENT, AQUIONIC, OR APPROVED EQUAL.
2. INTERLOCK UV SYSTEM WITH CHEMICAL CONTROLLER OR RECIRCULATION PUMP.
3. REFER: 13 / AQ6.5 AND 14 / AQ6.8

GENERAL POOL MECHANICAL NOTES

1. POOL MECHANICAL ROOM FLOOR AND PUMP PIT FLOOR MUST SLOPE 1/4" TO 1/2" PER FOOT TO FLOOR DRAINS OR SUMP PIT. REFER TO PLUMBING.
2. PROVIDE HOSE BIBBS FOR HOUSE CLEANING PURPOSES. REFER TO PLUMBING.
3. THE INSIDE SURFACES OF THE BACKWASH CATCH BASIN MUST BE WATERPROOFED. REFER TO SPECIFICATION.
4. THE POOL MECHANICAL ROOM AND CHEMICAL STORAGE AREAS MUST BE VENTILATED PER LOCAL, STATE, AND INTERNATIONAL MECHANICAL CODE MINIMUM. REFER TO MECHANICAL.
5. THE FOLLOWING INFORMATION MUST BE LAMINATED AND POSTED IN THE POOL MECHANICAL ROOM: BACKWASH PROCEDURE, POOL FILLING AND DRAINING PROCEDURES, VALVE REFERENCE CHART, POOL MECHANICAL PLAN, POOL PIPING SCHEMATICS AND POOL SYSTEM SCHEMATICS.
6. REFER TO MECHANICAL FOR HVAC SYSTEMS DESIGN.
7. REFER TO ARCHITECTURAL DRAWINGS FOR LADDER RUNGS, SAFETY CHAIN, AND REMOVABLE RAILING AT PUMP PIT.
8. THE NOISE LEVEL FROM THE POOL EQUIPMENT LOCATED LESS THAN 10 FEET FROM A PROPERTY LINE OF AN ADJOINING PROPERTY MUST NOT EXCEED AMBIENT NOISE LEVEL BY MORE THAN FIVE (5) DECIBELS.

PIPING

1. MAINTAIN A MINIMUM 7'-0" CLEARANCE BENEATH ALL OVERHEAD PIPING.
2. PROVIDE AND SUPPORT OVERHEAD AND VERTICAL PIPING PER SPECIFICATION REQUIREMENTS. REFER TO PIPING DISTRIBUTION SYSTEM BRACING NOTE ON AQ5.0
3. LABEL AND IDENTIFY ALL PIPING IN COMPLIANCE WITH THE SPECIFICATIONS.
4. ALL FLOW METERS MUST BE SIZED TO MATCH THE PIPE ON WHICH IT IS INSTALLED. PROVIDE PRESSURE GAUGES ON THE INFLUENT AND EFFLUENT SIDE OF EACH FILTRATION SYSTEM AND A FULL LINE SIZE FLOW METER ON THE FILTER RETURN.
5. HYDROSTATICALLY TEST ALL PIPING AT 50 PSI FOR TWO HOURS AND MAINTAIN A PRESSURE OF 20 PSI IN ALL PIPING THROUGHOUT CONSTRUCTION. SECURE ALL FIXTURES PER SPECIFICATION REQUIREMENTS BEFORE HYDROSTATIC TEST.
6. REFER TO DETAILS 4/AQ6.6, 5/AQ6.6 AND 6/AQ6.6 FOR INSTALLATION OF PIPE SUPPORTS.
7. ALL VALVE HARDWARE MUST BE 316L STAINLESS STEEL AND MEET ANSI HARDWARE INSTALLATION GUIDLINES REFER: 8/AQ6.7
8. ALL BALANCING VALVES AND BUTTERFLY VALVES MUST BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
9. ALL VALVES MUST BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN THE EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED.
10. ALL VALVES MUST BE PROVIDED WITH NUMBERED ID TAGS AND CORRESPONDING VALVE CHART. REFER TO 131100 2.5 H.2.
11. PROVIDE CHAIN WHEEL OPERATORS FOR ALL VALVES MOUNTED GREATER THAN 7'-0" ABOVE FINISHED FLOOR IN THE POOL MECHANICAL ROOM: CHAIN MUST EXTEND TO 7'-0" ABOVE FINISHED FLOOR LEVEL.
12. ALL PIPING ROUTED THROUGH THE CHEMICAL ROOM WALLS INTO THE POOL MECHANICAL ROOM MUST BE PROPERLY SEALED AND FIREPROOFED PER THE FIRE RATING OF THE ROOM. REFER TO ARCHITECT.

CHEMICAL TREATMENT

1. CHEMICAL FEED REQUIREMENTS - REFER TO THE POOL SYSTEMS SCHEMATIC(S) ON AQ7.0 AND AQ7.1
2. INTERLOCK POOL RECIRCULATION PUMP(S) WITH ITS CORRESPONDING CHEMICAL CONTROLLER, CHEMICAL FEED PUMP(S), AND HEATER(S).
3. PROVIDE SIGNAGE ON CHEMICAL ROOM DOORS IN COMPLIANCE WITH THE STATE FIRE CODE. REFER: 11/AQ6.5
4. SECURE CHEMICAL FEED PUMP LINES TO WALL AND/OR OVERHEAD WITH CLIPS OR DEVICES THAT DO NOT CRIMP, DISTORT, OR ALLOW HIGH AND LOW AREAS IN TUBING RUNS. PROVIDE CHECK VALVE AND SHUT-OFF VALVE BEFORE LINES ENTER POOL RETURN PIPING.
5. WATER CHEMISTRY CONTROLLERS MUST CONTROL THE SANITIZING AND PH CONTROL SYSTEM(S) AND SHUT THEM DOWN UPON LOSS OF SAMPLE STREAM FLOW.
6. THE CHEMICAL CONTROLLE BYPASS LINE MUST SAMPLE WATER AFTER THE FILTERS AND BEFORE THE HEATER BYPASS LINE.
7. VERIFY REMOTE ACCESS CAPABILITY TO ALL CHEMICAL CONTROLLERS. REFER TO ELECTRICAL.
8. INSTALL SANITIZER INJECTION POINT DOWNSTREAM OF PH BUFFER INJECTION POINT ON POOL RETURN PIPING. CHEMICAL INJECTION POINTS MUST BE LOCATED DOWNSTREAM OF ALL OTHER EQUIPMENT/SYSTEMS IN THE POOL MECHANICAL ROOM AT A MAXIMUM HEIGHT OF 7'-0" ABOVE FINISHED FLOOR. REFER: 12/AQ6.5

ELECTRICAL

1. GFCI'S MUST BE PROVIDED AT ALL OUTLETS. REFER TO ELECTRICAL
2. POOL MECHANICAL ROOM AND CHEMICAL STORAGE ROOMS MUST BE PROVIDED WITH ARTIFICIAL LIGHTING SUFFICIENT TO ILLUMINATE ALL EQUIPMENT AND SUPPLIES. REFER TO ELECTRICAL.
3. CONDUIT MUST BE ROUTED OVERHEAD OR BELOW GRADE.
4. MECHANICAL ROOM CONTROLLER MUST CONTROL OPERATIONS OF THE POOL RECIRCULATION PUMP PER THE ELECTRICAL DRAWINGS.
5. PROVIDE ELECTRICAL CONNECTION TO POOL HEATERS. REFER TO ELECTRICAL.
6. PROVIDE ELECTRICAL CONNECTION ADJACENT TO FILTER SYSTEM FOR FILTER BACKWASH CONTROLLER. REFER TO ELECTRICAL.

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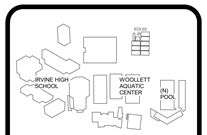

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

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CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

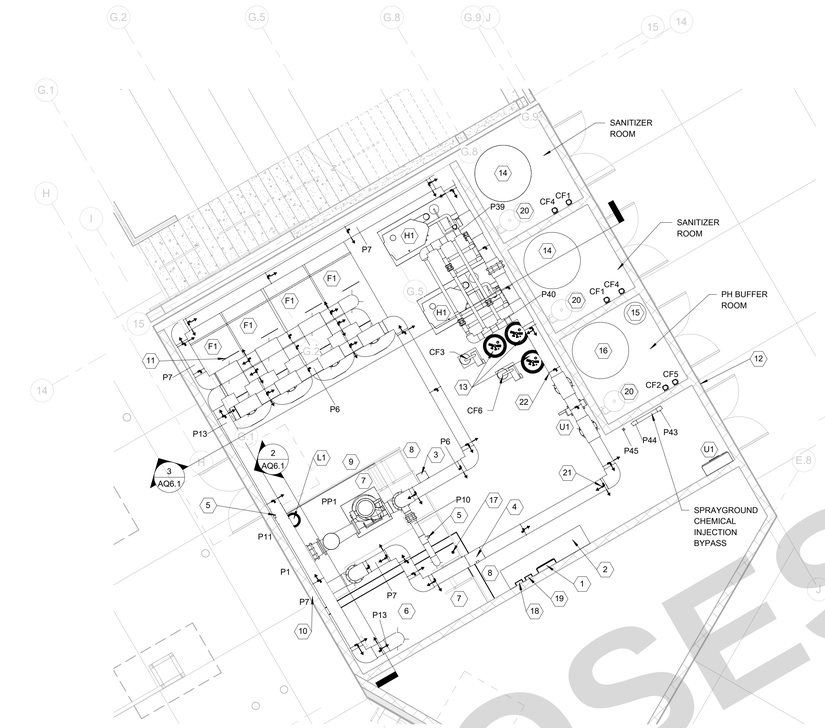
BID DOCUMENTS

BUILDING NUMBER

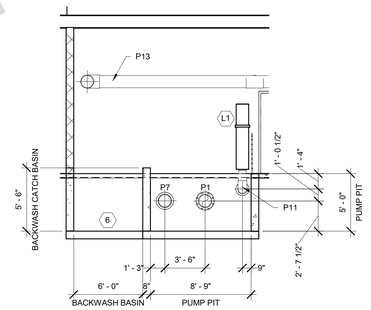
POOL MECHANICAL NOTES & SCHEDULES

AQ6.0

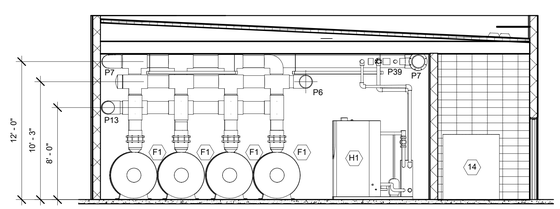
0"
1"



1 COMPETITION POOL MECHANICAL ROOM PLAN
3/16" = 1'-0"



2 COMPETITION POOL MECHANICAL ROOM SECTION
3/16" = 1'-0"



3 COMPETITION POOL MECHANICAL ROOM SECTION
3/16" = 1'-0"

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
P1	12"	FROM M1 TO PP1
P2	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P3	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P4	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P5	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P6	12"	FROM PP1 TO F1
P7	12"	FROM F1 TO RETURN INLETS
P10	6"	FROM P6 TO BACKWASH BASIN
P11	8"	FROM L1 TO SURGE TANK
P12	4"	FROM SURGE TANK TO ATMOSPHERE
P13	12"	FROM F1 TO BACKWASH BASIN
P14	6"	FROM PP2 TO F2
P15	6"	FROM M2 TO BALANCE TANK
P16	2"	FROM RAIN DIVERTER TO STORM
P17	6"	FROM BALANCE TANK TO PP2
P18	6"	FROM F2 TO BACKWASH BASIN
P19	6"	FROM F2 TO BALANCE TANK
P20	3"	FROM L2 TO BALANCE TANK
P21	4"	FROM PP3 TO WATER FEATURE MANIFOLD
P22	4"	FROM BALANCE TANK TO PP3
P23	1"	FROM P21 TO TEAM BLASTER
P24	1 1/2"	FROM WATER FEATURE MANIFOLD TO TULIP FEATURES
P25	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P26	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P27	1"	FROM WATER FEATURE MANIFOLD TO WATERFALL 3 FEATURE
P28	1"	FROM WATER FEATURE MANIFOLD TO FISH FEATURE
P29	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P30	1 1/2"	FROM WATER FEATURE MANIFOLD TO DOUGHNUT FEATURE
P31	1 1/2"	FROM WATER FEATURE MANIFOLD TO AQUALUME FEATURE
P32	1"	FROM WATER FEATURE MANIFOLD TO WATER O FEATURE
P33	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P34	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
P35	4"	FROM BALANCE TANK TO ATMOSPHERE
P38	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
P39	6"	FROM P7 TO HEATER MANIFOLD
P40	6"	FROM HEATER MANIFOLD TO P7
P41	2"	FROM P21 TO ZONE 2 BYPASS
P42	4"	FROM BALANCE TANK TO ATMOSPHERE
P43	3"	FROM P19 TO CHEMICAL BYPASS LOOP
P44	3"	FROM CHEMICAL BYPASS LOOP TO P19
P45	2"	FROM POOL MECHANICAL ROOM TO SPRAYGROUND MECHANICAL ROOM. FOR FUTURE USE TO PULL FLEX TUBING OR CONDUIT BETWEEN ROOMS.

EQUIPMENT SCHEDULE

ID	ITEM
1	CHEMICAL CONTROLLER REFER: 3 / AQ6.5
2	TOTAL LABS SOLUTION WORK STATION REFER TO SPECIFICATIONS
3	VARIABLE FREQUENCY DRIVE AND BYPASS PANEL
4	FLOW METER SENSOR REFER: 2 / AQ6.8
5	IMPACT FLOW METER REFER: 3 / AQ6.8
6	12'-0"x6'-0"x5'-6" DEEP BACKWASH CATCH BASIN
7	LADDER RUNGS
8	SAFETY CHAIN
9	REMOVABLE RAILING
10	LINK SEAL (TYP. ALL PENETRATIONS) REFER: 2 / AQ6.6
11	HARD PIPE TO DRAIN
12	CO_2 FILL BOX REFER: 10 / AQ6.5
13	CO_2 TANK REFER: 1 / AQ6.7
14	SODIUM HYPOCHLORITE TANK REFER: 4 / AQ6.5
15	VAPOR RECOVERY SYSTEM REFER: 5 / AQ6.5
16	MURIATIC ACID TANK REFER: 5 / AQ6.5
17	BACKWASH LEVEL SENSOR
18	FREE AND TOTAL CHLORINE SENSOR REFER: 11 / AQ6.8
19	TOTAL ALKALINITY PANEL REFER: 5 / AQ6.8
20	EYEWASH STATION REFER TO PLUMBING
21	CLEVIS HANGAR REFER: 5 / AQ6.9 NOTE: ARROWS INDICATE DIRECTION OF SEISMIC BRACING

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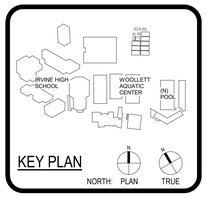


DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

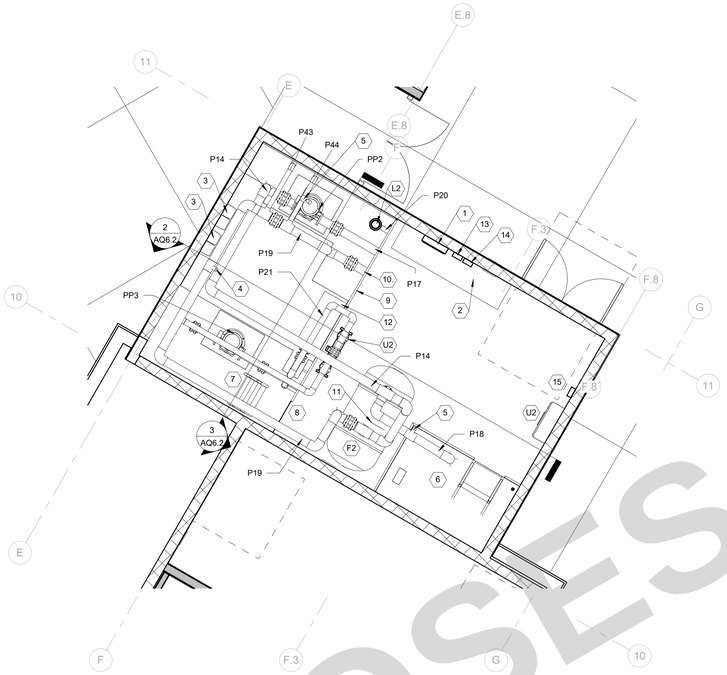
BID DOCUMENTS

BUILDING NUMBER

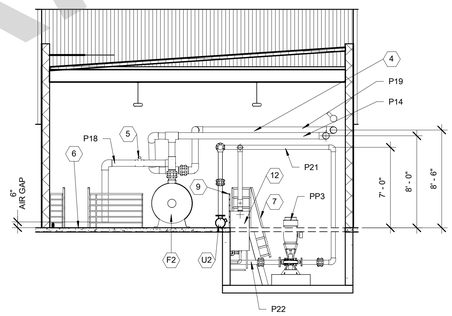
POOL MECHANICAL ROOM PLAN & SECTIONS

AQ6.1

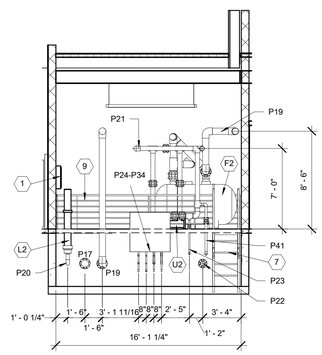
0"
1"



1 SPRAYGROUND MECHANICAL ROOM PLAN
1/4" = 1'-0"



2 SPRAYGROUND MECHANICAL ROOM SECTION
3/16" = 1'-0"



3 SPRAYGROUND MECHANICAL ROOM SECTION
3/16" = 1'-0"

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
P1	12"	FROM M1 TO PP1
P2	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P3	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P4	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P5	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P6	12"	FROM PP1 TO F1
P7	12"	FROM F1 TO RETURN INLETS
P10	6"	FROM P6 TO BACKWASH BASIN
P11	8"	FROM L1 TO SURGE TANK
P12	4"	FROM SURGE TANK TO ATMOSPHERE
P13	12"	FROM F1 TO BACKWASH BASIN
P14	6"	FROM PP2 TO F2
P15	6"	FROM M2 TO BALANCE TANK
P16	2"	FROM RAIN DIVERTER TO STORM
P17	6"	FROM BALANCE TANK TO PP2
P18	6"	FROM F2 TO BACKWASH BASIN
P19	6"	FROM F2 TO BALANCE TANK
P20	3"	FROM L2 TO BALANCE TANK
P21	4"	FROM PP3 TO WATER FEATURE MANIFOLD
P22	4"	FROM BALANCE TANK TO PP3
P23	1"	FROM P21 TO TEAM BLASTER
P24	1 1/2"	FROM WATER FEATURE MANIFOLD TO TULIP FEATURES
P25	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P26	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P27	1"	FROM WATER FEATURE MANIFOLD TO WATERFALL 3 FEATURE
P28	1"	FROM WATER FEATURE MANIFOLD TO FISH FEATURE
P29	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P30	1 1/2"	FROM WATER FEATURE MANIFOLD TO DOUGHNUT FEATURE
P31	1 1/2"	FROM WATER FEATURE MANIFOLD TO AQUALUME FEATURE
P32	1"	FROM WATER FEATURE MANIFOLD TO WATER O FEATURE
P33	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P34	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
P35	4"	FROM BALANCE TANK TO ATMOSPHERE
P38	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
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EQUIPMENT SCHEDULE

ID	ITEM
1	CHEMICAL CONTROLLER REFER: 3 / AQ6.5
2	TOTAL LAB SOLUTION WORK STATION REFER TO SPECIFICATIONS
3	VARIABLE FREQUENCY DRIVE AND BYPASS PANEL
4	FLOW METER SENSOR REFER: 2 / AQ6.8
5	IMPACT FLOW METER REFER: 3 / AQ6.8
6	12'-0"x4'-0"x5'-0" DEEP BACKWASH CATCH BASIN
7	LADDER RUNGS
8	SAFETY CHAIN
9	REMOVABLE RAILING
10	LINK SEAL (TYP. ALL PENETRATIONS) REFER: 2 / AQ6.6
11	HARD PIPE TO DRAIN
12	FEATURE MANUFACTURER SUPPLIED 12-VALVE MANIFOLD REFER TO SPECIFICATIONS
13	FREE AND TOTAL CHLORINE SENSOR REFER: 11 / AQ6.8
14	TOTAL ALKALINITY PANEL REFER: 5 / AQ6.8
15	SPRAYGROUND CONTROLLER REFER: 13 / AQ6.8

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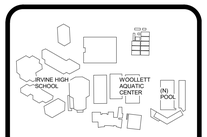


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

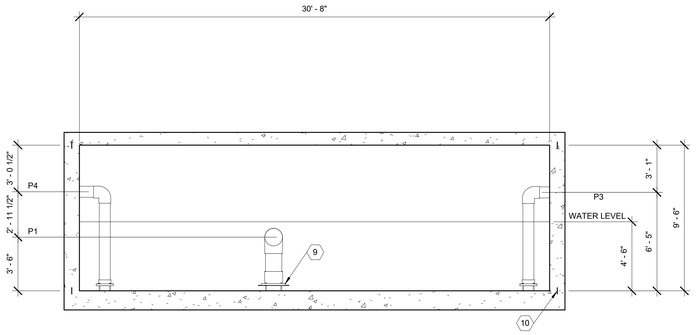
No.	Description	Date

BID DOCUMENTS

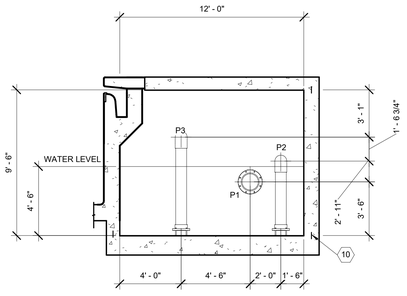
BUILDING NUMBER

SPRAYGROUND MECHANICAL ROOM PLAN & SECTIONS

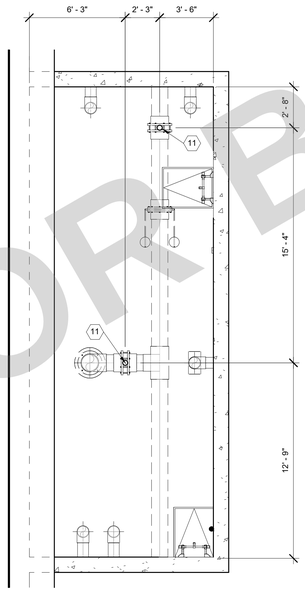
AQ6.2



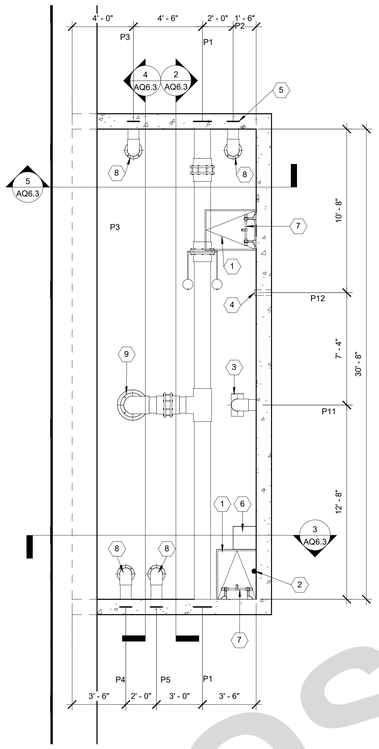
4 COMPETITION POOL SURGE TANK SECTION
1/4" = 1'-0"



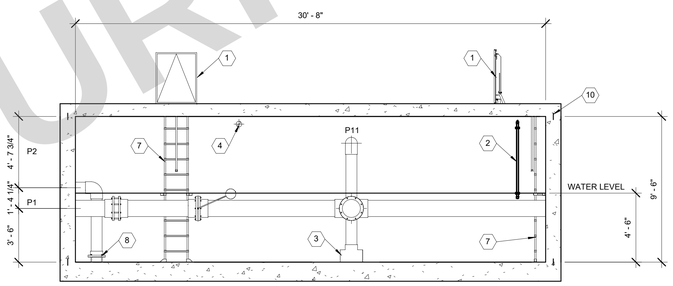
5 COMPETITION POOL SURGE TANK SECTION
1/4" = 1'-0"



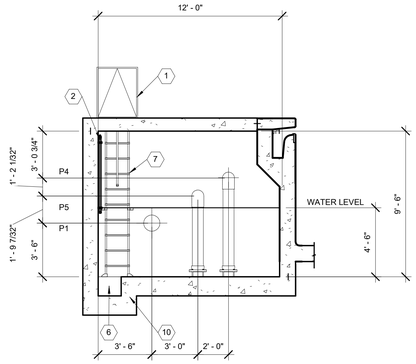
6 COMPETITION POOL SURGE TANK VALVE EXTENSION PLAN
1/4" = 1'-0"



1 COMPETITION POOL SURGE TANK PLAN
1/4" = 1'-0"



2 COMPETITION POOL SURGE TANK SECTION
1/4" = 1'-0"



3 COMPETITION POOL SURGE TANK SECTION
1/4" = 1'-0"

SURGE/BALANCE TANK NOTES

1. A WATERPROOFING COATING MUST BE PROVIDED TO ALL INTERIOR SURFACES OF SURGE/BALANCE TANK INCLUDING LID.
2. PROVIDE WATER TIGHT PIPE PENETRATIONS AND INTERFACES WITHIN THE SURGE/BALANCE TANK.
3. REFER TO POOL STRUCTURAL DRAWINGS FOR SURGE/BALANCE TANK STRUCTURAL SHELL DESIGN.
4. SLEEVES IN SLAB OVERSURGE/ BALANCE TANK FOR VALVE EXTENSIONS POSITIONED DIRECTLY ABOVE SURGE/BALANCE TANK VALVES BELOW MUST BE COORDINATED.
5. DRILL 1" DIAMETER HOLE ON TOP OF ELBOW. TYPICAL ALL GUTTER DROPOUT LINES.
6. LADDER RUNGS MUST BE PROVIDED.
7. REFER TO POOL STRUCTURAL DRAWINGS FOR WATER STOPS.
8. PVC ANTI-VORTEX PLATE MUST BE MINIMUM 2.5 TIMES CONNECTING PIPE DIAMETER UP TO 24" AND 4" A.F.F.
9. PROVIDE SUPPORT FLANGES WITH FOUR (4) LEGS EQUAL TO NOMINAL PIPE DIAMETER, BUT NOT LESS THAN 6" A.F.F.
10. PROVIDE 18"x18"x12" DEEP SUMP LOCATED NEAR ACCESS HATCH. PROVIDE HYDROSTATIC RELIEF VALVE IN SUMP. REFER 14/AQ6.8
11. REFER TO AQ1.04 AND AQ1.05 FOR BALANCE TANK STRUCTURAL DESIGN.

PIPE SCHEDULE

TYPE	DIAMETER	DESCRIPTION
P1	12"	FROM M1 TO PP1
P2	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P3	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P4	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P5	8"	FROM GUTTER DROP OUT BOXES TO SURGE TANK
P6	12"	FROM PP1 TO F1
P7	12"	FROM F1 TO RETURN INLETS
P10	6"	FROM P6 TO BACKWASH BASIN
P11	8"	FROM L1 TO SURGE TANK
P12	4"	FROM SURGE TANK TO ATMOSPHERE
P13	12"	FROM F1 TO BACKWASH BASIN
P14	6"	FROM PP2 TO F2
P15	6"	FROM M2 TO BALANCE TANK
P16	2"	FROM RAIN DIVERTER TO STORM
P17	6"	FROM BALANCE TANK TO PP2
P18	6"	FROM F2 TO BACKWASH BASIN
P19	6"	FROM F2 TO BALANCE TANK
P20	3"	FROM L2 TO BALANCE TANK
P21	4"	FROM PP3 TO WATER FEATURE MANIFOLD
P22	4"	FROM BALANCE TANK TO PP3
P23	1"	FROM P21 TO TEAM BLASTER
P24	1 1/2"	FROM WATER FEATURE MANIFOLD TO TULIP FEATURES
P25	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P26	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P27	1"	FROM WATER FEATURE MANIFOLD TO WATERFALL 3 FEATURE
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P30	1 1/2"	FROM WATER FEATURE MANIFOLD TO DOUGHNUT FEATURE
P31	1 1/2"	FROM WATER FEATURE MANIFOLD TO AQUALUME FEATURE
P32	1"	FROM WATER FEATURE MANIFOLD TO WATER O FEATURE
P33	1"	FROM WATER FEATURE MANIFOLD TO SPLASH BLASTER
P34	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
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P38	1"	FROM WATER FEATURE MANIFOLD TO SPRAY TUNNEL FEATURE
P39	6"	FROM P7 TO HEATER MANIFOLD
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P43	3"	FROM P19 TO CHEMICAL BYPASS LOOP
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P45	2"	FROM POOL MECHANICAL ROOM TO SPRAYGROUND MECHANICAL ROOM. FOR FUTURE USE TO PULL FLEX TUBING OR CONDUIT BETWEEN ROOMS.

EQUIPMENT SCHEDULE

ID	ITEM
1	ACCESS HATCH REFER: 11 / AQ6.7
2	WATER LEVEL CONTROL SENSOR REFER: 2 / AQ6.7
3	SUPPORT TEE REFER: 13 / AQ6.7
4	BALANCE TANK VENT REFER: 12 / AQ6.7
5	WATER SEAL REFER: 1 / AQ6.6
6	18"X18"X12" SUMP REFER:14 / AQ6.8
7	LADDER REFER: 10 / AQ6.8
8	SUPPORT FLANGE
9	ANTI-VORTEX PLATE
10	WATERSTOP
11	VALVE EXTENSION REFER: 1 / AQ6.8

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KUBALA
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AQUATICS
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T 310-734-2300

WILLIAM WOOLLETT JR. AQUATICS CENTER
4601 Walnut Ave, Irvine, CA 92604

CLIENT LOGO
CITY OF IRVINE

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

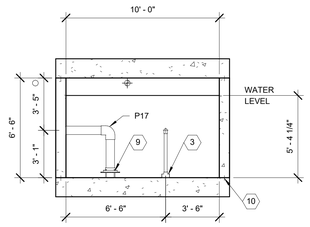
CLIENT
CITY OF IRVINE
DATE 09/30/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

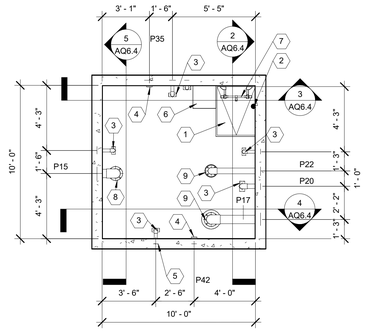
BID DOCUMENTS
BUILDING NUMBER

COMPETITION POOL SURGE TANK PLAN & SECTIONS

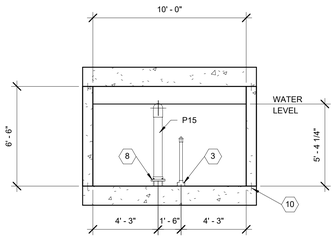
AQ6.3



4 SPRAYGROUND BALANCE TANK SECTION
1/4" = 1'-0"



1 SPRAYGROUND BALANCE TANK PLAN
1/4" = 1'-0"



5 SPRAYGROUND BALANCE TANK SECTION
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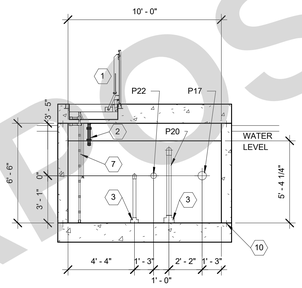

2 SPRAYGROUND BALANCE TANK SECTION
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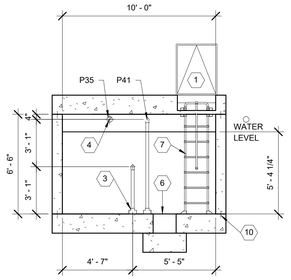

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6	18"X18"X12" SUMP REFER: 14 / AQ6.8
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9	ANTI-VORTEX PLATE
10	WATERSTOP
11	VALVE EXTENSION REFER: 1 / AQ6.8

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4601 Walnut Ave, Irvine, CA 92604

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CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

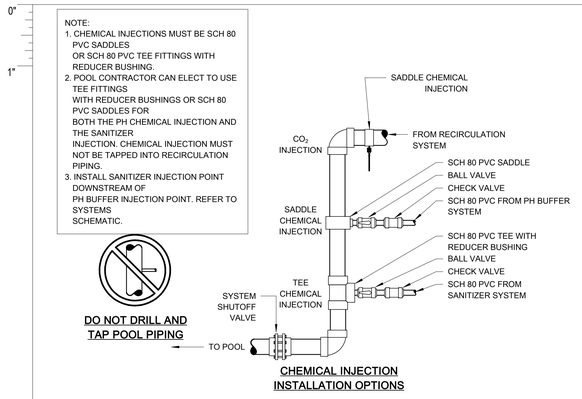
No.	Description	Date

BID DOCUMENTS

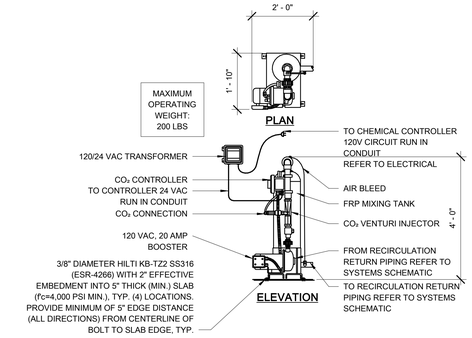
BUILDING NUMBER

SPRAYGROUND BALANCE TANK PLAN & SECTIONS

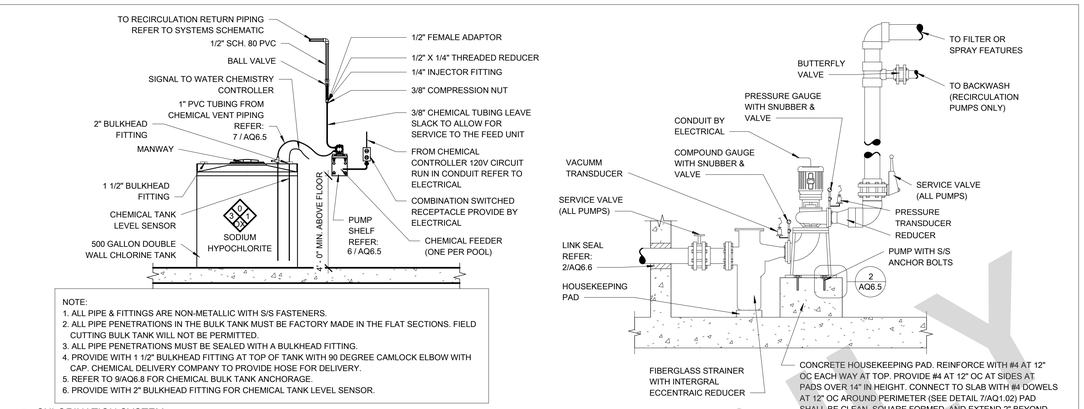
AQ6.4



12 CHEMICAL INJECTION
1/2" = 1'-0"



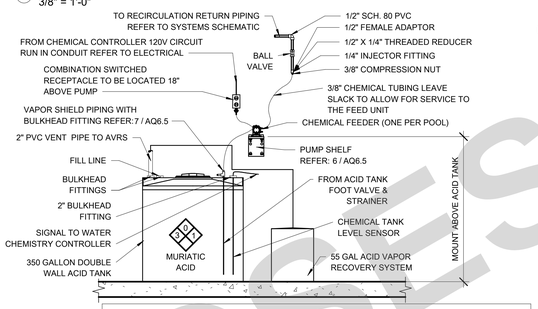
8 CO2 HIGH EFFICIENCY FEED SYSTEM
1/2" = 1'-0"



NOTE:
1. ALL PIPE & FITTINGS ARE NON-METALLIC WITH S/S FASTENERS.
2. ALL PIPE PENETRATIONS IN THE BULK TANK MUST BE FACTORY MADE IN THE FLAT SECTIONS. FIELD CUTTING BULK TANK WILL NOT BE PERMITTED.
3. ALL PIPE PENETRATIONS MUST BE SEALED WITH A BULKHEAD FITTING.
4. PROVIDE WITH 1 1/2" BULKHEAD FITTING AT TOP OF TANK WITH 90 DEGREE CAMLOCK ELBOW WITH CAP. CHEMICAL DELIVERY COMPANY TO PROVIDE HOSE FOR DELIVERY.
5. REFER TO 9/AQ6.8 FOR CHEMICAL BULK TANK ANCHORAGE.
6. PROVIDE WITH 2" BULKHEAD FITTING FOR CHEMICAL TANK LEVEL SENSOR.

4 CHLORINATION SYSTEM
3/8" = 1'-0"

1 PUMP DETAIL
1/2" = 1'-0"



NOTE:
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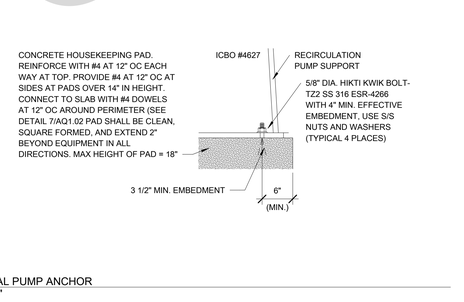
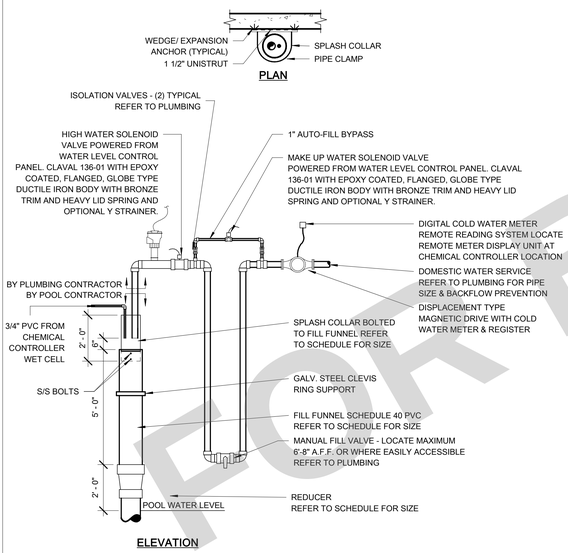
2. ALL PIPE PENETRATIONS IN THE BULK TANK MUST BE FACTORY MADE IN THE FLAT SECTIONS. FIELD CUTTING BULK TANK WILL NOT BE PERMITTED.
3. ALL PIPING PENETRATIONS MUST BE SEALED WITH A BULKHEAD FITTING.
4. REFER TO 9/AQ6.8 FOR CHEMICAL BULK TANK ANCHORAGE.
5. PROVIDE WITH 1 1/2" BULKHEAD FITTING AT TOP OF TANK WITH 90 DEGREE CAMLOCK ELBOW WITH CAP. CHEMICAL DELIVERY COMPANY TO PROVIDE HOSE FOR DELIVERY.
6. PROVIDE WITH 2" BULKHEAD FITTING AT TOP OF TANK FOR ACID RECOVERY SYSTEM.
7. PROVIDE WITH 2" BULKHEAD FITTING FOR CHEMICAL TANK LEVEL SENSOR.

5 ACID SYSTEM
3/8" = 1'-0"

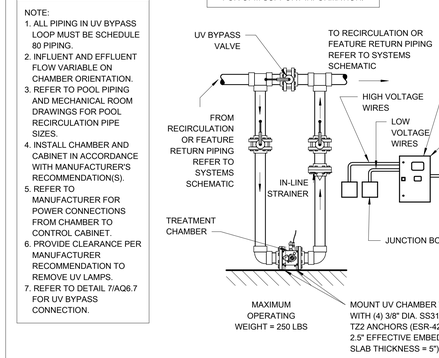


2 VERTICAL PUMP ANCHOR
1" = 1'-0"



NOTE:
PLUMBING CONTRACTOR MUST PROVIDE DOMESTIC WATER SERVICE PIPING TO AIR GAP, WATER METER, AND BACKFLOW PREVENTER (IF REQUIRED). PLUMBING CONTACTOR MUST INSTALL SOLENOID VALVES FURNISHED BY THE POOL CONTRACTOR. POOL CONTRACTOR TO PROVIDE FILL FUNNEL AND PIPING TO SURGE TANK/BALANCE TANK.

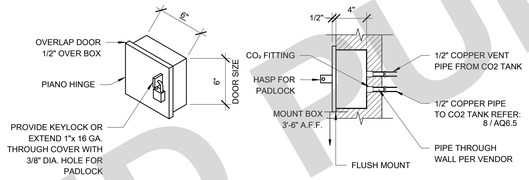
14 FILL FUNNEL
3/8" = 1'-0"



NOTE:
1. ALL PIPING IN UV BYPASS LOOP MUST BE SCHEDULE 80 PIPING.
2. INFLUENT AND EFFLUENT FLOW VARIABLE ON CHAMBER ORIENTATION.
3. REFER TO POOL PIPING AND MECHANICAL ROOM DRAWINGS FOR POOL RECIRCULATION PIPE SIZES.
4. INSTALL CHAMBER AND CABINET IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION(S).
5. REFER TO MANUFACTURER FOR POWER CONNECTIONS FROM CHAMBER TO CONTROL CABINET.
6. PROVIDE CLEARANCE PER MANUFACTURER RECOMMENDATION TO REMOVE UV LAMPS.
7. REFER TO DETAIL 7/AQ6.7 FOR UV BYPASS CONNECTION.

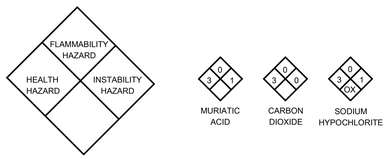
13 UV TREATMENT SYSTEM
1/2" = 1'-0"

9 NOT USED
3/8" = 1'-0"



NOTE:
1. BOX SHALL BE FABRICATED OF 16 GA. (PAINT BY OTHERS).
2. RECESS BOX FLUSH WITH EXTERIOR WALL - REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION.
3. FILL BOX TO BE MAX 20'-0" FROM CO_2 TANKS.
4. VENT LINE TO BE PROVIDED WITH BAFFLE OR 45 DEGREE ELBOW FLARE.
5. CONTRACTOR TO PRESSURIZE REMOTE FILL INSTALLATION TO 150 PSI WITH GASEOUS CO2 TO TEST FOR ANY SYSTEM LEAKS.

10 CO2 FILLBOX
1 1/2" = 1'-0"

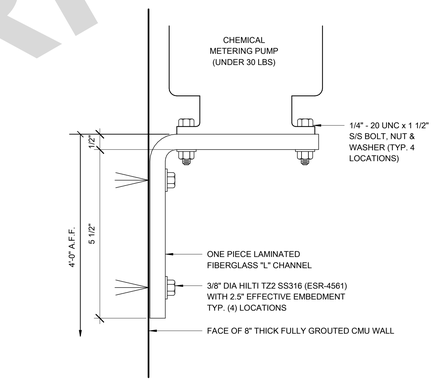


RATING EXPLANATION GUIDE

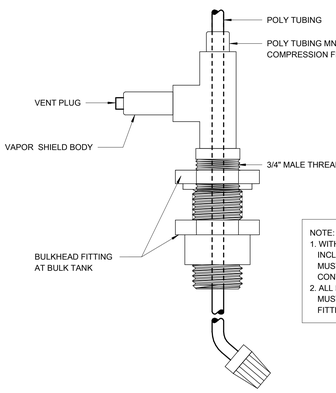
RATING	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD
4	CAN BE LETHAL	BELOW 73 DEGREES F	MAY EXPLODE AT NORMAL TEMPERATURES & PRESSURES
3	CAN CAUSE SERIOUS OR PERMANENT INJURY	ABOVE 73 DEGREES, BELOW 100 DEGREES F	MAY EXPLODE AT HIGH TEMPERATURE OR SHOCK
2	CAN CAUSE TEMPORARY INCAPACITATION OR RESIDUAL INJURY	ABOVE 100 DEGREES, BELOW 200 DEGREES F	VIOLENT CHEMICAL CHANGE AT HIGH TEMPERATURES OR PRESSURES
1	CAN CAUSE SIGNIFICANT IRRITATION	ABOVE 200 DEGREES F	NORMALLY STABLE. HIGH TEMPERATURES MAKE UNSTABLE
0	NO HAZARD	WILL NOT BURN	STABLE

CONFIRM SIGNAGE WITH LOCAL FIRE MARSHAL AND/OR BUILDING CODES PRIOR TO INSTALLATION.

11 HAZARD SIGNAGE
NTS

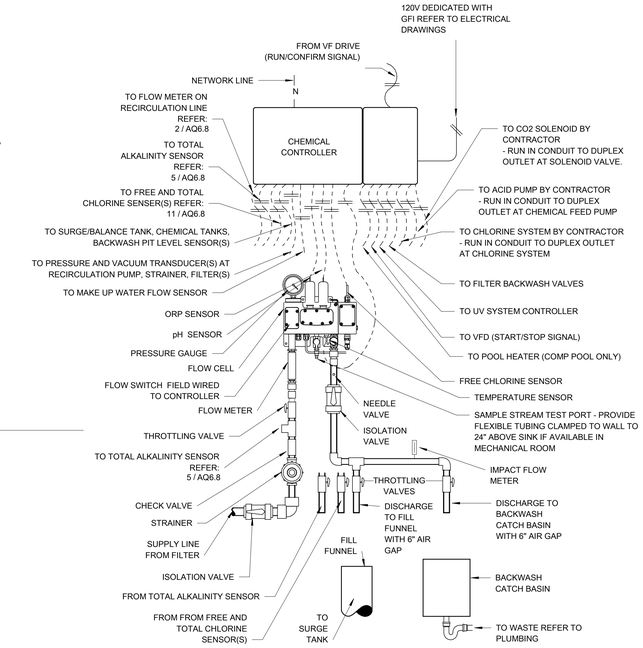


6 CHEMICAL PUMP SHELF
6" = 1'-0"



NOTE:
1. WITH ALL THANK CONFIGURATIONS, INCLUDING BULK TANKS, VAPOR SHIELD MUST BE CONFIGURED TO ENSURE CONTAINMENT OF ALL VAPORS.
2. ALL PIPE PENETREATIONS AT BULK TANKS MUST BE SEALED WITH A BULKHEAD FITTING.

7 VAPOR SHIELD PIPING
6" = 1'-0"



NOTES:
1. INTERLOCK WITH RECIRCULATION PUMP OCCURS INSIDE THE WIRING BOX.
2. DRAWING IS FOR REFERENCE ONLY. REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO SPECIFICATION FOR COMPLETE LIST OF DESIRED FEATURES.
3. PIPE RUN FROM RECIRCULATION PIPE TO SAMPLE CELL TO BE 50 FEET OR LESS.
4. SAMPLE FEED PIPING TO/FROM THE RECIRCULATION SYSTEM TO THE WATER CHEMISTRY CONTROLLER MUST BE SADDLED OR TEED. NO TAPPING OR DRILLING INTO THE PIPING WILL BE ALLOWED.
5. PROVIDE ETHERNET CONNECTION FOR REMOTE MONITOR OF ALL WATER CHEMISTRY CONTROLLERS AND COORDINATE INTERFACE TO BUILDING MANAGEMENT SYSTEM. REFER TO ELECTRICAL AND/OR CONTROLS CONSULTANT.
6. REFER TO 6 / AQ6.8 FOR CHEMICAL CONTROLLER ANCHORAGE.

3 CHEMICAL CONTROLLER
1 1/2" = 1'-0"

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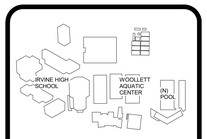
CLIENT LOGO
CITY OF IRVINE



DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE
DATE: 09/30/2025
PROJECT NUMBER: 230538

DRAWING HISTORY

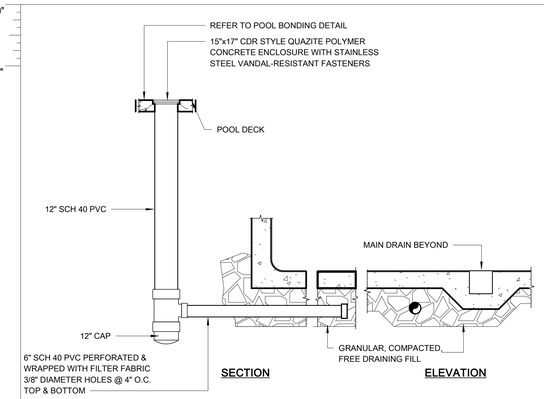
No.	Description	Date

BID DOCUMENTS

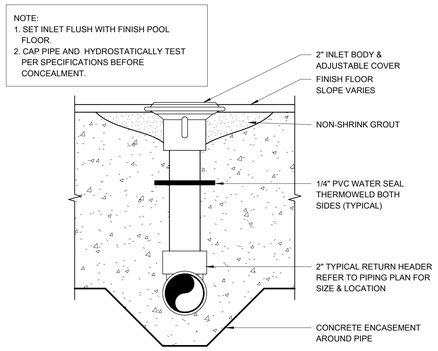
BUILDING NUMBER

POOL MECHANICAL DETAILS

AQ6.5

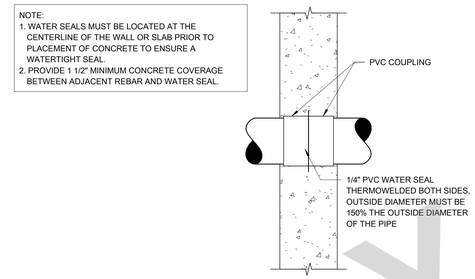


12 SIGHT SUMP
3/8" = 1'-0"

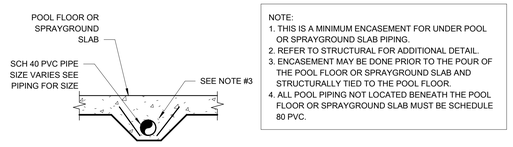


8 FLOOR INLET
3" = 1'-0"

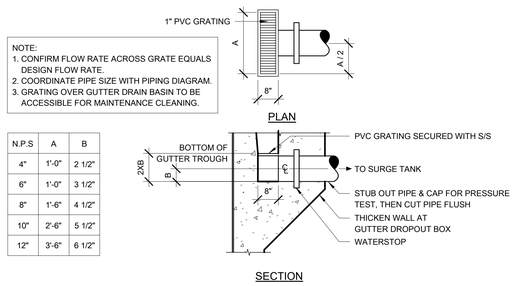
4 NOT USED - REFER TO AQ6.9 FOR PIPE HANGING DETAILS
1 1/2" = 1'-0"



1 WATER SEAL
1 1/2" = 1'-0"



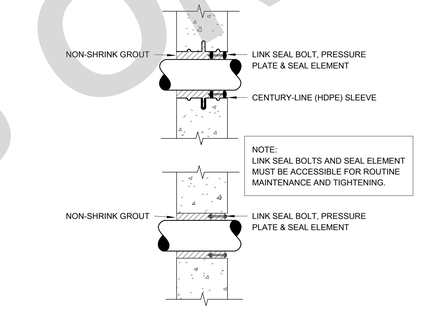
13 CONCRETE ENCASED PIPE
1/2" = 1'-0"



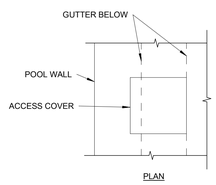
N.P.S	A	B
4"	1'-0"	2 1/2"
6"	1'-0"	3 1/2"
8"	1'-6"	4 1/2"
10"	2'-6"	5 1/2"
12"	3'-6"	6 1/2"

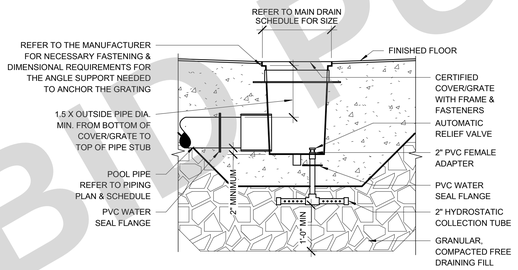
9 GUTTER DROPOUT BOX
1/2" = 1'-0"

5 NOT USED - REFER TO AQ6.9 FOR PIPE HANGING DETAILS
1 1/2" = 1'-0"



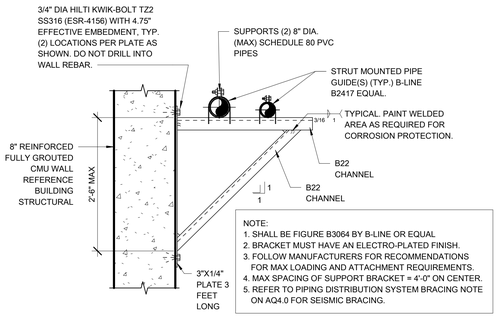
2 LINK SEAL
3/4" = 1'-0"



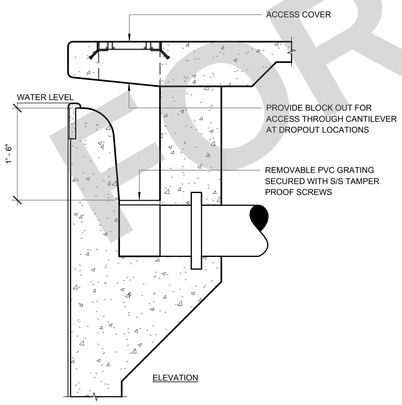


10 MAIN DRAIN
3/4" = 1'-0"

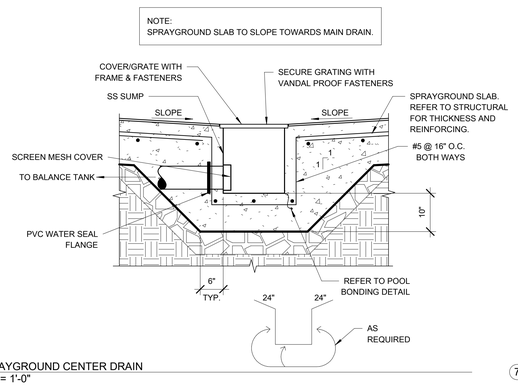
6 NOT USED - REFER TO AQ6.9 FOR PIPE HANGING DETAILS
3" = 1'-0"



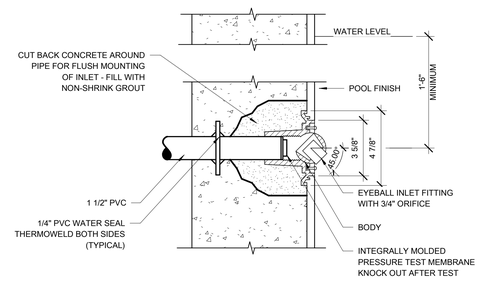
3 ADJUSTABLE STRUT BRACKET
3" = 1'-0"



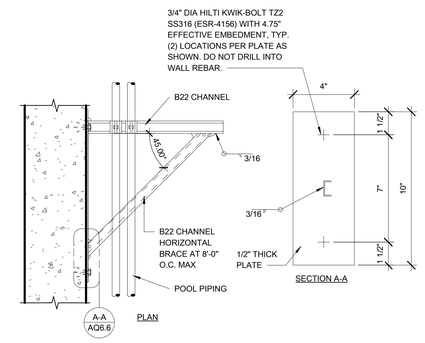
14 GUTTER DROPOUT CLEANOUT
1" = 1'-0"



11 SPRAYGROUND CENTER DRAIN
3/4" = 1'-0"



7 WALL INLET
3" = 1'-0"



3 ADJUSTABLE STRUT BRACKET
3" = 1'-0"

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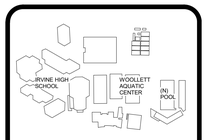


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

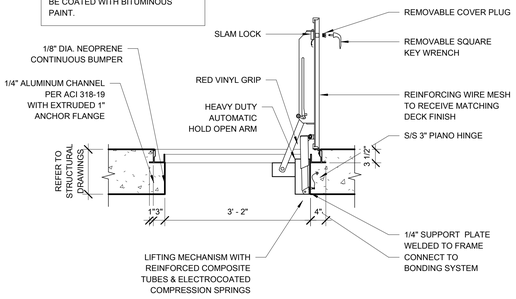
No.	Description	Date

BID DOCUMENTS

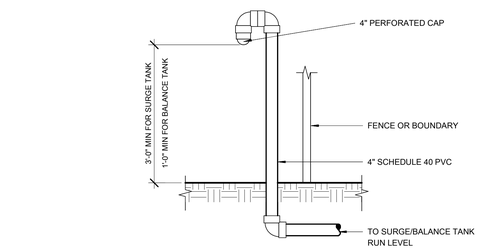
BUILDING NUMBER

POOL MECHANICAL DETAILS

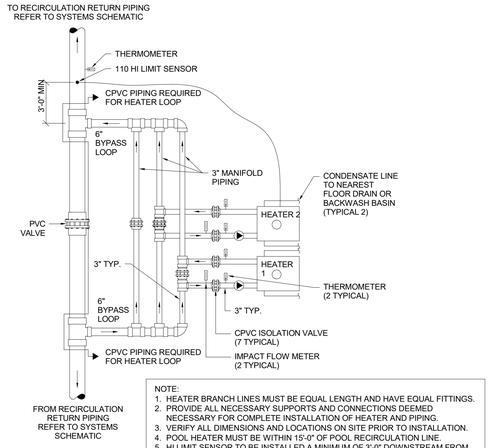
AQ6.6



11 SURGE/BALANCE TANK ACCESS HATCH
3/4" = 1'-0"

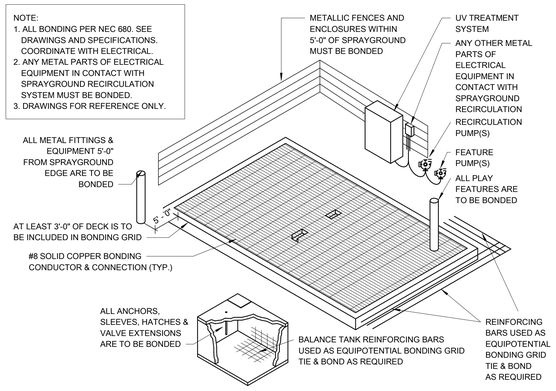


12 SURGE/BALANCE TANK VENT
3/4" = 1'-0"

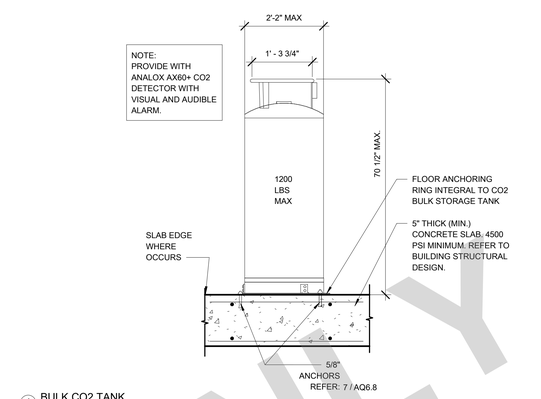


NOTE:
1. HEATER BRANCH LINES MUST BE EQUAL LENGTH AND HAVE EQUAL FITTINGS.
2. PROVIDE ALL NECESSARY SUPPORTS AND CONNECTIONS DEEMED NECESSARY FOR COMPLETE INSTALLATION OF HEATER AND PIPING.
3. VERIFY ALL DIMENSIONS AND LOCATIONS ON SITE PRIOR TO INSTALLATION.
4. POOL HEATER MUST BE WITHIN 15'-0" OF POOL RECIRCULATION LINE.
5. HI LIMIT SENSOR TO BE INSTALLED A MINIMUM OF 3'-0" DOWNSTREAM FROM HEATER CONNECTION.
6. INSTALL PER MANUFACTURER RECOMMENDATIONS.
7. INSTALL FLOW METER IN STRAIGHT PIPE WITH TEN PIPE DIAMETERS PRIOR AND FIVE PIPE DIAMETERS AFTER FLOW METER.
8. HEATER AIR INTAKE, VENTING, AND GAS LINE MUST BE BY MECHANICAL. ELECTRICAL CONNECTIONS MUST BE BY ELECTRICAL. REFER TO HEATER SCHEDULE FOR MINIMUM REQUIREMENTS.
9. 1/2" DOMESTIC WATER LINE REDUCING AUTO FILL VALVE MUST BE BY PLUMBING.
10. REFER TO DETAIL 7/AQ6.7 FOR HEATER BYPASS CONNECTION.
11. REFER TO 8/AQ6.8 FOR HEATER ANCHORAGE.

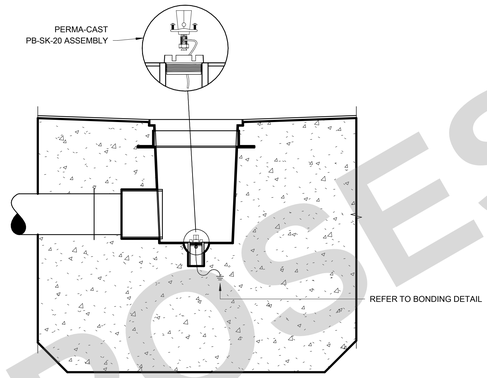
9 COMPETITION POOL CONDENSING BOILER (N.T.S)
1/4" = 1'-0"



5 TYPICAL SPRAYGROUND BONDING DETAIL
NTS



1 BULK CO2 TANK
3/4" = 1'-0"



6 MAIN DRAIN BONDING DETAIL
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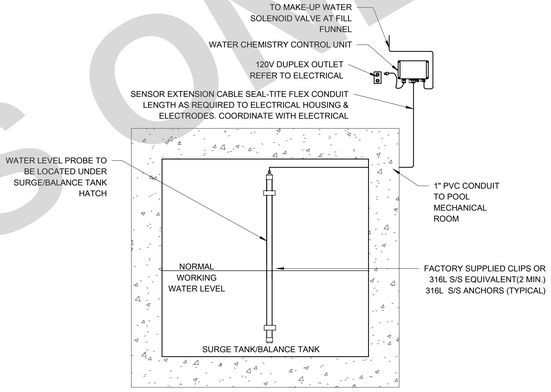
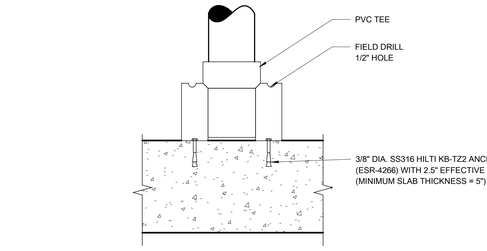
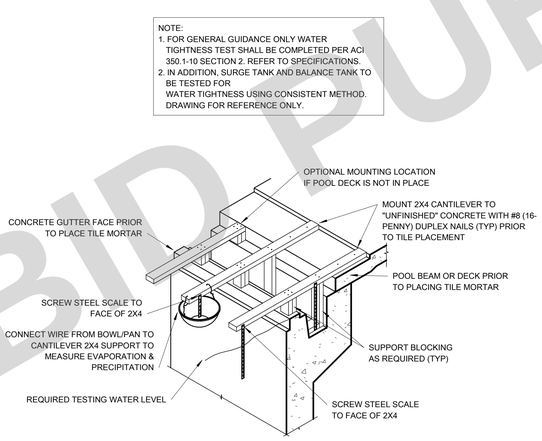


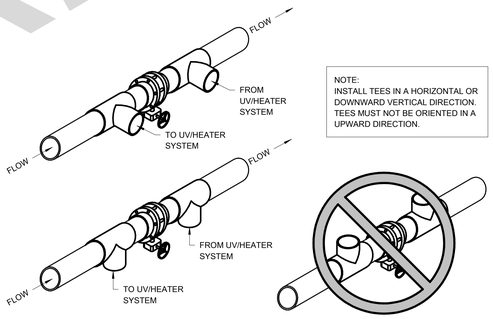
2 WATER LEVEL CONTROLLER
3/4" = 1'-0"



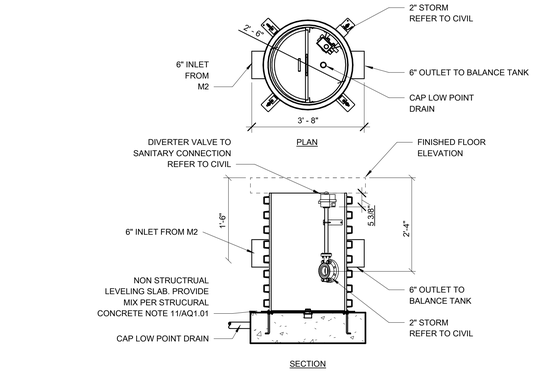
13 SUPPORT TEE
1 1/2" = 1'-0"



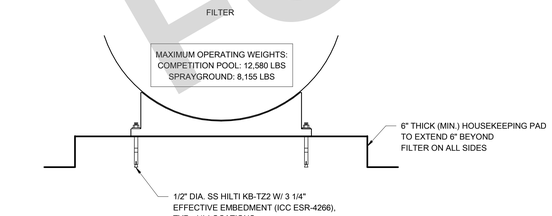
10 WATER TIGHTNESS TEST
1/2" = 1'-0"



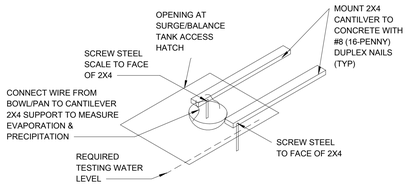
7 PIPING BYPASS
1/2" = 1'-0"



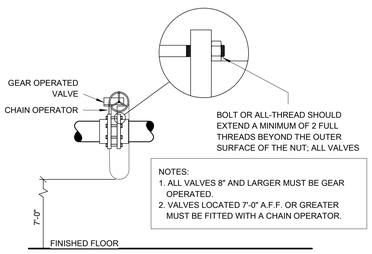
3 RAIN DIVERTER VALVE BOX
1/2" = 1'-0"

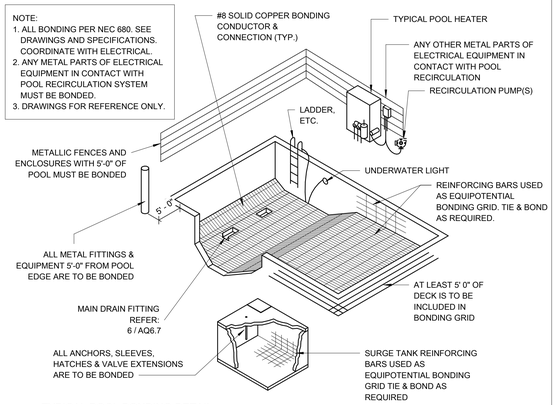


14 FILTER ANCHOR
1" = 1'-0"



8 VALVE
1/2" = 1'-0"





4 TYPICAL POOL BONDING DETAIL
NTS

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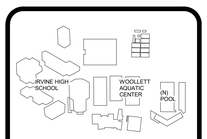

KEY PLAN
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DISCIPLINE
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ROBERT B. ILGENFRITZ
M 42369
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STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

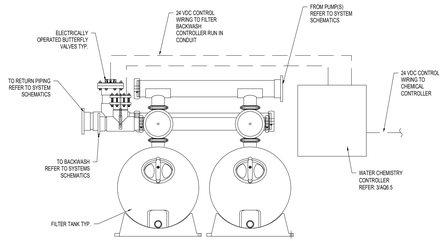
No.	Description	Date

BID DOCUMENTS

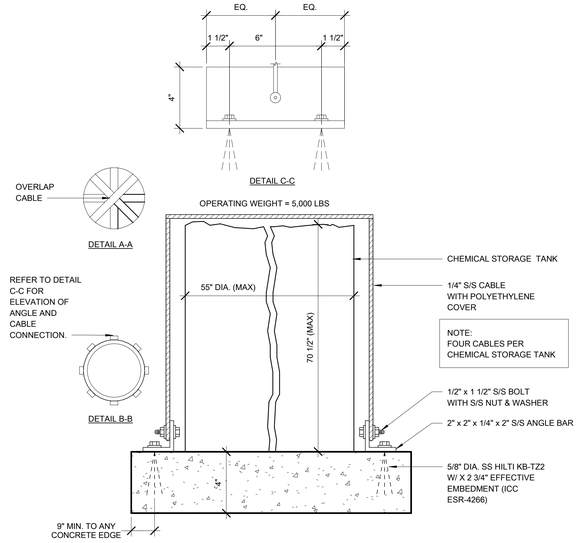
BUILDING NUMBER

POOL MECHANICAL DETAILS

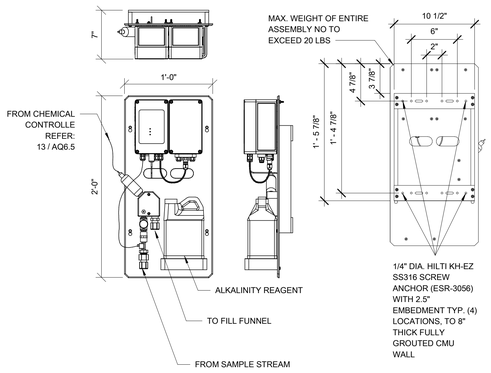
AQ6.7



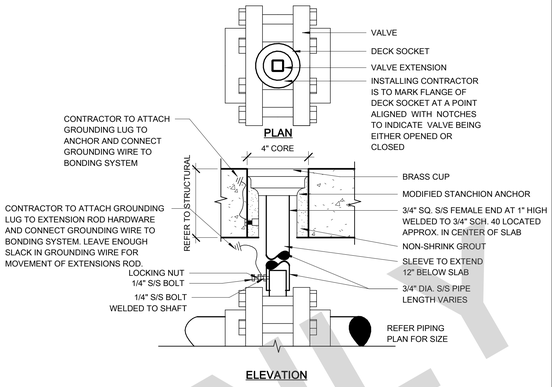
12 FILTER BACKWASH CONTROLLER
3/8" = 1'-0"



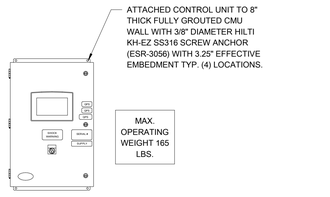
9 CHEMICAL TANK ANCHOR
3" = 1'-0"



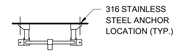
5 TOTAL ALKALINITY PANEL
1 1/2" = 1'-0"



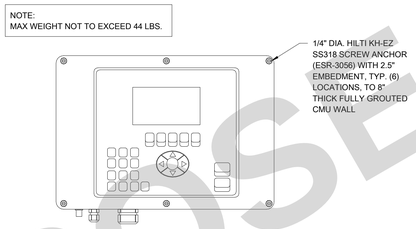
1 VALVE EXTENSION
3" = 1'-0"



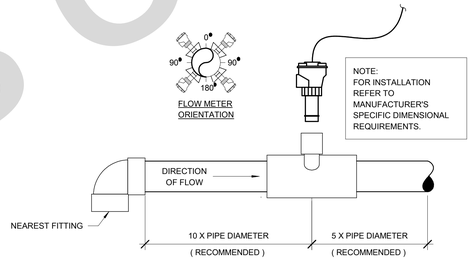
13 SPRAYGROUND CONTROLLER
1" = 1'-0"



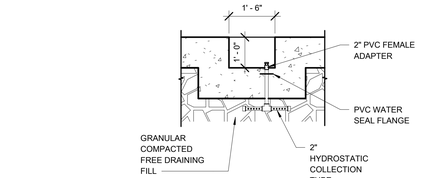
NOTE:
FASTEN LADDER TO SURGE/BALANCE TANK FLOOR AND WALL WITH 1/2" DIA. SS316 HILTI KB-TZ2 ANCHORS (ESR-4266) WITH 3 1/4" EFFECTIVE EMBEDMENT INTO (MINIMUM) 6" THICK CONCRETE WALL. PROVIDE 6" MINIMUM EDGE DISTANCE (ALL DIRECTIONS), AND SPACE AT 12" OC MIN. ANCHORS TO BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.



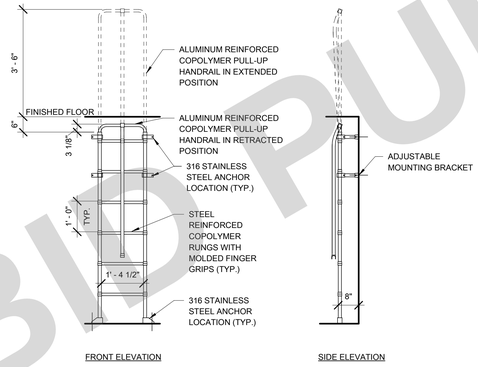
6 CHEMICAL CONTROLLER ANCHOR
3" = 1'-0"



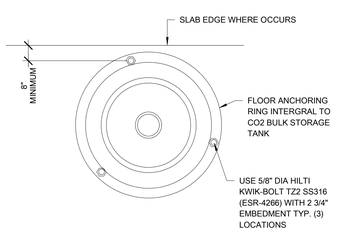
2 FLOW METER SENSOR
3/4" = 1'-0"



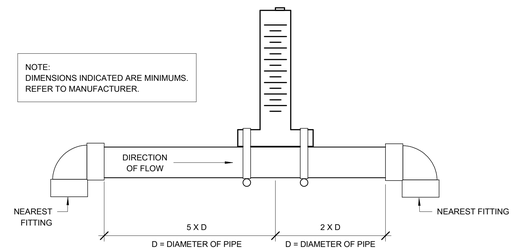
14 SURGE/BALANCE TANK HYDROSTATIC RELIEF VALVE
1/2" = 1'-0"



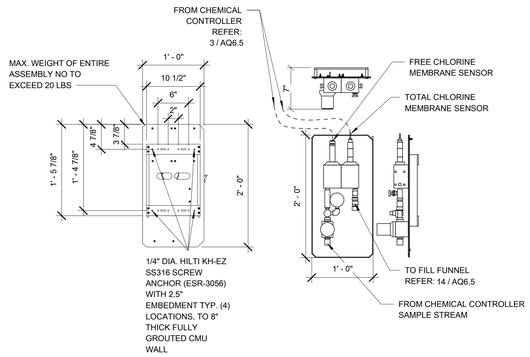
10 SURGE/BALANCE TANK LADDER
1/2" = 1'-0"



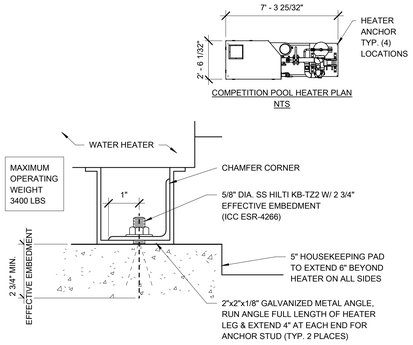
7 BULK CO2 ANCHORING DETAIL
3/8" = 1'-0"



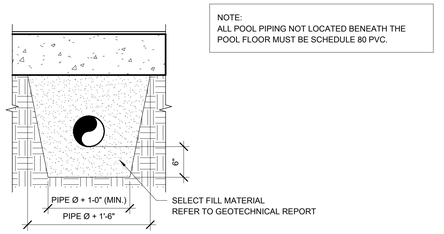
3 IMPACT FLOW METER
3/4" = 1'-0"



11 FREE AND TOTAL CHLORINE SENSOR
1" = 1'-0"



8 HEATER ANCHOR
6" = 1'-0"



4 BELOW GRADE PIPING
1" = 1'-0"

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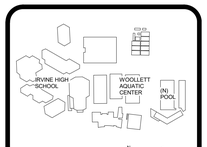


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

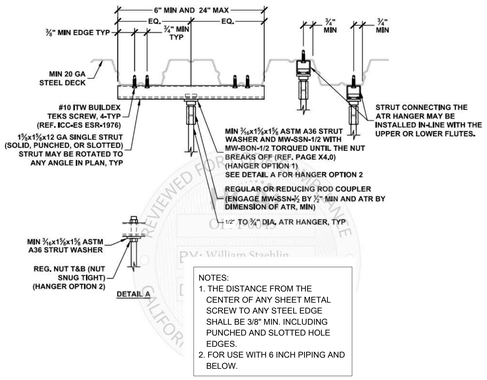
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

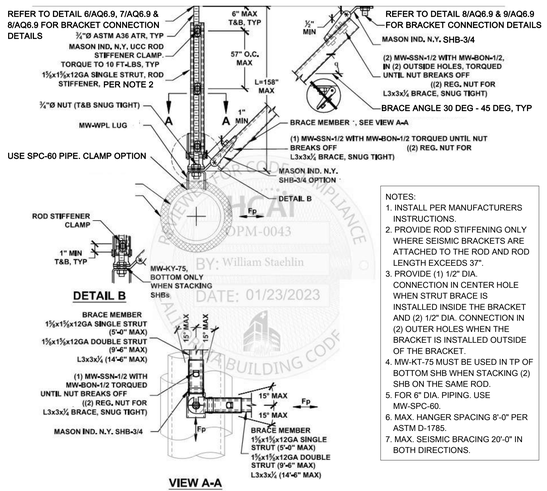
POOL MECHANICAL DETAILS

AQ6.8



NOTES:
1. THE DISTANCE FROM THE CENTER OF ANY SHEET METAL SCREW TO ANY STEEL EDGE SHALL BE 3/8" MIN. INCLUDING PUNCHED AND SLOTTED HOLE EDGES.
2. FOR USE WITH 6 INCH PIPING AND BELOW.

7 HANGAR ATTACHMENT - METAL DECK
1/8" = 1'-0"

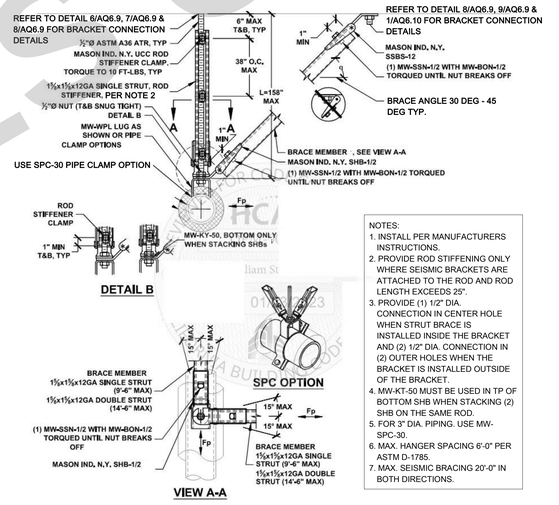


NOTES:
1. INSTALL PER MANUFACTURERS INSTRUCTIONS.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH EXCEEDS 37".
3. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTION IN (2) OUTER HOLES WHEN THE BRACKET IS INSTALLED OUTSIDE OF THE BRACKET.
4. MW-KT-75 MUST BE USED IN TP OF BOTTOM SHB WHEN STACKING (2) SHB ON THE SAME ROD.
5. FOR 6" DIA. PIPING. USE MW-SPC-60.
6. MAX. HANGER SPACING 8'-0" PER ASTM D-1785.
7. MAX. SEISMIC BRACING 20'-0" IN BOTH DIRECTIONS.

4 6-INCH CLEVIS PIPE HANGAR DETAIL
NTS

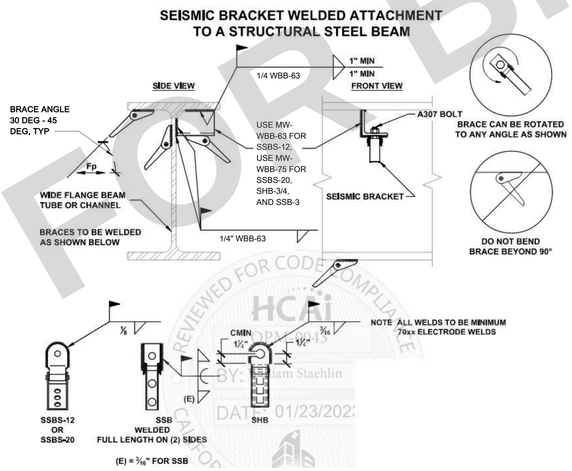
SCHEDULE 80 PVC PIPE						
PIPE DIA. (IN)	WALL THICKNESS (IN)	WEIGHT PER FOOT (LBS)			ROD SIZE	MAX SPACING
		PIPE	WATER	TOTAL		
~~1/2~~	~~0.147~~	~~0.15~~	~~0.16~~	~~0.25~~		
~~3/4~~	~~0.154~~	~~0.26~~	~~0.19~~	~~0.45~~		
~~1~~	~~0.179~~	~~0.38~~	~~0.31~~	~~0.69~~		
~~1 1/4~~	~~0.191~~	~~0.53~~	~~0.56~~	~~1.08~~		
~~1 1/2~~	~~0.200~~	~~0.64~~	~~0.77~~	~~1.40~~		
~~2~~	~~0.218~~	~~0.88~~	~~1.28~~	~~2.16~~		
~~2 1/2~~	~~0.276~~	~~1.35~~	~~1.83~~	~~3.18~~		
3	0.300	1.80	2.86	4.66	1/2"	6' O/C
~~3 1/2~~	~~0.318~~	~~2.20~~	~~3.85~~	~~6.05~~		
4	0.337	2.64	4.98	7.62	5/8"	8' O/C
~~5~~	~~0.375~~	~~4.13~~	~~7.87~~	~~12.00~~		
6	0.432	5.03	11.29	16.32	3/4"	8' O/C
~~8~~	~~0.500~~	~~8.02~~	~~19.80~~	~~27.82~~		
~~10~~	~~0.593~~	~~11.89~~	~~31.10~~	~~42.99~~		
12	0.687	16.37	44.00	60.37	3/4"	9' O/C

1 PVC PIPE WEIGHTS
NTS



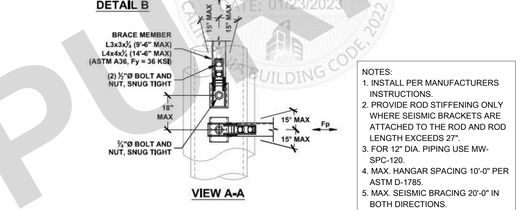
NOTES:
1. INSTALL PER MANUFACTURERS INSTRUCTIONS.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH EXCEEDS 25".
3. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTION IN (2) OUTER HOLES WHEN THE BRACKET IS INSTALLED OUTSIDE OF THE BRACKET.
4. MW-KT-50 MUST BE USED IN TP OF BOTTOM SHB WHEN STACKING (2) SHB ON THE SAME ROD.
5. FOR 3" DIA. PIPING. USE MW-SPC-30.
6. MAX. HANGER SPACING 6'-0" PER ASTM D-1785.
7. MAX. SEISMIC BRACING 20'-0" IN BOTH DIRECTIONS.

2 3-INCH CLEVIS PIPE HANGAR DETAIL
NTS



NOTES:
1. MAXIMUM SPAN IS 9-FEET. USE HSS4X4X1/4.
2. UP TO (4) HANGERS FOR PIPES OF ANY SIZE MAY BE CONNECTED TO A SINGLE HSS MEMBER.
3. A HANGER AND THE SAME PIPE'S BRACE FOR ANY SIZE PIPE MAY BE CONNECTED TO A SINGLE HSS MEMBER.
4. ANY OTHER COMBINTATION OF MULTIPLE CONNECTIONS TO A SINGLE HSS MEMBER SHALL BE SUBMITTED TO SEOR FOR APPROVAL.

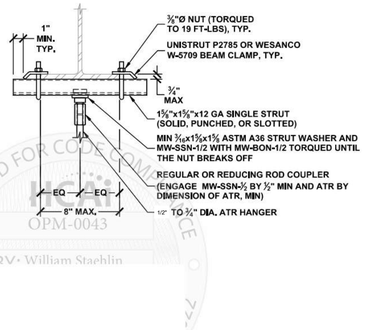
8 SUPPLEMENTAL STEEL - ATTACHMENT
1/8" = 1'-0"



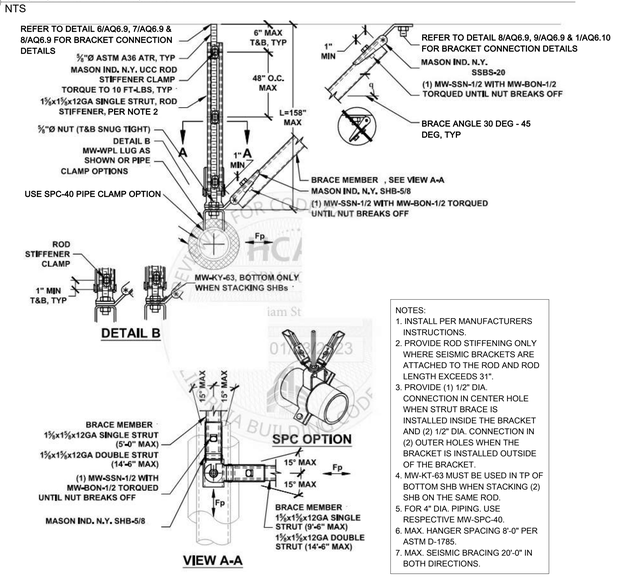
NOTES:
1. INSTALL PER MANUFACTURERS INSTRUCTIONS.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH EXCEEDS 27".
3. FOR 12" DIA. PIPING USE MW-SPC-120.
4. MAX. HANGER SPACING 10'-0" PER ASTM D-1785.
5. MAX. SEISMIC BRACING 20'-0" IN BOTH DIRECTIONS.

5 12-INCH CLEVIS PIPE HANGAR DETAIL
NTS

9 BRACE ATTACHMENT - STEEL BEAM
1/8" = 1'-0"



6 HANGAR ATTACHMENT - STEEL BEAM
NTS



NOTES:
1. INSTALL PER MANUFACTURERS INSTRUCTIONS.
2. PROVIDE ROD STIFFENING ONLY WHERE SEISMIC BRACKETS ARE ATTACHED TO THE ROD AND ROD LENGTH EXCEEDS 31".
3. PROVIDE (1) 1/2" DIA. CONNECTION IN CENTER HOLE WHEN STRUT BRACE IS INSTALLED INSIDE THE BRACKET AND (2) 1/2" DIA. CONNECTION IN (2) OUTER HOLES WHEN THE BRACKET IS INSTALLED OUTSIDE OF THE BRACKET.
4. MW-KT-63 MUST BE USED IN TP OF BOTTOM SHB WHEN STACKING (2) SHB ON THE SAME ROD.
5. FOR 4" DIA. PIPING. USE RESPECTIVE MW-SPC-40.
6. MAX. HANGER SPACING 8'-0" PER ASTM D-1785.
7. MAX. SEISMIC BRACING 20'-0" IN BOTH DIRECTIONS.

3 4-INCH CLEVIS PIPE HANGAR DETAIL
NTS

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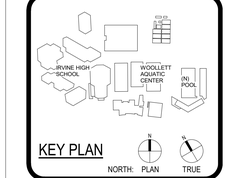


KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

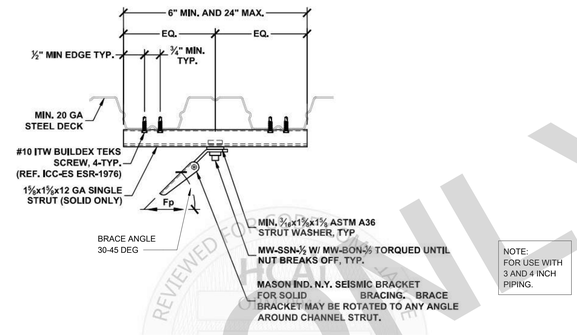
POOL MECHANICAL DETAILS

AQ6.9

0"

1"

SEISMIC BRACKET ATTACHMENT TO NON-CONCRETE FILLED METAL DECK



1 BRACE ATTACHMENT - METAL DECK
1/8" = 1'-0"

REVIEWED FOR CODE COMPLIANCE
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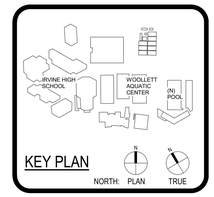

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CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

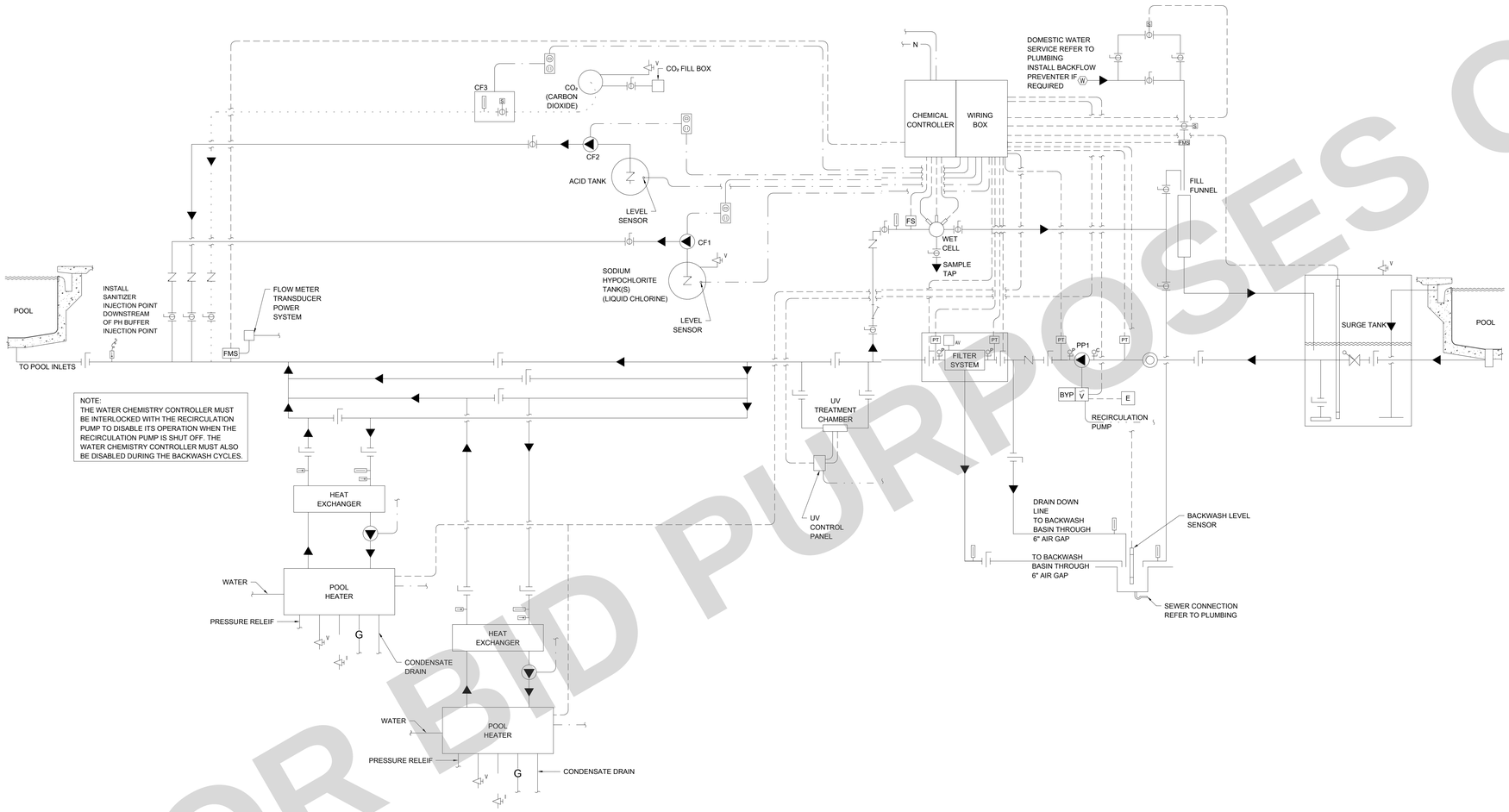
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

POOL MECHANICAL DETAILS

AQ6.10



1 COMPETITION POOL SYSTEMS SCHEMATIC
3/4" = 1'-0"

SCHEMATIC LEGEND

LEGEND	ITEM
	FLOW DIRECTION
	BUTTERFLY VALVE
	BALL VALVE
	MODULATING FLOAT
	SOLENOID VALVE
	CHECK VALVE
	PUMP
	HAIR AND LINT STRAINER
	"Y" STRAINER
FMS	FLOW METER
FS	FLOW SWITCH
PT	PRESSURE TRANSDUCER
	IMPACT FLOW METER
	VENTURI FLOW METER
W	WATER METER
AV	AUTOMATIC AIR VENT
MV	AIR VENT
I	AIR INLET
P	PRESSURE GAUGE AND COCK
C	COMPOUND GAUGE AND COCK
	DIGITAL TEMP SENSOR
	THERMOMETER
A	PNEUMATIC ACTUATOR
	FLOW CONTROL VALVE
	COMBINATION SWITCH/RECEPTACLE
V	VARIABLE FREQUENCY DRIVE
R	REMOTE START/STOP
E	EMERGENCY STOP
BYP	VARIABLE FREQUENCY DRIVE BYPASS
	LOW VOLTAGE CONTROL
	WATER LINE
	1 PHASE POWER
	3 PHASE POWER
	CO2 LINE
N	NETWORK LINE
G	GAS LINE

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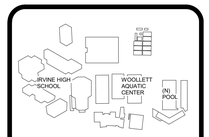
CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

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DRAWING HISTORY

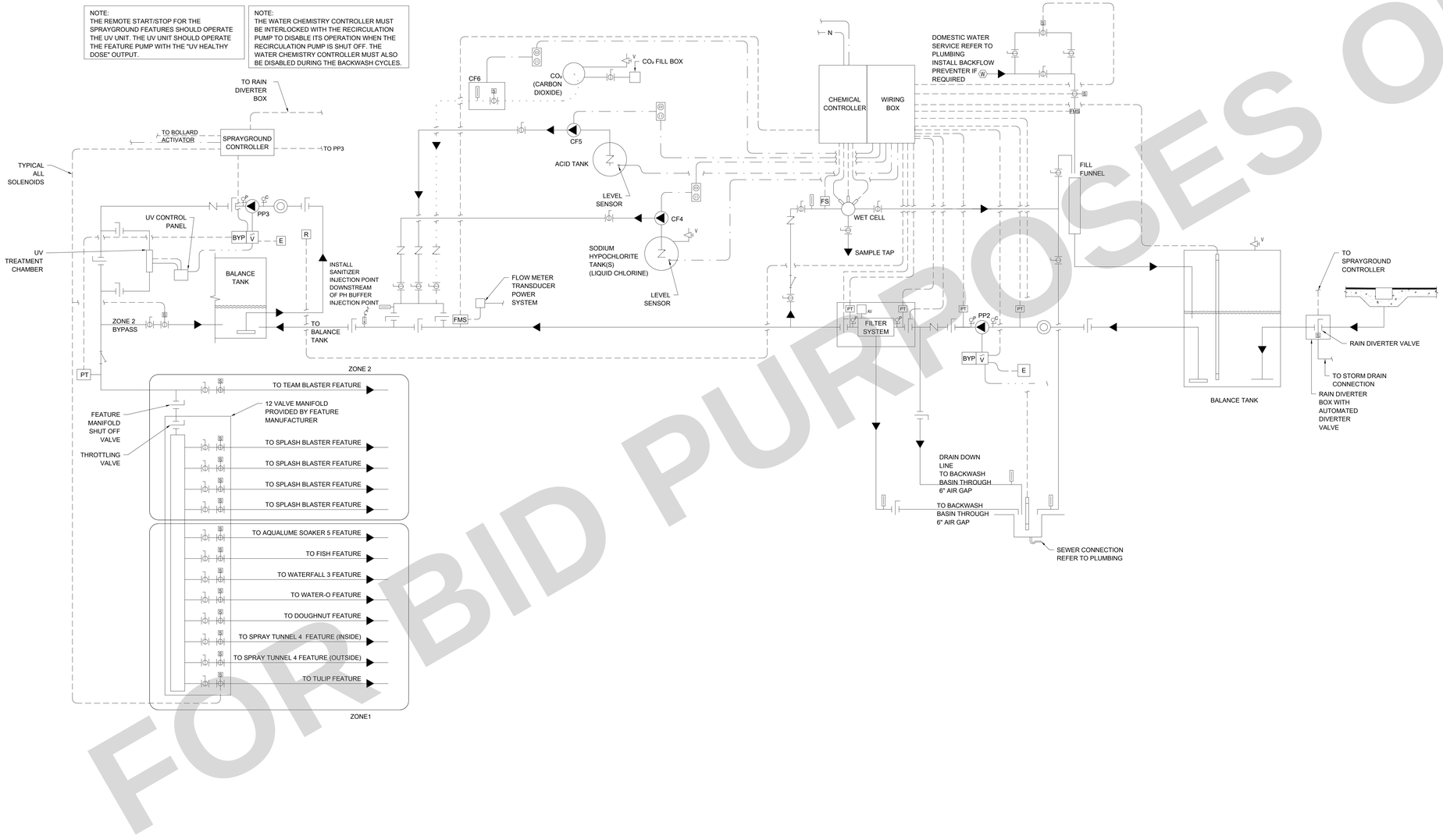
No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

POOL SYSTEMS SCHEMATICS

AQ7.0



1 SPRAYGROUND SYSTEMS SCHEMATIC
3/4" = 1'-0"

SCHEMATIC LEGEND

LEGEND	ITEM
	FLOW DIRECTION
	BUTTERFLY VALVE
	BALL VALVE
	MODULATING FLOAT
S	SOLENOID VALVE
	CHECK VALVE
	PUMP
	HAIR AND LINT STRAINER
	"Y" STRAINER
FMS	FLOW METER
FS	FLOW SWITCH
PT	PRESSURE TRANSDUCER
	IMPACT FLOW METER
	VENTURI FLOW METER
W	WATER METER
AV	AUTOMATIC AIR VENT
MV	AIR VENT
I	AIR INLET
P	PRESSURE GAUGE AND COCK
C	COMPOUND GAUGE AND COCK
	DIGITAL TEMP SENSOR
	THERMOMETER
A	PNEUMATIC ACTUATOR
	FLOW CONTROL VALVE
	COMBINATION SWITCH/RECEPTACLE
V	VARIABLE FREQUENCY DRIVE
R	REMOTE START/STOP
E	EMERGENCY STOP
BYP	VARIABLE FREQUENCY DRIVE BYPASS
	LOW VOLTAGE CONTROL
	WATER LINE
	1 PHASE POWER
	3 PHASE POWER
	CO2 LINE
N	NETWORK LINE
G	GAS LINE

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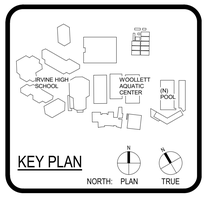
CLIENT LOGO

CITY OF IRVINE



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

REGISTERED PROFESSIONAL ENGINEER
ROBERT B. ILGENFRITZ
M 42369
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CITY OF IRVINE

DATE	PROJECT NUMBER
09/30/2025	230538

DRAWING HISTORY

No.	Description	Date

BID DOCUMENTS

BUILDING NUMBER

SPRAYGROUND SYSTEMS SCHEMATICS

AQ7.1

FOR BLUEBEAM LABELING/OCR:

0"

1"

GENERAL STRUCTURAL NOTES

GOVERNING CODE
2022 CALIFORNIA BUILDING CODE

DESIGN LOADS
1. DEAD LOAD: SELF-WEIGHT OF STRUCTURE
2. LIVE LOAD:
   A. CONTESTANT WEIGHT: 275 POUNDS, SPACED AT A MINIMUM OF 10'-0" ALONG THE LENGTH OF THE 12" BOX TRUSS SUB GRID. LIVE LOAD CAN BE APPLIED TO BOTH SIDES OF THE TRUSS GRID, SIMULTANEOUSLY.
3. WIND LOAD:
   A. BASIC WIND SPEED (BASED ON 3-SECOND GUST) = 102 MPH
   B. RISK CATEGORY = III
   C. WIND IMPORTANCE FACTOR, I = 1.0
   D. WIND EXPOSURE = C (ALL WIND DIRECTIONS)
4. SEISMIC LOAD:

A.	SEISMIC USE GROUP	= III
B.	SPECTRAL RESPONSE COEFFICIENT S_{DS}	= 1.006
C.	SPECTRAL RESPONSE COEFFICIENT S_{D1}	= 0.56
D.	SITE CLASS	= D
E.	BASIC STRUCTURAL SYSTEM	= NONBUILDING STRUCTURE TYPE
F.	SEISMIC-FORCE-RESISTING SYSTEM	= AMUSEMENT STRUCTURES AND MONUMENTS
G.	SEISMIC DESIGN CATEGORY	= D
H.	DESIGN BASE SHEAR	= 17 KIPS (MAXIMUM)
I.	ANALYSIS PROCEDURE	= ELFP
J.	Ss	= 1.257
K.	S1	= 0.45
L.	RESPONSE MODIFICATION FACTOR	= 2
M.	LOCATION OF BASE	= ELEVATION OF BASE PLATE
N.	APPLICABLE HORIZONTAL STRUCTURAL IRREGULARITIES	= NONE
O.	APPLICABLE VERTICAL STRUCTURAL IRREGULARITIES	= NONE

5. RIGGING LOADS:
   A. OBSTACLE WEIGHT: 10 PLF ON 12" BOX TRUSS SUB GRID

CONSTRUCTION AND SAFETY
1. CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
2. ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
3. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
4. PRIOR TO COMMENCEMENT OF STEEL ERECTION, CONTRACTOR MUST PROVIDE THE STEEL ERECTOR WRITTEN NOTIFICATION THAT THE CONCRETE IN THE FOOTINGS, PIERS AND WALLS OR THE MORTAR IN THE MASONRY PIERS AND WALLS HAS ATTAINED EITHER 75 PERCENT OF THE INTENDED MINIMUM COMPRESSIVE DESIGN STRENGTH OR SUFFICIENT STRENGTH TO SUPPORT THE LOADS IMPOSED DURING STEEL ERECTION
5. ANCHOR RODS/BOLTS SHALL NOT BE REPAIRED, REPLACED OR FIELD-MODIFIED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

FOUNDATIONS
1. FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS DESCRIBED IN THE GEOTECHNICAL ENGINEER'S REPORT BY JOHN R. BYERLY INCORPORATED DATED SEPTEMBER 17TH, 2024. THE GEOTECHNICAL ENGINEER'S REPORT IS AVAILABLE UPON REQUEST. ALL FOOTINGS SHALL BEAR ON LEVEL (WITHIN 1 IN 12) UNDISTURBED SOIL OR APPROVED ENGINEERED FILL. FOUNDATIONS HAVE BEEN DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 2500 PSF BELOW ISOLATED COLUMN FOOTINGS.
2. FOUNDATION ELEVATIONS SHOWN ARE FOR BIDDING PURPOSES AND MAY VARY TO SUIT SUB-SURFACE SOIL CONDITION. ELEVATION AND BEARING STRATA SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. PROVIDE ENGINEERED FILL OR LOW STRENGTH CONCRETE (500 PSI) UNDER FOUNDATIONS AT SOFT SPOTS AND FOR EXTENDING EXCAVATION TO ADEQUATE BEARING MATERIAL. INSTALL FOUNDATIONS AT DESIGNED ELEVATIONS.
3. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR LOCATING UNDERGROUND SERVICES AND IS RESPONSIBLE FOR THEIR PROTECTION AND SUPPORT.
4. FILL AND BACK FILL:
   A. ALL FILL MATERIALS SHALL BE APPROVED BY A GEOTECHNICAL CONSULTANT.
   B. ENGINEERED FILL BENEATH FOOTINGS: MINIMUM COMPACTION 98% STANDARD PROCTOR DENSITY AT THE OPTIMUM MOISTURE CONTENT.
5. ALL AREAS WITHIN THE FOOTPRINT OF THE BUILDING, INCLUDING UTILITY TRENCHES, MUST BE FREE OF ANY WET AND/OR SOFT AREAS PRIOR TO PLACEMENT OF FILL MATERIAL OR SLAB.

CONCRETE
1. CONCRETE WORK AND TESTING, AS PERFORMED BY "QUALIFIED FIELD-TESTING TECHNICIANS" AND "QUALIFIED LABORATORY TECHNICIANS", SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301-10, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW. REPORTS FROM TESTS REQUIRED BY SECTION 1.6 OF ACI 301-10 SHALL BE SUBMITTED TO STRUCTURAL ENGINEER, ARCHITECT, OWNER, CONTRACTOR, CONCRETE SUPPLIER, AND BUILDING OFFICIAL.
2. CONCRETE WORK IN COLD WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 306.1-90 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING" AND ACI 306R-10 "COLD WEATHER CONCRETING".
3. CONCRETE WORK IN HOT WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 305R-10 "HOT WEATHER CONCRETING". THE AIR TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE, AND WIND VELOCITY SHALL BE ENTERED INTO NOMOGRAPH FIGURE 2.1.5 TO DETERMINE IF PRECAUTIONS AGAINST PLASTIC SHRINKAGE ARE REQUIRED.
4. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR EACH TYPE OF CONCRETE TO THE STRUCTURAL ENGINEER FOR APPROVAL IN ACCORDANCE WITH ACI 301-10 SECTION 4.2.3.4 FIELD TEST DATA OR TRIAL MIXTURES. SUBMITTAL DATA MUST INCLUDE FIELD TEST DATA FROM AT LEAST 10 TESTS OR A THREE POINT CURVE GENERATED USING TRIAL MIXTURES.
5. SUBMIT SHOP DRAWINGS OF REINFORCING STEEL.
6. MATERIALS: (f'_c BASED ON 28 DAY UNLESS NOTED)
   A. CONCRETE FOR FOUNDATIONS WITH EXTERIOR EXPOSURE: f'_c = 4000 PSI, (4.5% TO 7.5% ENTRAINED AIR), MAXIMUM WATER/CEMENTITIOUS RATIO = 0.50.
   B. REINFORCING STEEL: ASTM A615 60 KSI YIELD DEFORMED BARS AND ASTM A185 WELDED WIRE FABRIC, FLAT SHEETS ONLY.
   C. FLY ASH: ASTM C618, TYPE F OR C. WHEN USED, FLY ASH-TO- TOTAL CEMENTITIOUS RATIO SHALL BE 15% MINIMUM.
   D. GROUND GRANULATED BLAST FURNACE SLAG: ASTM C989. TOTAL GROUND GRANULATED BLAST FURNACE SLAG -TO- TOTAL CEMENTITIOUS RATIO SHALL NOT EXCEED 50% MAXIMUM.
   E. FLY ASH, NATURAL POZZOLANS, SILICA FUME, OR GROUND GRANULATED BLAST FURNACE SLAG: WHEN EXPOSED TO DEICING CHEMICALS, LIMIT THE MAXIMUM WEIGHT TO THE PERCENTAGES OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS GIVEN IN TABLE 4.2.2.8 OF ACI 301-10.
   F. PLASTICIZING ADMIXTURE: ASTM C1017.
   G. WATER REDUCING ADMIXTURE: ASTM C494.
   H. CHLORIDE CONTENT OF CONCRETE: LIMIT TOTAL CHLORIDE ION CONTENT TO AMOUNT INDICATED IN TABLE 4.2.2.6 OF ACI 301-99. ADMIXTURES CONTAINING CHLORIDE ARE NOT PERMITTED IN REINFORCED CONCRETE OR CONCRETE CONTAINING METALS.
7. IF CONCRETE ARRIVES AT THE POINT OF DELIVERY WITH A SLUMP BELOW THAT WHICH WILL RESULT IN THE SPECIFIED SLUMP AT THE POINT OF PLACEMENT AND IS UNSUITABLE FOR PLACING AT THAT SLUMP, THE SLUMP MAY BE ADJUSTED ONCE ONLY TO THE REQUIRED VALUE BY ADDING WATER UP TO THE AMOUNT ALLOWED IN THE ACCEPTED MIXTURE PROPORTIONS. ADDITION OF WATER SHALL BE IN ACCORDANCE WITH ASTM C94. DO NOT EXCEED THE SPECIFIED WATER-CEMENTITIOUS MATERIAL RATIO OR SLUMP IN THE APPROVED MIX DESIGN. DO NOT ADD WATER TO CONCRETE DELIVERED IN EQUIPMENT NOT ACCEPTABLE FOR MIXING. AFTER PLASTICIZING OR WATER REDUCING ADMIXTURES ARE ADDED TO THE CONCRETE AT THE SITE TO ACHIEVE FLOWABLE CONCRETE, DO NOT ADD WATER TO THE CONCRETE. MEASURE SLUMP (AND AIR CONTENT OF AIR ENTRAINED CONCRETE), AFTER SLUMP ADJUSTMENT. TO VERIFY COMPLIANCE WITH SPECIFIED REQUIREMENTS.
8. SLUMP SHALL BE MEASURED PRIOR TO THE ADDITION OF ADMIXTURES AND AFTER THE ADDITION OF ADMIXTURES.
9. MINIMUM CAST-IN-PLACE CONCRETE COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
   A. CONCRETE CAST AGAINST EARTH: 3"
   B. CONCRETE EXPOSE TO EARTH OR WEATHER:
1. #6 BAR OR LARGER: 2"
2. #5 BAR OR SMALLER: 1½"
10. SPECIFIED CONCRETE COVER OVER REINFORCING STEEL SHALL BE MAINTAINED TO ALL REINFORCEMENT AT CONCRETE REVEALS AND INSETS. SHOP DRAWINGS SHOWING CONCRETE REVEALS AND OTHER INSETS SHALL BE SUBMITTED FOR REVIEW.REINFORCING BARS SHALL BE FREE OF FORM RELEASE AGENTS.
11. PROVIDE 3/4" CHAMFER AT CORNERS OF EXPOSED CONCRETE.

EPOXY ADHESIVE ANCHORS
1. EPOXY ADHESIVE FOR CONCRETE SHALL BE HILTI-RE 500 V3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SUBSTITUTES MAY BE CONSIDERED; SUBMIT MANUFACTURER'S DATA PRIOR TO INSTALLATION.
2. THREADED RODS SHALL BE TYPE 304 STAINLESS, UNLESS NOTED OTHERWISE. SIZES AND EMBEDMENT ARE AS INDICATED ON THE DRAWINGS.
3. DRILL HOLES WITH A COARSE CUTTING ROCK CHISEL USING PNEUMATIC PERCUSSION EQUIPMENT EQUIPPED WITH HOLLOW STEM DRILL ROD AND CONTINUOUS AIR JET TO REMOVE CUTTINGS. BLOW OUT HOLES WITH COMPRESSED AIR OR VACUUM TO REMOVE ALL DUST AND CHIPS.
4. TWENTY PERCENT OF INSTALLED ANCHORS SHALL BE TESTED BY A TESTING AGENCY USING A TORQUE-CALIBRATED WRENCH TO A MINIMUM TORQUE OF 60 FOOT-POUNDS. THE TESTING AGENCY SHALL ALSO VERIFY COMPLIANCE OF DRILL BIT TYPE, HOLE DEPTH AND CLEANLINESS, PRODUCT DESCRIPTION AND BRAND NAME, ANCHOR DIAMETER, LENGTH, AND TYPE, ADHESIVE EXPIRATION DATE, AND VERIFICATION OF ANCHOR INSTALLATION WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS.
5. FOR CONNECTIONS TO EXISTING REINFORCED CONCRETE, VERIFY THE LOCATIONS OF THE REINFORCING USING A REBAR DETECTOR, PRIOR TO DRILLING. NOTIFY THE ENGINEER IF ANCHOR LOCATIONS CONFLICT WITH EXISTING REINFORCING. DO NOT DRILL THROUGH EXISTING REINFORCING BARS.
6. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS IN ACCORDANCE WITH ACI 318-19 17.1.2.
7. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED, UNCRACKED, AND SEISMIC CONCRETE RECOGNITION.

STRUCTURAL STEEL
1. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS FOR "DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", CURRENT EDITION.
2. FABRICATOR SHALL DESIGN CONNECTIONS AND, WHEN REQUESTED, SUBMIT CALCULATIONS TO AID THE ENGINEER IN REVIEW. UNLESS SPECIFIC END MOMENTS AND REACTIONS ARE INDICATED ON DRAWINGS, DESIGN AND FABRICATE CONNECTIONS TO RESIST SHEAR BASED ON THE MAXIMUM UNIFORM LOAD CAPACITY OF THE MEMBER FOR THE SPAN INCREASED BY 15%, BUT NO MORE THAN THE SHEAR CAPACITY OF THE MEMBER.
3. FIELD CONNECTIONS SHALL BE BOLTED EXCEPT WHERE WELDED CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS.
4. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS D1.1:2004).
5. MATERIALS:
   A. ROLLED SHAPES OTHER THAN W-SHAPES AND PLATES UNLESS NOTED: ASTM A992 (Fy = 50 ksi).
   B. PIPE SHAPES (HSS ROUND): ASTM A53, TYPES E OR S, GRADE B.
   C. BOLTS: HOT-DIP GALVANIZED A325 (FY=90 KSI) OR TYPE 316 STAINLESS STEEL ASTM A193-24 GRADE B8M (FY=100KSI). (SNUG TIGHT UNO)
   D. FIELD WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES.
   E. TUBULAR SHAPES (HSS SQUARE AND RECTANGULAR): ASTM A500, GRADE B (Fy = 46 ksi).
   F. NON-SHRINK NON-METALLIC GROUT: CRD-C-621 AND ASTM C1107 FOR INTERIOR AND EXTERIOR APPLICATIONS.
6. PAINT AND PROTECTION:
   A. STRUCTURAL STEEL UNLESS NOTED: FABRICATOR'S STANDARD PRIME COAT. TOUCH UP AFTER ERECTION.
   B. MEMBERS EXPOSED TO WEATHER IN FINISHED STRUCTURES:
1. HOT DIP GALVANIZE PER ASTM A123 AFTER FABRICATION. COATING WEIGHT PER PARAGRAPH 5.1 OF ASTM A123 AND A153. FABRICATE ASSEMBLIES PER ASTM A143, A384, AND A385. REPAIR DAMAGED AREAS AND WELDS MADE AFTER GALVANIZING AFTER ERECTION IN ACCORDANCE WITH ASTM A780 WITH ORGANIC ZINC RICH PAINT COMPLYING WITH DOD-P-21035 OR MIL-P-26915, MULTIPLE COATS TO DRY FILM THICKNESS OF 4 MILS.
7. CONTRACTOR SHALL SUBMIT ERECTION AND SHOP DRAWINGS FOR REVIEW BY ENGINEER. FABRICATION SHALL NOT BEGIN PRIOR TO SHOP DRAWING APPROVAL BY ENGINEER.
8. ALL STEEL MEMBERS EXPOSED TO WEATHER SHALL HAVE ADDITIONAL SEAL WELDING TO PROTECT MEMBERS (PIPES, TUBES, BUILT-UPS, ETC) AND THE CONNECTIONS FROM MOISTURE INFILTRATION. AT LOCATIONS WHERE ADDITIONAL SEAL WELDS ARE NOT POSSIBLE, DRAIN AND VENT HOLES SHALL BE PROVIDED TO PREVENT THE ACCUMULATION OF MOISTURE WITHIN MEMBERS AND CONNECTIONS. THESE ADDITIONAL SEAL WELDS AND VENT/DRAIN HOLES SHALL BE SHOWN ON SHOP DRAWINGS FOR REVIEW BY ARCHITECT/ENGINEER.

ALUMINUM TRUSS
1. ALUMINUM TRUSS IS A PART OF A DEFERRED SUBMITTAL.
2. ALUMINUM TRUSS SHALL BE MANUFACTURED BY ONE OF THE FOLLOWING COMPANIES OR AN APPROVED EQUAL:
   A. TOTAL STRUCTURES
   B. APPLIED ELECTRONICS
   C. JAMES THOMAS ENGINEERING
   D. TOMCAT USA
   E. TYLER TRUSS
   F. XTREME STRUCTURES AND FABRICATION
   G. ATHLETIC AND PERFORMANCE RIGGING
2. TRUSS TO TRUSS CONNECTION HARDWARE (UNLESS NOTED OTHERWISE):
   A. PLATED ENDS: 5/8"Ø GRADE 8 BOLTS
3. TRUSS END PLATE BOLTS SHALL BE TIGHTED TO THE SNUG TIGHT CONDITION. SNUG TIGHT CONDITION EXISTS WHEN ALL PLIES IN THE CONNECTION HAVE BEEN PULLED INTO FIRM CONTACT BY THE BOLTS AND ALL BOLTS HAVE BEEN TIGHTENED SUFFICIENTLY TO PREVENT REMOVAL OF THE NUTS WITHOUT THE USE OF WRENCH.
4. UNLESS NOTED OTHERWISE, ALL LOADS SHALL BE APPLIED TO TRUSSES AT PANEL POINTS.
5. RATED SPANS, CAPACITIES AND LOADING CONDITIONS PUBLISHED BY THE TRUSS MANUFACTURER SHALL NOT BE EXCEEDED UNLESS REVIEWED AND APPROVED BY A LICENSED ENGINEER FOR A SPECIFIC USE.
6. DO NOT PLACE LIGHTING CLAMPS OR WIRE ROPE IN DIRECT CONTACT WITH THE TRUSS UNLESS THE CHORD MATERIAL IS PROTECTED FROM DAMAGE DUE TO OVERTIGHTENING OR WIRE ROPE RUBBING.
7. ALUMINUM TRUSS DEFERRED SUBMITTAL DESIGN LOADS:
   A. MAXIMUM STRONG AXIS BENDING (MZ): 2.5 KIPS*FT
   B. MAXIMUM STRONG AXIS SHEAR (VZ): 1.5 KIP
   C. MAXIMUM WEAK AXIS BENDING (MY): 0.8 KIP*FT
   D. MAXIMUM WEAK AXIS SHEAR (VY): 0.5 KIP

WIRE ROPE AND RIGGING ACCESSORIES
1. WIRE ROPE AND RIGGING ACCESSORIES ARE A PART OF A DEFERRED SUBMITTAL
2. WIRE ROPE 3/8" OR LESS IN DIAMETER: 7X19 GAC, TYPE 316 STAINLESS STEEL
3. WIRE ROPE 7/16" OR GREATER IN DIAMETER: 6X19 IWRC, TYPE 316 STAINLESS STEEL
4. SHACKLES: GALVANIZED, SCREW PIN ANCHOR TYPE, ASTM A153
5. TURNBUCKLES: GALVANIZED, ASTM F-1145
6. FORGED WIRE ROPE CLIPS: GALVANIZED, MEETING FEDERAL SPEC. FF-C-450 TYPE I CLASS I
7. WIRE ROPE THIMBLES: GALVANIZED, MEETING FEDERAL SPEC. FF-T-276B TYPE II
8. RATCHET STRAPS: MEETING ASME B30.9 - 2018
9. CHAIN PULLERS: MEETING ASME HST-2 - 2018
10. POLYESTER OR STEEL CORE ROUND SLING: MEETING ASME B30.9 - 2018

NinjaCross Rules

1. **Recommended minimum age 7 years old**
2. **Participants must be a minimum of 48-inches tall**
3. **Participants maximum weight 275 pounds**
4. **Wait your turn to start, follow direction by facility staff at all times**
5. **Participants must start in the water, not on the pool deck**
6. **Diving, jumping, running, pushing, etc. is strictly prohibited**
7. **Participants to use system solely at their own risk - this is a skill-based system and is meant to be challenging. Owner, operator, manufacturer and any additional parties will not be held responsible for any injury on the system**
8. **Climbing obstacle cables, structure column legs or any other components on the system is strictly prohibited**
9. **Touching obstacle frame or support truss, electronics or any other components other than the obstacles is strictly prohibited**
10. **Only use if you are capable of safely swimming the length of the pool and able to hold your breath under water for 10-seconds or more. Non-Swimmers are not permitted**
11. **Only 1 participant per obstacle set at a time**
12. **Use only under supervision of lifeguard or attendant**
13. **Swinging, leaping, jumping or swimming into adjacent lane is strictly prohibited**
14. **If you fail on an obstacle, move onto the next obstacle and attempt to complete**
15. **If you feel exhausted or weak, stop participation and swim out of lane to closest pool wall**
16. **Do not push, shove or harass other guests - bullying will not be tolerated and you may be asked to leave the facility**
17. **Do not use this equipment while under the influence of alcohol or drugs**
18. **No diving allowed anywhere in this body of water**
19. **Leave the pool promptly after completing the course or if you are unable to complete the course**
20. **Participants assume all risk of injury due to misuse of the NinjaCross or failure to follow rules**

NINJA CROSS

SIGN-AGE LOCATION TO BE POSTED ON THE EQUIPMENT PER CBC 1607A.2

ABBREVIATIONS

B/	= BOTTOM OF
BLDG	= BUILDING
BRG	= BEARING
CFS	= COLD FORMED STEEL
CIP	= CAST IN PLACE
CJ	= CONTROL JOINT
CL	= CENTERLINE
CLR	= CLEAR
CMU	= CONCRETE MASONRY UNIT
COL	= COLUMN
CONT	= CONTINUOUS
DIA Ø	= DIAMETER
DEG	= DEGREE
EA	= EACH
EF	= EACH FACE
EL	= ELEVATION
EMB	= EMBEDMENT
EQ	= EQUAL
EX	= EXISTING
EXP	= EXPANSION
FD	= FLOOR DRAIN
FDN	= FOUNDATION
FLR	= FLOOR
FS	= FAR SIDE
FTG	= FOOTING
GA	= GAUGE
GALV	= GALVANIZED
GT	= GIRDER TRUSS
HORIZ	= HORIZONTAL
JST BRG	= JOIST BEARING
LLH	= LONG LEG HORIZONTAL
LLV	= LONG LEG VERTICAL
LSL	= LAMINATED STRAND LUMBER
LVL	= LAMINATED VENEER LUMBER
MCJ	= MASONRY CONTROL JOINT
MET	= METAL
MFR	= MANUFACTURER
NS	= NEAR SIDE
oc	= ON CENTER
OPNG	= OPENING
PE	= PRE-ENGINEERED
PL	= PLATE
PSL	= PARALLEL STRAND LUMBER
PT	= PRESSURE TREATED
RD	= ROOF DRAIN
REINF	= REINFORCING
RTU	= ROOF TOP UNIT
SBF	= STEP BOTTOM OF FOOTING
SBS	= STEP BOTTOM OF SLAB
SBW	= STEP BOTTOM OF WALL
SF	= STEP TOP OF FOOTING
SIM	= SIMILAR
SL	= STEP LEDGE
SPA	= SPACE OR SPACES
SRD	= SECONDARY ROOF DRAIN
STIFF	= STIFFENER
STL	= STEEL
STW	= STEP TOP OF WALL
T/	= TOP OF
UNO	= UNLESS NOTED OTHERWISE
VB	= VERTICAL BRACING
VERT	= VERTICAL
VIF	= VERIFY IN FIELD
w/	= WITH
WP	= WORK POINT

LEGEND

◯ = COLUMN LINE DESIGNATION.

⌖ = ELEVATION INDICATION.

X.X KIP↓ = MAXIMUM LOADS THE MAIN LADDER TRUSS HAS BEEN DESIGNED FOR

Additive Alternate NO.1 as follows: Installation and fabrication of Ninja Cross System and associated footings, electrical, and rigging as shown in A#04-124187 William Woollett Jr. Aquatics Center Addition. Work is included in but not limited to the following associated sheets HI-LITED RED: C3.0, A1.1, A2.1, E1.2, T1.1, T2.1, NS0.1, NS0.2, NS1.0, NS1.1, NS2.1, NS2.2, NS2.3, NS2.4, NS2.5, NS3.1, NS3.2. Work is also included in specification section 13 11 75 On-demand Obstacle Course System.

This work should be provided as a separate price to the Base Bid for the client to select at the time of bid. ADA path of travel site concrete are required as part of the base bid. Time of construction is within the phasing plan and should not change any other phases of construction.

Cushing Terrell®

FOR BLUEBEAM PURPOSES ONLY

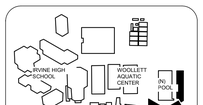
PBK
ARCHITECT PBK, Inc.
Anaheim PBK.com
2400 E Katella Ave, Suite 950
Anaheim, CA 92806
949-548-5000 P

WJN, LLC
dba
NINJACROSS SYSTEMS

WILLIAM WOOLLETT JR. AQUATICS CENTER
NINJACROSS ARCH
4601 WALNUT AVE
IRVINE, CA 92604

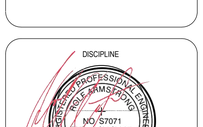
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



KEY PLAN N NORTH: PLAN TRUE

DISCIPLINE



CLIENT
NINJACROSS

DATE PROJECT NUMBER
24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

GENERAL NOTES & ABBREVIATIONS

NS0.1

BID ALTERNATE NO.1

FILE PATH:
CHECKED BY:
DRAWN BY:
PLOT STAMP:

1/2"

Structural Schedule of Special Inspection Services
FABRICATION AND IMPLEMENTATION PROCEDURES - STRUCTURAL STEEL

VERIFICATION AND INSPECTION IBC Section 1704.2	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Fabrications Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR- 2. AISC Certification	Y	S	Fabricator shall submit one of the two qualifications		PE/SE or EIT	
3. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.	Y	S	IBC 1704.2.2		PE/SE or EIT	

Structural Schedule of Special Inspections
SOILS & FOUNDATION CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.7, 1704.8, 1704.9	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Verify existing soil conditions, fill placement and load bearing requirements:	Y					
a. Prior to placement of prepared fill, determine that the site has been prepared in accordance with the approved soils report.	Y	P	IBC 1704.7.1		PE/GE, EIT or ETT	
b. During placement and compaction of fill material, verify material being used and maximum lift thickness comply with the approved soils report.	Y	P	IBC 1704.7.2		PE/GE, EIT or ETT	
c. Test in-place dry density of compacted fill complies with the approved soils report.	Y	P	IBC 1704.7.2		PE/GE, EIT or ETT	
2. Pile foundations:	N					
a. Observe and record procedures for static load testing of piles.	N	C	IBC 1704.8		PE/GE, EIT or ETT	
b. Observe and record procedures for dynamic load testing of piles.	N	C			PE/GE, EIT or ETT	
c. Record installation of each pile and results of load test. Include cutoff and tip elevations of each pile relative to permanent reference.	N	C			PE/GE, EIT or ETT	
d. Test welded splices of steel piles.	N	C	AWS D1.1		AWS-CWI	
3. Pier foundations: Verify installation of pier foundations for buildings assigned to Seismic Design Category C, D, E or F.	N	C	IBC 1704.9		PE/GE, EIT or ETT	
a. Verify pier diameter and length.	N	C			PE/GE, EIT or ETT	
b. Verify pier embedment (socket) into bedrock	N	P			PE/GE, EIT or ETT	
c. Verify suitability of end bearing strata	N	P			PE/GE, EIT or ETT	

Structural Schedule of Special Inspections
CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.4	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Inspection of reinforcing steel, including prestressing tendons and placement.	Y	P	ACI 318: 3.5, 7.1-7.7		PE/SE or EIT	
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B.	N		Welding of reinf not allowed		AWS-CWI	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	N	C	IBC 1912.5		PE/SE or EIT	
4. Verifying use of required design mix.	Y	P	ACI 318: Ch 4, 5.2-5.4		PE/SE or EIT	
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature.	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8		ACI-CFTT or ACI-STT	
6. Inspection of concrete and shotcrete placement for proper application techniques.	Y	C	ACI 318: 5.9, 5.10		PE/SE or EIT	
7. Inspection for maintenance of specified curing temperature and techniques.	Y	P	ACI 318: 5.11, 5.13		PE/SE or EIT	
8. Inspection of Prestressed Concrete:	N					
a. Application of prestressing force.	N	C	ACI 318: 18.20		PE/SE or EIT	
b. Grouting of bonded prestressing tendons in seismic force resisting system.	N	C	ACI 318: 18.18.4		PE/SE or EIT	
9. Erection of precast concrete members.	N	P	ACI 318: Ch 16		PE/SE or EIT	
10. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms beans and structural slabs.	N	P	ACI 318: 6.2		ACI-STT	

Structural Schedule of Special Inspections
STEEL CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.3	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Material verifications of high-strength bolts, nuts and washers:						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3		PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S			PE/SE or EIT	
2. Inspection of high strength bolting:						
a. Bearing type connections.	Y	P	AISC LRFD Section M2.5		AWS/AISC-SSI	
b. Slip critical connections.	N	C or P (method dependent)	IBC Section 1704.3.3		AWS/AISC-SSI	
3. Material verification of structural steel (IBC Section 1708.4):						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	ASTM A 6 or ASTM A 568 IBC Section 1708.4		PE/SE or EIT	
b. Manufacturer's certified mill test reports.	Y	S	ASTM A 6 or ASTM A 568 IBC Section 1708.4		PE/SE or EIT	
4. Material verification of weld filler materials:						
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	S	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5		PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S			PE/SE or EIT	
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project:	Y	S	AWS D1.1		PE/SE or EIT	
6. Inspection of welding (IBC 1704.3.1): a. Structural Steel:						
1) Complete and partial penetration groove welds.	Y	C	AWS D1.1		AWS-CWI	
2) Multipass fillet welds.	Y	C	AWS D1.1		AWS-CWI	
3) Single-pass fillet welds > 5/16".	N	C	AWS D1.1		AWS-CWI	
4) Single-pass fillet welds < 5/16".	Y	P	AWS D1.1		AWS-CWI	
5) Floor and deck welds.	N	P	AWS D1.3		AWS-CWI	
b. Reinforcing steel (IBC Section 1903.5.2):						
1) Verification of weldability of reinforcing steel other than ASTM A706.	N	C				
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2		AWS-CWI	
3) Shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2		AWS-CWI	
4) Other reinforcing steel.	N	P	AWS D1.4 ACI 318: 3.5.2		AWS-CWI	
7. Inspection of steel frame joint details for compliance (IBC Section 1704.3.2) with approved construction documents:						
a. Details such as bracing and stiffening.	N	P			PE/SE or EIT	
b. Member locations.	N	P			PE/SE or EIT	
c. Application of joint details at each connection.	N	P			PE/SE or EIT	

NOTE: REFER TO DSA-103 FORM FOR ALL STRUCTURAL TESTING & SPECIAL INSPECTION REQUIREMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE DRAWINGS, SPECIFICATIONS, AND DSA-103 FORM, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

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Cushing Terrell

FOR BLUEBEAM LABELING/OCR:
FILE PATH:
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DRAWN BY:
PLOT STAMP:
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Anaheim PBK.com
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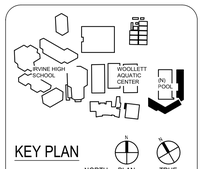
Anaheim, CA 92806
949-548-5000 P

WJN, LLC
dba
NINJACROSS SYSTEMS

WILLIAM WOOLLETT JR. AQUATICS CENTER
NINJACROSS ARCH
4601 WALNUT AVE
IRVINE, CA 92604
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

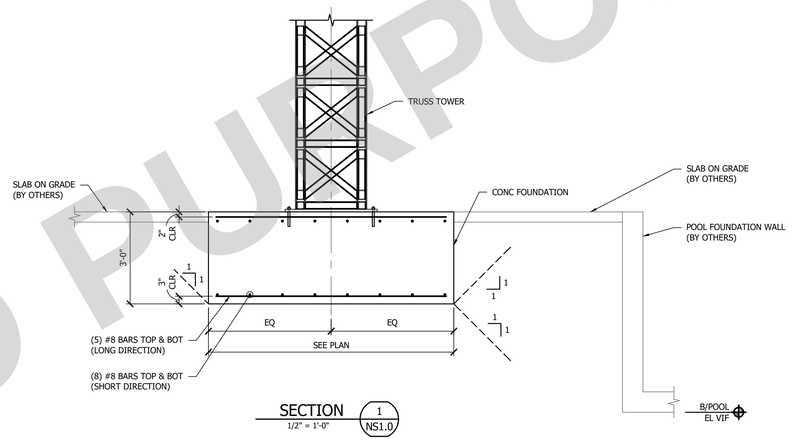
SPECIAL INSPECTIONS

NS0.2

BID ALTERNATE NO.1

FOR BLUEBEAM LABELING/OCR:

TOWER FOUNDATION PLAN
1/4" = 1'-0"



SECTION 1/NS1.0
1/2" = 1'-0"

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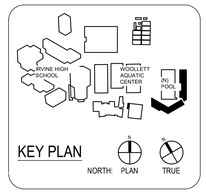
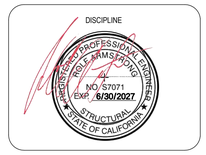
CLIENT LOGO



DISCIPLINE



CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

TOWER FOUNDATION PLAN & SECTION

NS1.0

BID ALTERNATE NO.1

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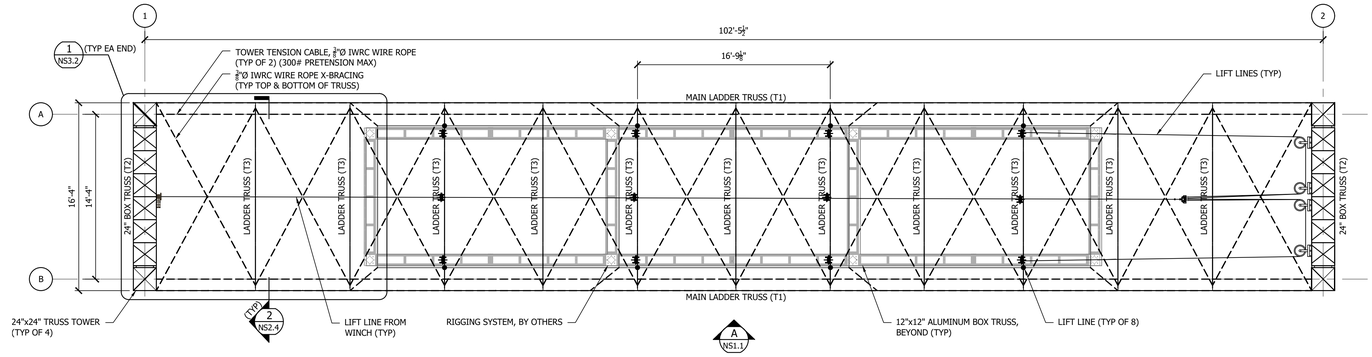
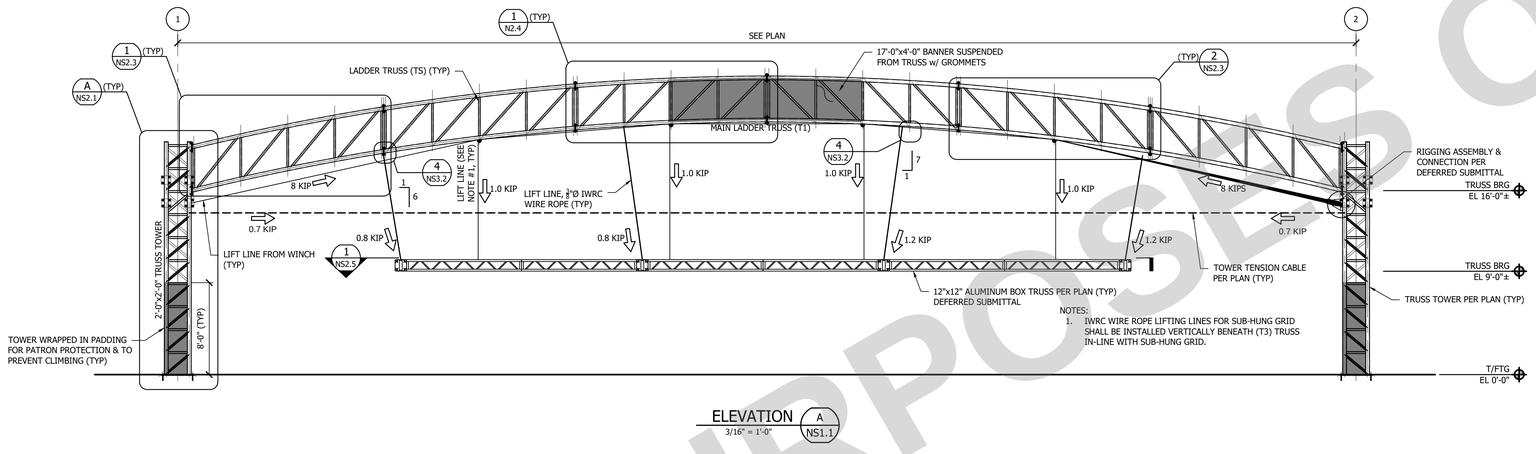
DRAWN BY:
PLOT STAMP:

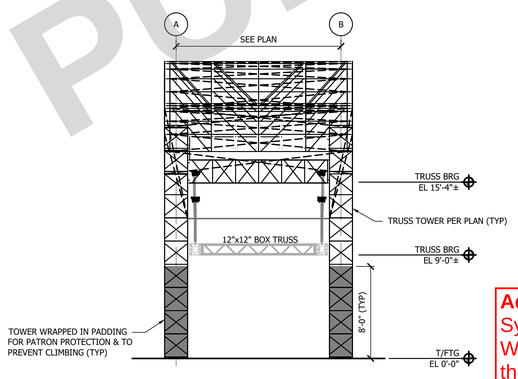
FOR BLUEBEAM LABELING/OCR:



ARCH PLAN
3/16" = 1'-0"



ELEVATION
3/16" = 1'-0"
A NS1.1



ELEVATION
3/16" = 1'-0"
B NS1.1

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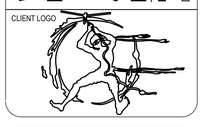

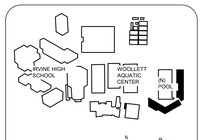

DISCIPLINE

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

ARCH PLAN & ELEVATIONS

NS1.1

BID ALTERNATE NO.1

FILE PATH:
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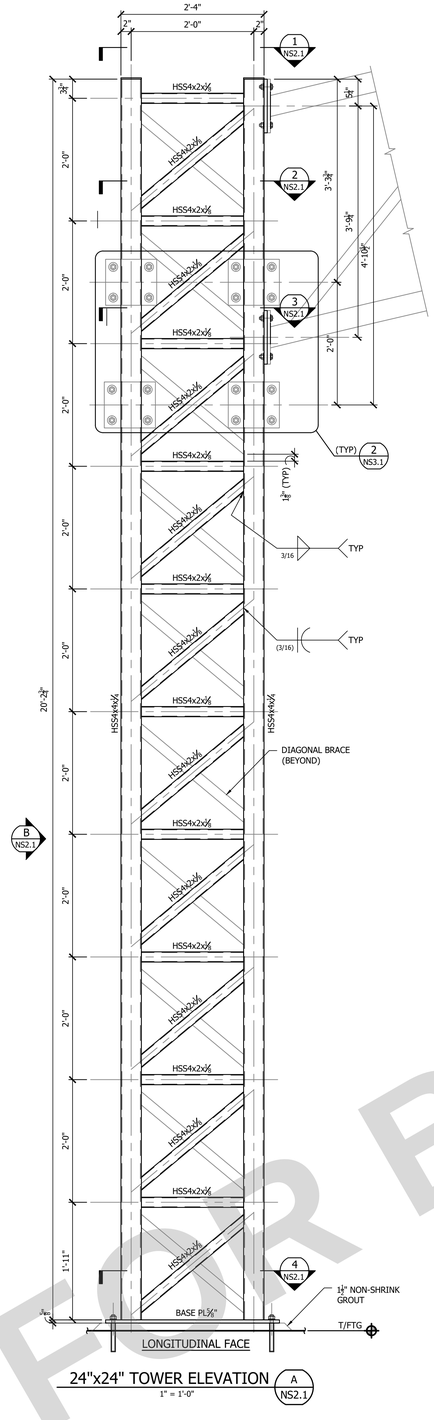
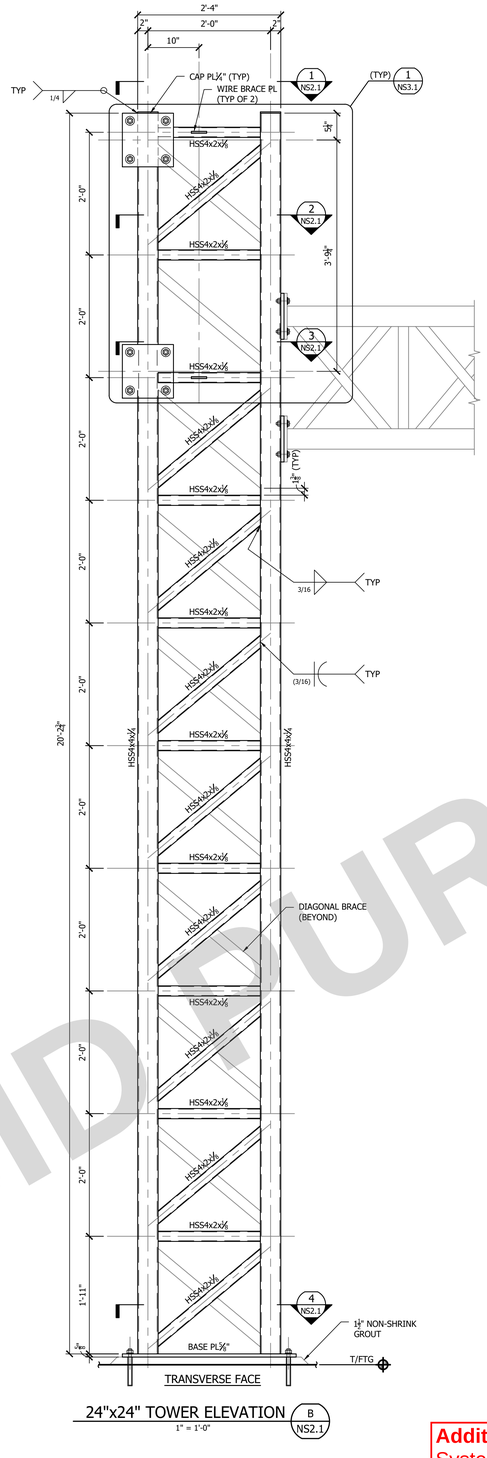
DRAWN BY:
PLOT STAMP:

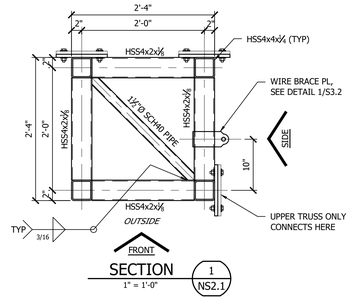
0"
1"
1/2"



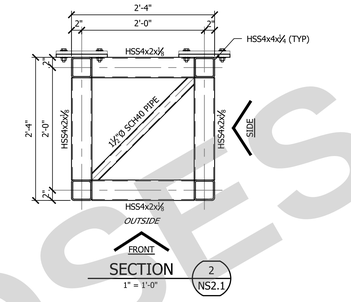
24"x24" TOWER ELEVATION
1" = 1'-0"
A NS2.1



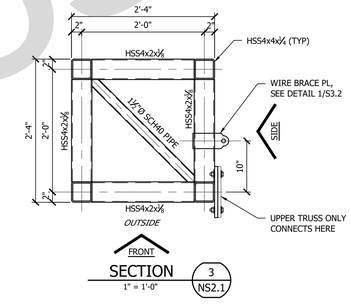
24"x24" TOWER ELEVATION
1" = 1'-0"
B NS2.1



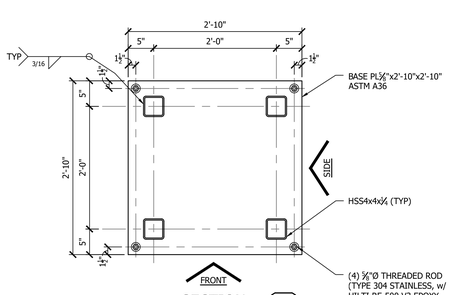
SECTION
1" = 1'-0"
1 NS2.1



SECTION
1" = 1'-0"
2 NS2.1



SECTION
1" = 1'-0"
3 NS2.1



SECTION
1" = 1'-0"
4 NS2.1

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NINJACROSS ARCH

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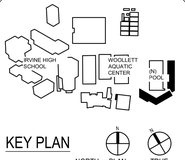
IRVINE, CA 92604

DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

TRUSS TOWER DETAILS & SECTIONS

Cushing Terrell

NS2.1

BID ALTERNATE NO.1

FOR BLUEBEAM LABELING/OCR:

FILE PATH:
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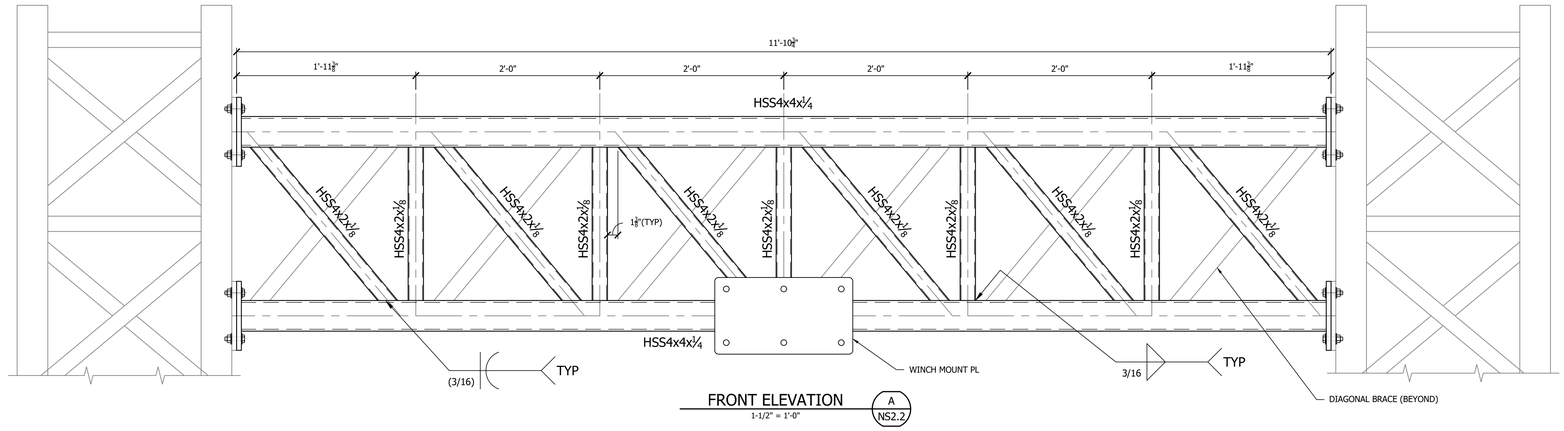
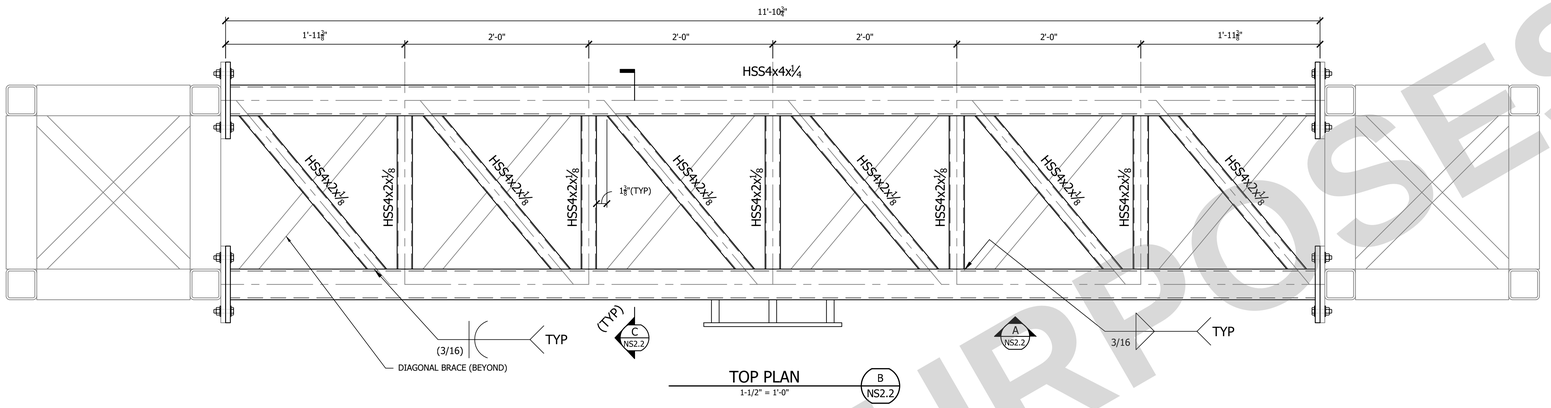
DRAWN BY:
PLOT STAMP:

0" 1"
1/2

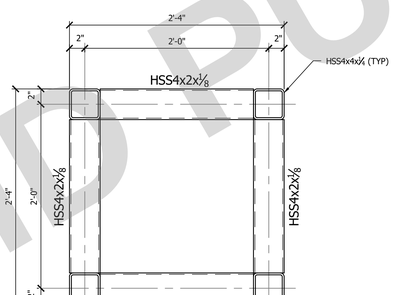
FOR BLUEBEAM LABELING/OCR:



FRONT ELEVATION (A / NS2.2)
1-1/2" = 1'-0"



TOP PLAN (B / NS2.2)
1-1/2" = 1'-0"



SECTION

BOX TRUSS (T2) SECTION (C / NS2.2)
1-1/2" = 1'-0"

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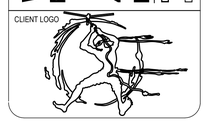
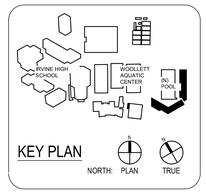
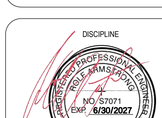




DISCIPLINE



CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

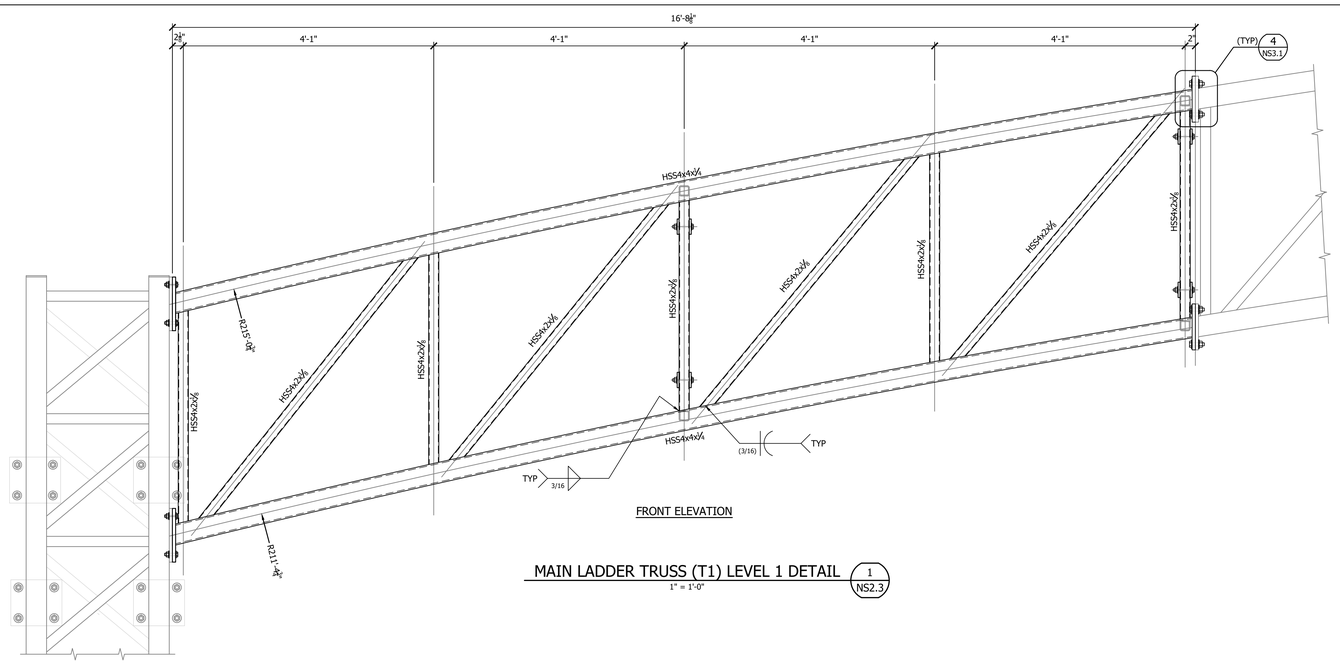
BUILDING NUMBER

BOX TRUSS (T2) DETAIL

NS2.2

BID ALTERNATE NO.1

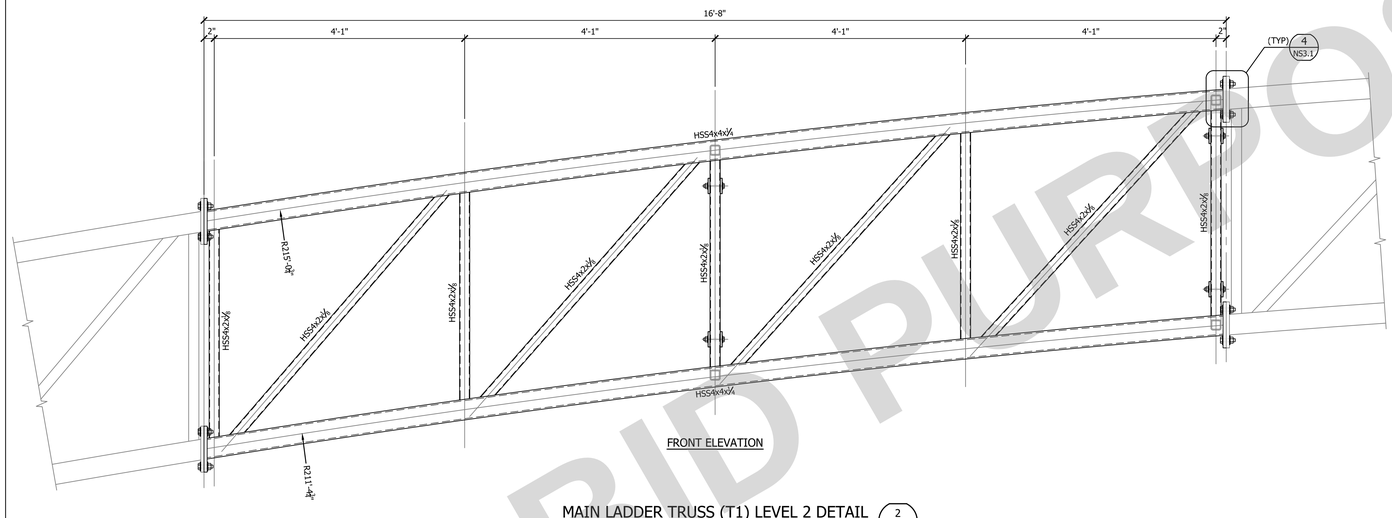
FILE PATH:
CHECKED BY:
DRAWN BY:
PLOT STAMP:



FRONT ELEVATION

MAIN LADDER TRUSS (T1) LEVEL 1 DETAIL 1 NS2.3

1" = 1'-0"



FRONT ELEVATION

MAIN LADDER TRUSS (T1) LEVEL 2 DETAIL 2 NS2.3

1" = 1'-0"

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Cushing Terrell

FOR BID PURPOSES ONLY

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WJN, LLC
dba
NINJACROSS SYSTEMS

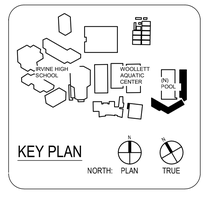
WILLIAM WOOLLETT JR. AQUATICS CENTER
NINJACROSS ARCH

4601 WALNUT AVE
IRVINE, CA 92604

DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

MAIN LADDER TRUSS (T1) (LEVEL 1) & (LEVEL 2) DETAILS

NS2.3

BID ALTERNATE NO.1

FOR BLUEBEAM LABELING/OCR:

FILE PATH:

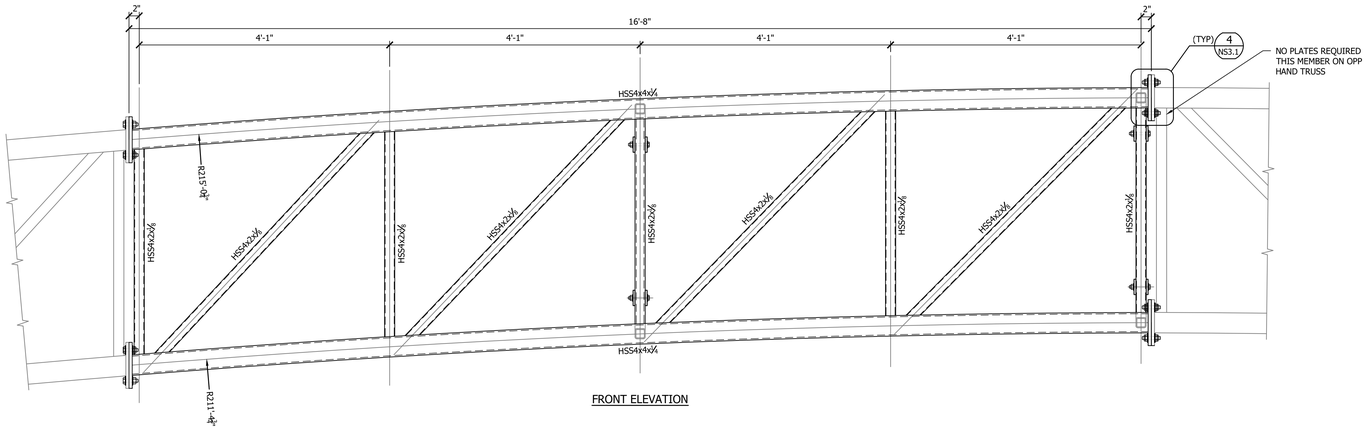
CHECKED BY:

DRAWN BY:

PLOT STAMP:

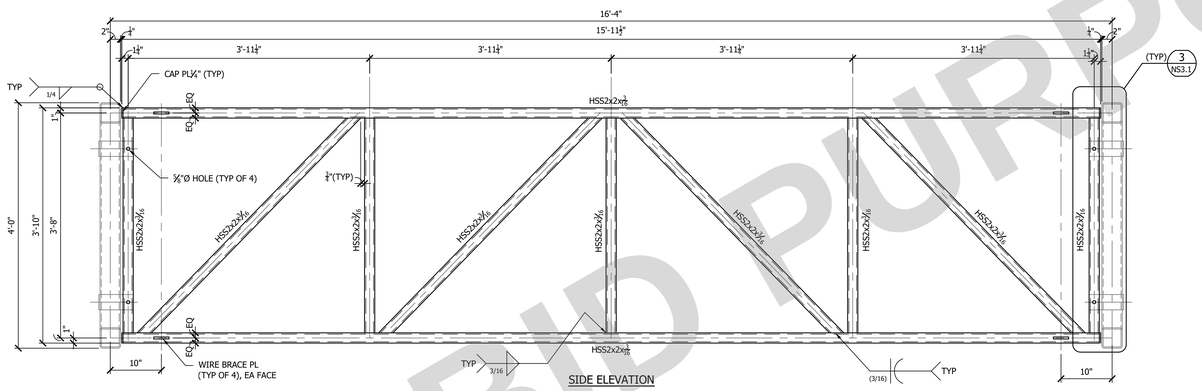
1/2"

FOR BLUEBEAM LABELING/OCR:



FRONT ELEVATION

MAIN LADDER TRUSS (T1) LEVEL 2 DETAIL 1 NS2.4
1" = 1'-0"



SIDE ELEVATION

INTERMEDIATE LADDER TRUSS (T3) DETAIL 2 NS2.4
1" = 1'-0"

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NINJACROSS ARCH

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IRVINE, CA 92604

DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
TRUE ARMSTRONG
NO. S7071
EXP. 6/30/2027
STRUCTURAL
STATE OF CALIFORNIA

CLIENT
NINJACROSS
DATE
PROJECT NUMBER
24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

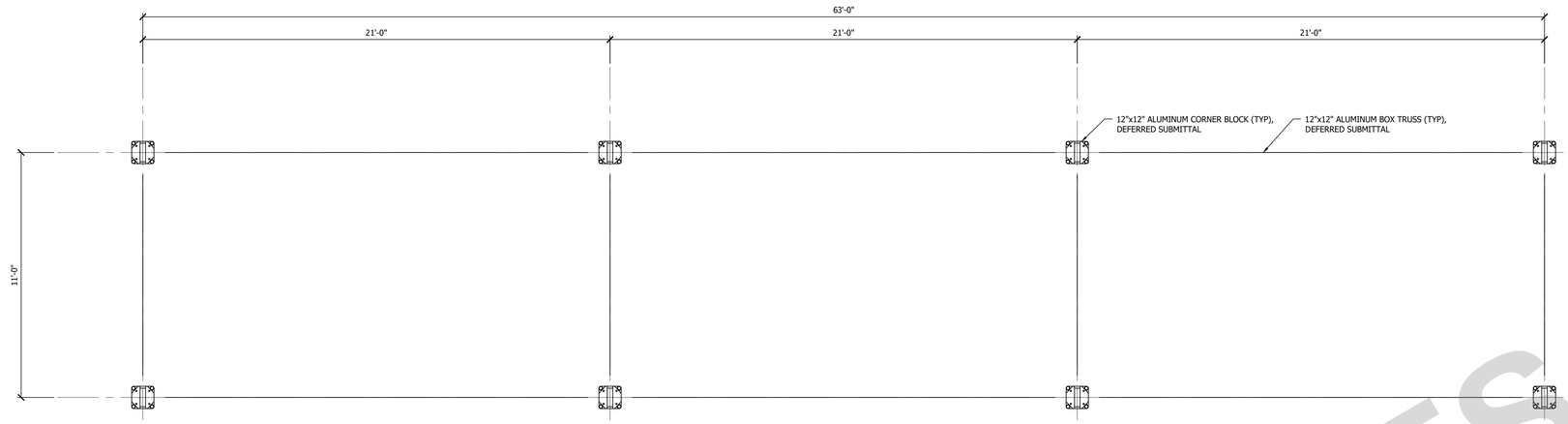
MAIN LADDER TRUSS (T1) (LEVEL 2) DETAIL
INTERMEDIATE TRUSS (T3) DETAIL

NS2.4

BID ALTERNATE NO.1

FILE PATH:
CHECKED BY:
DRAWN BY:
PLOT STAMP:

FOR BLUEBEAM LABELING/OCR:



SECTION 1 / NS2.5
3/8" = 1'-0"

FOR BID PURPOSES ONLY

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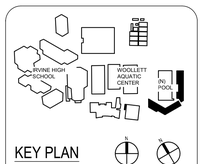
IRVINE, CA 92604

DSA SUBMITTAL

DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

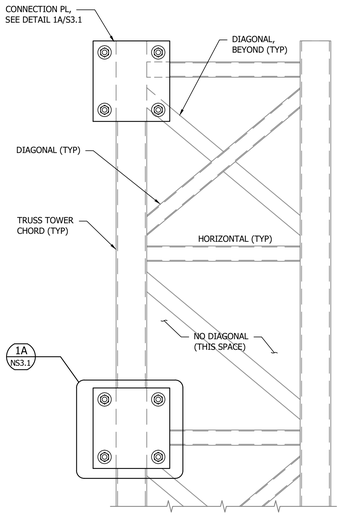
ALUMINUM TRUSS SECTION

NS2.5

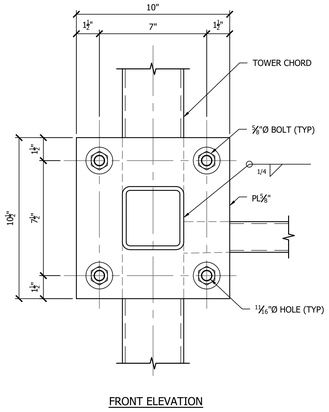
BID ALTERNATE NO.1

FILE PATH:
CHECKED BY:
DRAWN BY:
PLOT STAMP:

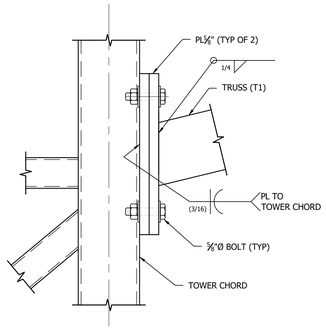
FOR BLUEBEAM LABELING/OCR:



TRUSS T1 TOWER ATTACHMENT DETAIL 1 NS3.1
1-1/2" = 1'-0"

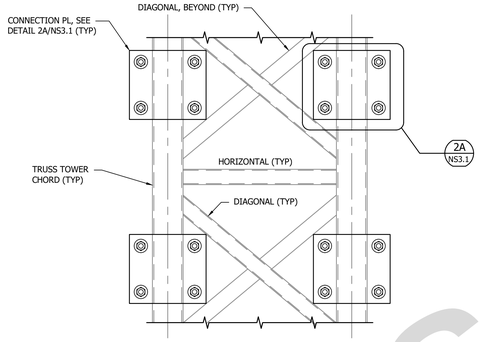


FRONT ELEVATION



SIDE ELEVATION

PLATE DETAIL 1A NS3.1
3" = 1'-0"



TRUSS T2 TOWER ATTACHMENT DETAIL 2 NS3.1
1-1/2" = 1'-0"

FRONT ELEVATION

SIDE ELEVATION

PLATE DETAIL 2A NS3.1
3" = 1'-0"

FRONT ELEVATION

SIDE ELEVATION

TRUSS T2 ATTACHMENT DETAIL 3 NS3.1
1-1/2" = 1'-0"

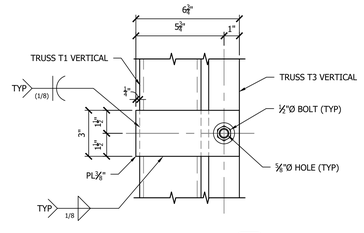
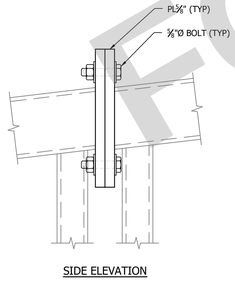
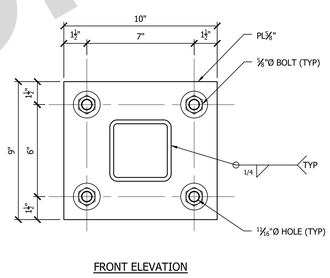


PLATE DETAIL 3A NS3.1
3" = 1'-0"



SIDE ELEVATION



FRONT ELEVATION

TRUSS (T1-T1) CONNECTION DETAIL 4 NS3.1
3" = 1'-0"

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NINJACROSS ARCH

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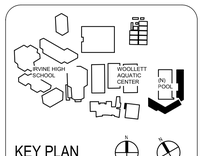
IRVINE, CA 92604

DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO



DISCIPLINE
REGISTERED PROFESSIONAL ENGINEER
ROLF ARMSTRONG
NO. S7071
EXP. 6/30/2027
STRUCTURAL
STATE OF CALIFORNIA

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

DETAILS

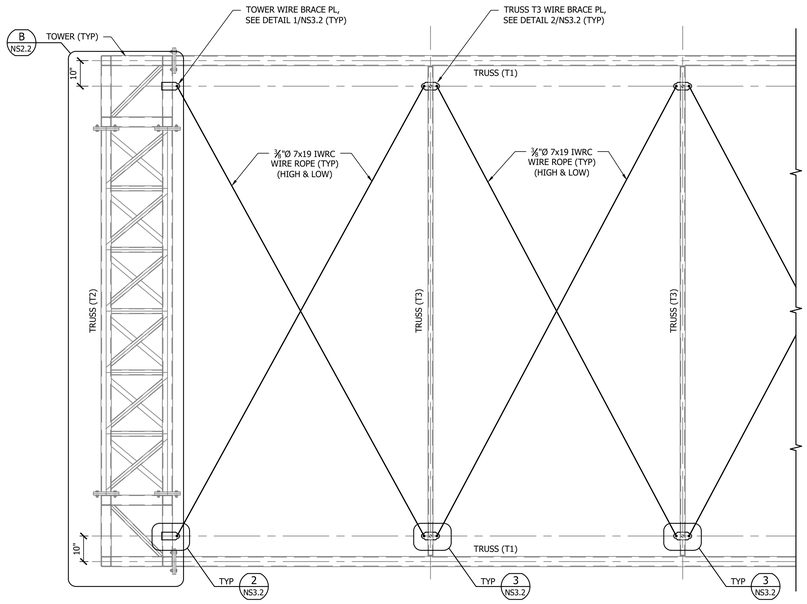
NS3.1

BID ALTERNATE NO.1

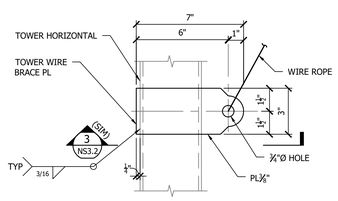
FILE PATH:
CHECKED BY:
DRAWN BY:
PLOT STAMP:

1/2

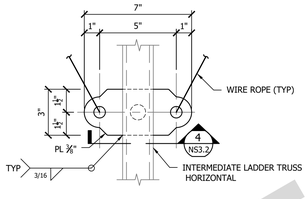
FOR BLUEBEAM LABELING/OCR:



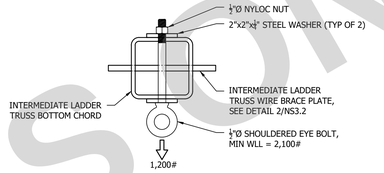
WIRE BRACING PLAN DETAIL 1 NS3.2
1/2" = 1'-0"



DETAIL 2 NS3.2
3" = 1'-0"



DETAIL 3 NS3.2
3" = 1'-0"



SECTION 4 NS3.2
3" = 1'-0"

FOR BID PURPOSES ONLY

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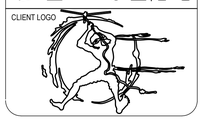
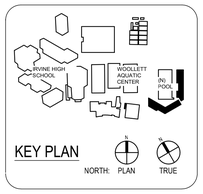
DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

CLIENT LOGO





DISCIPLINE

CLIENT
NINJACROSS

DATE	PROJECT NUMBER
7/30/2025	24.1201.14

DRAWING HISTORY

No.	Description	Date

BUILDING NUMBER

RIGGING DETAILS

NS3.2

BID ALTERNATE NO.1

FILE PATH:
CHECKED BY:
DRAWN BY:
PLOT STAMP:
1/2"

WALL SECTIONS
A7.3
FOR BLUEBEAM LABELING/OCR:

0"
1"

GENERAL NOTES:

APPLICABLE BUILDING CODE

All construction and workmanship shall conform to the 2022 California Building Code, California Code of Regulations – Title 24, Parts 1 & 2.

This pole and foundation standard has been designed for lateral loads on the completed structure as follows:

Wind Design Data:
- Vult = 95 MPH (Exposure C); Vasd = 74 MPH (Exposure C)
- Risk Category = II
- See Pole Foundation Schedule for maximum pole wind forces.

Seismic Design Data:
- Ie = 1.0
- Risk Category = II (Self Supporting Poles)
- Ss = 1.393
- S1 = 0.505
- Site Class = D
- Sms = 0.940 (Site–Specific)
- Sm1 = 0.800 (Site–Specific)
- Seismic Design Category = D
- Basic Seismic–Force–Resisting System = Non–Building Structure, not similar to buildings
- Cs = 0.304 (STRENGTH LEVEL)
- R = 1.5
- Ω = 1.5
- Analysis Procedure = Equivalent Lateral Force Procedure
- See Pole Foundation Schedule for maximum pole seismic forces.

GENERAL CONSTRUCTION

These notes shall be used in conjunction with the plans and any discrepancies shall be brought to the attention of the Registered Design Professional (RDP) in Responsible Charge.

Contractor must check all dimensions, clearances and job conditions before starting work. The RDP in Responsible Charge shall be notified immediately of any discrepancies or possible deficiencies.

The drawings and specifications represent the finished structure. All bracing, temporary supports, shoring, etc., is the sole responsibility of the Contractor. Observation visits to the job site by the RDP in Responsible Charge do not include inspection of construction procedures. The Contractor is solely responsible for all construction methods and for safety conditions at the worksite. These visits by RDP in Responsible Charge shall not be construed as continuous and detailed inspections.

Design, material, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained from the School District, the RDP in Responsible Charge, and DSA.

All changes to the approved plans after a contract for construction has been awarded, affecting structural, access or life–safety portions of the project, shall be made by means of construction change documents (CCD) approved by DSA, as required by Section 4–338, Part 1, Title 24, CCR. All CCD shall be prepared and signed by the RDP in general Responsible Charge.

Substitutions shall be considered as a CCD and shall be approved by DSA prior to fabrication or use.

A Class 1 or Class 2 Project Inspector employed by the School District (Owner) and approved by DSA shall provide continuous inspection of the work, the duties of the Inspector are defined in Section 4–342, Part 1, Title 24, CCR.

All Tests And Inspections shall be performed by an Independent lab employed by the School District and approved by DSA.

Reference pole location on the Architectural, Structural, and/or Electrical drawings for actual pole placement and site location. Pole shall be located 5'–0" min. from adjacent structures below 50'–0" A.G.L., unless noted otherwise.

LIGHT POLE FOUNDATIONS

Reference geotechnical report prepared by John R. Byerly, Inc., Dated September 17, 2024; Report No. 8566, File No. S–14708.

Allowable Vertical soil Capacity – 210 PSF (Skin Friction).

Allowable Lateral Bearing capacity: 250 PSF/FT to maximum 3,000 PSF.

A representative of John R. Byerly, Inc. should be available at the time of the foundation installation to verify the soil design parameters and to provide assistance if any problems arise in foundation installation.

The Contractor must familiarize himself with the complete geotechnical report, and borings and contact the above firm to understand the soil conditions and the possibility of ground water pumping and excavation stabilization or bracing during the foundation installation and placement of concrete.

Soil formations that will require special design considerations or excavation procedures may exist. Pole foundations may need to be reanalyzed according to the soil conditions that exist.

If any discrepancies or inconsistencies arise, notify the RDP in Responsible Charge of such discrepancies.

All piers and concrete must bear on and against firm undisturbed soil as determined by the Geotechnical Engineer.

Place plywood collar around perimeter at the top of foundation excavation to prevent soil from entering pier.

All excavations must be free of loose soil, and debris prior to foundation installation and placement of concrete. Casing or drilling slurry may be required if caving occurs. Review and approval of the Geotechnical Engineer and DSA is required.

All excavations must be free of water or concrete shall be placed by the Tremie Method in accordance with ACI standard 336. Concrete placed by the Tremie Method shall have a minimum ultimate strength of 1,000 PSI greater than required under "Concrete Cast–In–Place' and a maximum slump of 8".

CONCRETE (CAST–IN–PLACE)

Concrete pier foundations with steel reinforcement shall have a minimum ultimate compressive strength at 28 days of 4,500 psi. See statement of special inspections required.

Concrete backfill shall attain a minimum strength of 3,375 psi prior to steel pole erection.

Use Type V portland cement. Max w/c = 0.45. Calcium chloride admixtures not permitted. Mix in conformance with ASTM C–94. Aggregates per ASTM C–33. (1" max agg. size). 3/8" max agg. size not permitted.

Mix in conformance with ASTM C–94, ACI 318 SECTIONS 19.3 and 26.4.

Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer and the DSA Inspector. Under no circumstances shall piers be allowed to remain open for more than 12 hours without the approval of the Geotechnical Engineer. Excavations shall be covered and protected until filled with concrete.

Concrete shall be placed in one continuous operation (no construction joint) with special equipment to assure a maximum freefall of 5 ft and to prevent concrete from striking the sides of the excavation. Freefall of concrete is unacceptable through water or drilling slurry.

Vibrate concrete full depth, except for concrete with slump greater than 6", then vibrate only upper 10'–0". Concrete placed under water shall have a slump of 6"–8".

STEEL POLE

Steel pole sections conform to the California Code of Regulations T.24, Part 2, Chapter 22A.

All steel conforms to referenced ASTM specifications. (See Pole Data Table for each pole type).

All weldment conforms with AWS D1.1–15 specification for GMAW fillet utilizing E70S–X filler metal or SAW fillet utilizing F7XX–EXXX or F8XX–EXXX filler metal.
GMAW procedure conforms to AWS A5.18.
SAW procedure conforms to AWS A5.23.

Longitudinal seam welds for pole sections shall have 60% minimum penetration; Except longitudinal seam welds on the female section of telescopic field splices shall be full penetration groove welds for a length equal to the minimum splice length plus 6 inches. See drawing number MD1 for seam weld details.

Pole sections hot dipped galvanized to ASTM A123 latest standards.

All miscellaneous structural steel items conform to AISC 360–16.

Steel pole sections shall be assembled in the field by attaching two 1.5 ton "come alongs" to jacking ears, using full effort on each simultaneously, to ensure minimum overlaps as indicated on the "MS" sheet(s) and detail G/MD1.

PRECAST BASE

The precast concrete base conforms to California Code of Regulations, T.24, part 2, Chapter 19A and to Building Code Requirements for Reinforced Concrete, ACI 318–19. Precast bases are an ICC approved product under ESR–3765.

See detail "A" on "MS" sheet(s) for material strengths and specifications.

TESTING AND INSPECTION

Testing and inspection in accordance with Title 24, Part 1 & Part 2 & project DSA 103 form.

EXCAVATIONS & FOUNDATIONS:
Inspection of cast–in–place deep foundations – 1705A.8 & Table 1705A.8

CONCRETE MATERIALS: 1903A.1
Portland cement – 1910A.1
Concrete aggregates – 1903A.5
Reinforcing bars – 1910A.2 & DSA IR 17–10
Prestressing steel and anchorages – 1910A.3

CONCRETE QUALITY:
Proportions of concrete – Reference ACI 318 Section 26.4.3.1 Through 26.4.4.1.
Strength tests of concrete – 1905A.1.17 and ACI 318 Section 26.12 & 26.5.3.2.

CONCRETE INSPECTION: 1705A.3 & Table 1705A.3
Job site – Reference ACI 318 Section 26.5.1,26.5.2.1(a) & (b),26.6.1.2(d), 26.11.1.1(a).
Batch Plant Inspection Not Required – 1705A.3.3.2
Prestressed concrete – 1704A.2.5, 1705A.3.4

STEEL MATERIALS:
Structural steel – 2202A.1 & 2205A.1
Cold formed steel – 2210A.1
Identification – 2202A.1

STEEL QUALITY:
Tests of structural steel & cold formed steel – 2202A.1

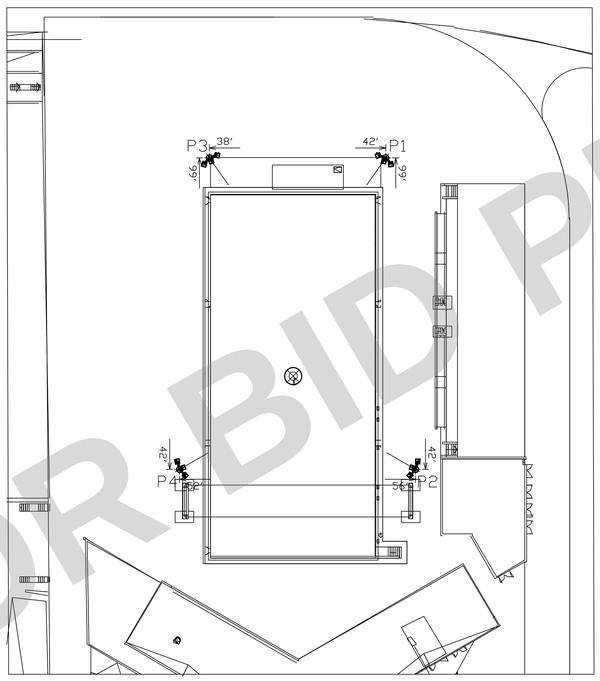
STRUCTURAL STEEL INSPECTIONS: Table 1705A.2.1
Shop fabrication inspection – 1704A2.5
Welding – 1705A.2.5, DSA IR 17–3 and AWS D1.1.

(NOTE: ALL WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN AWS CWI CERTIFIED INSPECTOR APPROVED BY DSA)

These plans are for construction approval. An application number and approval of these drawings by the Division of The State Architect of California must be secured to build from these plans.

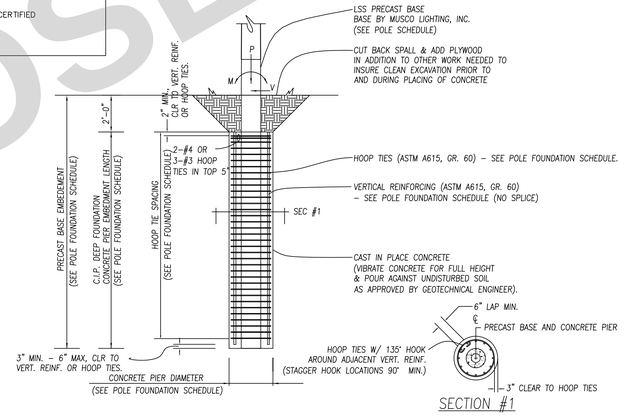
INDEX OF SHEETS

MT1	NOTES, FOUNDATION DETAIL
MS1	60A POLE DETAILS
MD1	ATTACHMENT DETAILS
MD2	ATTACHMENT DETAILS



POLE ORIENTATION PLAN
N.T.S.

NOTE: THIS PLAN IS A PICTORAL REPRESENTATION OF THE SITE LAYOUT. REFERENCE APPROPRIATE ARCHITECTURAL SITE PLAN FOR ALL NECESSARY INFORMATION.



A REINFORCED FOUNDATION DETAIL
N.T.S. DSA–A2–CASFND_A

POLE FOUNDATION SCHEDULE

POLE TYPE–# OF FIXTURES (MAX) (LSS=LIGHT STRUCTURE)	MARK (SEE POLE ORIENTATION PLAN)	WIND OR SEISMIC (SEISMIC FORCE INCLUDES OVERSTRENGTH FACTOR=1.5)	ASD LEVEL FORCES (MAX)			C.I.P. DEEP FOUNDATION				PRECAST BASE
			MOMENT (M) FT–LBS*	SHEAR (V) LBS	VERTICAL (P) LBS**	DIAMETER INCHES	EMBEDMENT FEET (SEE NOTE BELOW)	VERTICAL REINFORCING (ASTM A615, GR 60)	HOOP TIE SIZE & SPACING (ASTM A615, GR 60)	EMBEDMENT FEET
LSS60A–3	P1–P4	SEISMIC	23,100	595	1,865	36"	8'–0"	8–#8	#4 @ 6" O.C.	10'–0"
		WIND	32,700	920	1,057					

*Moment (M) computed below grade at Shear (V) = 0.
**Vertical (P) load includes steel pole, light fixtures, and attachments. Vertical (P) load for wind is the dressed pole weight for erection purposes. Vertical (P) load for seismic also includes weight of precast base above groundline. Reference Detail "A" on MS Sheet(s) for precast base weight.
Note:
Final Embedment to be determined in the field by the Geotechnical Engineer of Record

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DSA–TITLE1_E

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DRAWING TITLE: NOTES, FOUNDATION DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 241694
DATE: 06/27/2025
DRAWN BY: E.Fox
DRAWING NO. MT1
1 OF 4

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DSA SUBMITTAL
DSA APPL NO.: 04-124187 DSA FILE NO.: 30-H15

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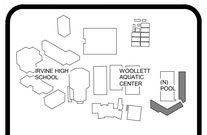

KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE
DATE 06/30/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

NOTES, FOUNDATION DETAIL

MT1

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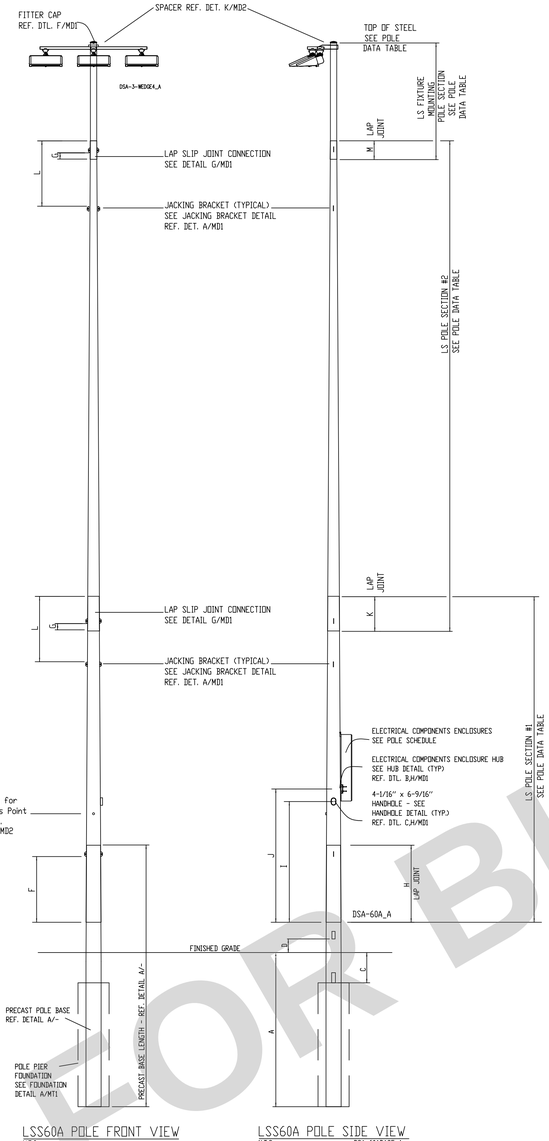
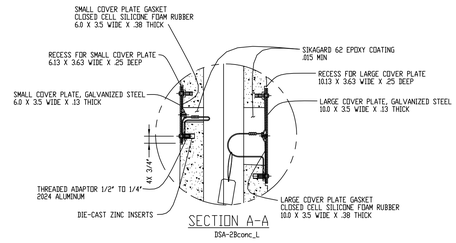
WALL SECTIONS
A7.3
FOR BLUEBEAM LABELING/OCR:

0"
1"

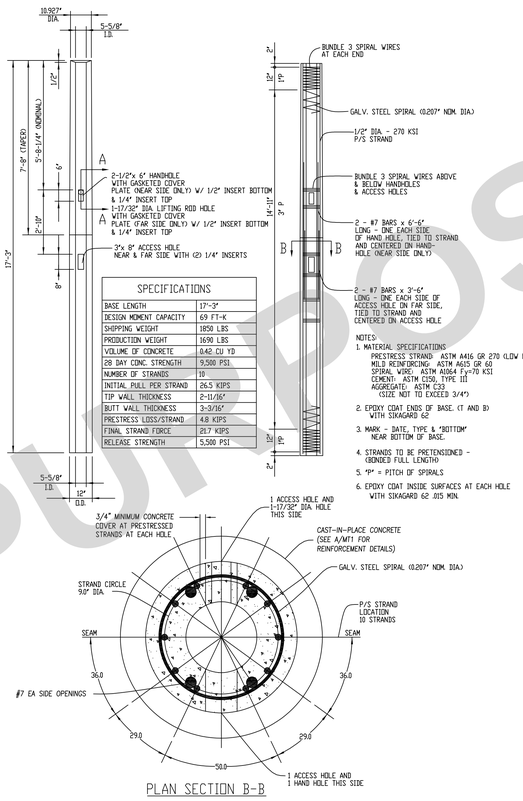


LSS60A POLE FRONT VIEW
N.T.S.

LSS60A POLE SIDE VIEW
N.T.S. DSA-60ABASE_A



SECTION A-A
DSA-2Bconc_L



SPECIFICATIONS	
BASE LENGTH	17'-3"
DESIGN MOMENT CAPACITY	69 FT-K
SHIPPING WEIGHT	1850 LBS
PRODUCTION WEIGHT	1690 LBS
VOLUME OF CONCRETE	0.62 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	10
INITIAL PULL PER STRAND	26.5 KIPS
TIP WALL THICKNESS	2-11/16"
BUTT WALL THICKNESS	3-3/16"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	5,500 PSI

1. ACCESS HOLE AND
1-17/32" DIA HOLE
THIS SIDE

NOTES:
1. MATERIAL SPECIFICATIONS
PRESTRESS STRAND: ASTM A416 GR 270 (LOW RELAXATION)
MILD REINFORCING: ASTM A615 GR 60
SPIRAL WIRE: ASTM A1064 Fy=70 KSI
CEMENT: ASTM C150, TYPE III
AGGREGATE: ASTM C33
(SIZE NOT TO EXCEED 3/4")

2. EPOXY COAT ENDS OF BASE. (T AND B)
WITH SIKAGARD 62

3. MARK - DATE, TYPE & "BOTTOM"
NEAR BOTTOM OF BASE.

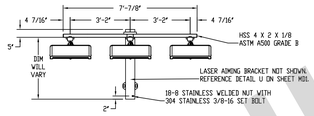
4. STRANDS TO BE PRETENSIONED -
(BENDED FULL LENGTH)

5. "P" = PITCH OF SPIRALS

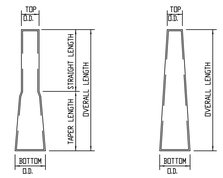
6. EPOXY COAT INSIDE SURFACES AT EACH HOLE
WITH SIKAGARD 62 .015 MIN.

PLAN SECTION B-B

A TYPE 2B PRECAST BASE DETAIL
N.T.S. DSA-2Bconc_L



B 3 FIXTURE CONFIGURATION
N.T.S. DSA-3C-WEDGE4_A



FIXTURE MOUNTING POLE SECTION

TOP/MIDDLE/BOTTOM POLE SECTION

POLE ORIENTATION
N.T.S.

NOTATION	DIMENSION LSS60A
A	10'-0"
C	2'-0" NOM.
D	1'-0" NOM.
F	4'-4" NOM.
G	1'-6"
H	5'-1 1/4" NOM. 4'-7 3/8" MIN.
I	7'-7 1/2" NOM.
J	8'-9 1/2" NOM.
K	3'-7 1/4" NOM. 1'-10 1/4" MIN.
L	4'-7" NOM.
M	1'-8" NOM. 11 1/2" MIN.

1. CONTAINS COMBINED EPA OF LIGHT FIXTURES, CROSS ARM AND MISCELLANEOUS FIXTURE MOUNTING APPARATUS.

FIXTURE WEIGHT 54.3 LBS. THIS INCLUDES THE WEIGHT OF FIXTURE, CROSS ARM & MISC. MOUNTING APPARATUS. ELECTRICAL BALLAST BOX WEIGHT 20 LBS PER FIXTURE SERVICED

POLE SCHEDULE

SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA[1]	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	P1-P4	SEE POLE ORIENTATION PLAN	LSS60A	3 - SEE DETAIL B/MS1	9.02	SEE DETAIL D,D/MD1

POLE DATA TABLE

POLE TYPE	PIECE MARK	MAX NUMBER of X-Arms	POLE SECTION	TOP O.D. (INCHES)	BTM. O.D. (INCHES)	OVERALL LENGTH	STRAIGHT LENGTH	TAPER LENGTH	THICKNESS (INCHES)	TOP OF STEEL NOMINAL	ASTM REFERENCE
LSS60A	LS-2000	1	FIXTURE MOUNTING	4.750"	5.081"	5'-3"	3'-7"	1'-8"	.120	60"-2 7/8"	A513 (Fy=38ksi)
	MP-1TDSA		#2	4.596"	9.639"	35'-11 1/2"	-----	35'-11 1/2"	.120	-----	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-1BT-D		#1	8.886"	12.000"	22'-2 7/8"	-----	22'-2 7/8"	.179	-----	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-2BDSA		PRECAST BASE	FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-							

DSA-60ADT_H
DSA-60_A

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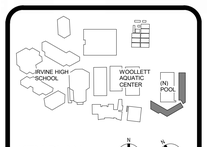

KEY PLAN
NORTH: PLAN TRUE

DRAWING TITLE: POLE DETAIL
SCALE: SEE PLAN
REVISIONS
REFERENCES

PROJECT NO. 241694

DATE: 06/27/2025

DRAWN BY: E.Fox

DRAWING NO. MS1
2 OF 4

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DATE 06/30/2025
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POLE DETAIL

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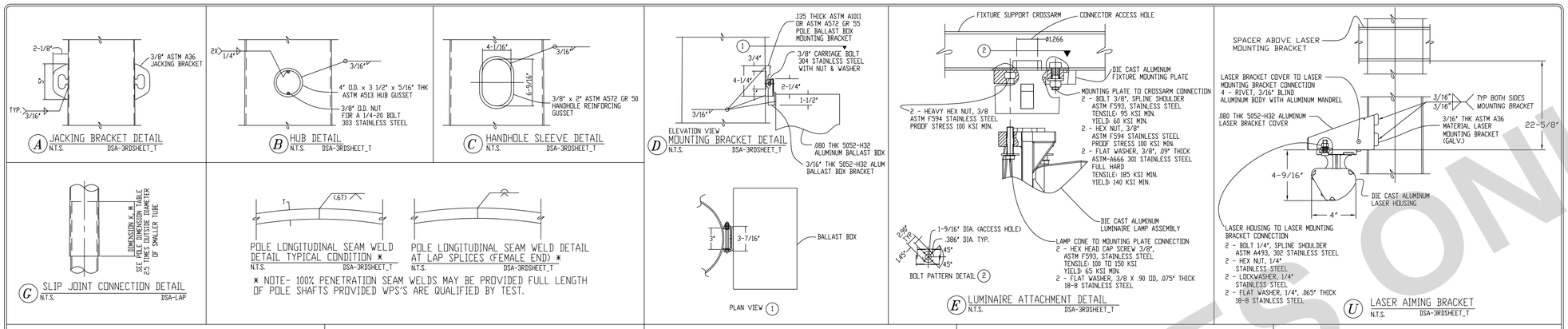


A JACKING BRACKET DETAIL N.T.S. DSA-3RDSHEET_T

B HUB DETAIL N.T.S. DSA-3RDSHEET_T

C HANDHOLE SLEEVE DETAIL N.T.S. DSA-3RDSHEET_T

D ELEVATION VIEW MOUNTING BRACKET DETAIL N.T.S. DSA-3RDSHEET_T

PLAN VIEW 1

E LUMINAIRE ATTACHMENT DETAIL N.T.S. DSA-3RDSHEET_T

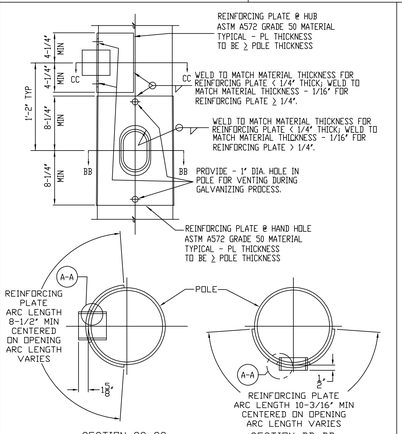
U LASER AIMING BRACKET N.T.S. DSA-3RDSHEET_T

G SLIP JOINT CONNECTION DETAIL N.T.S. DSA-LAP

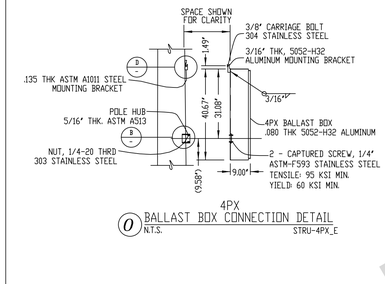
POLE LONGITUDINAL SEAM WELD DETAIL TYPICAL CONDITION * N.T.S. DSA-3RDSHEET_T

POLE LONGITUDINAL SEAM WELD DETAIL AT LAP SPLICES (FEMALE END) * N.T.S. DSA-3RDSHEET_T

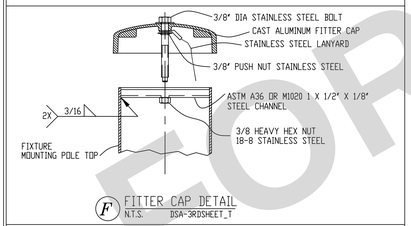
* NOTE- 100% PENETRATION SEAM WELDS MAY BE PROVIDED FULL LENGTH OF POLE SHAFTS PROVIDED WPS'S ARE QUALIFIED BY TEST.



H HANDHOLE/HUB REINFORCING GUSSET N.T.S.



O BALLAST BOX CONNECTION DETAIL N.T.S. STRU-4PX_E



F FITTER CAP DETAIL N.T.S. DSA-3RDSHEET_T

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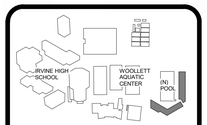

KEY PLAN
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SCALE: SEE PLAN
REVISIONS
REFERENCE:

PROJECT NO. 241694
DATE: 06/27/2025
DRAWN BY: E.Fox
DRAWING NO. 3 OF 4 MD1
STRU-MD1

DISCIPLINE

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CITY OF IRVINE

DATE	PROJECT NUMBER
06/30/2025	230538

DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS

BUILDING NUMBER

ATTACHMENT DETAILS

MD1

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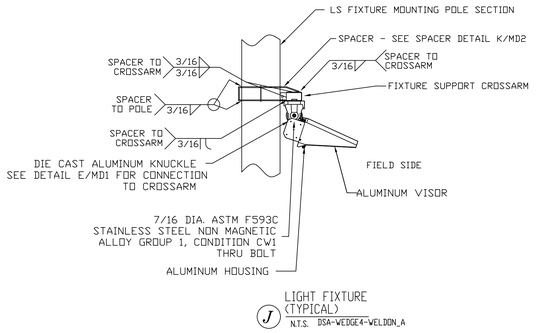
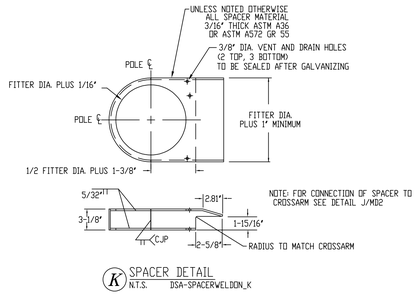
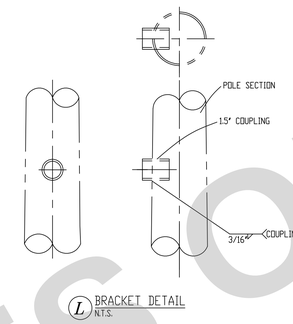


J LIGHT FIXTURE (TYPICAL)
N.T.S. DSA-WEDGE4-WELDON_A



K SPACER DETAIL
N.T.S. DSA-SPACERWELDON_K



L BRACKET DETAIL
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DRAWING NO. MD2
4 OF 4
STRU-MD2

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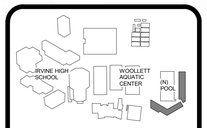
CLIENT LOGO
CITY OF IRVINE 1971



KEY PLAN
NORTH: PLAN TRUE

DISCIPLINE

CLIENT
CITY OF IRVINE
DATE 06/30/2025
PROJECT NUMBER 230538
DRAWING HISTORY

No.	Description	Date

100% CONSTRUCTION DOCUMENTS
BUILDING NUMBER

ATTACHMENT DETAILS

MD2

0" 1"

WALL SECTIONS
A7.3
FOR BLUEBEAM LABELING/OCR:

FILE PATH: Autodesk Docs://Irvine USD_230538_Woollett Aquatics Center/230538_Woollett Aquatic Center_Central.rvt
CHECKED BY: Checker
DRAWN BY: Author
PLOT STAMP: 6/30/2025 6:09:47 PM