



**SPECIFICATIONS FOR THE
CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)
BID NO.: DE-26-91-SB**

PREPARED FOR

City OF FONTANA
8353 Sierra Avenue
Fontana, California 92335
(909) 350-7610

PREPARED BY

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CITY OF FONTANA
8353 Sierra Avenue
Fontana, California, 92335

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CONSTRUCTION OF
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BID NO.: DE-26-91-SB**

Prepared Under the Supervision of:

JEFFREY KIM, P.E.



12-22-25

DATE:

Approved By:



12-22-25

Public Works Director/ City Engineer DATE:
GIA LAM KIM, P.E.

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Owner:	CITY OF FONTANA
Project/Construction Manager:	Eric Amaya
Architect:	Sillman Architects
Civil Engineer:	Snipes-Dye Associates
Geotechnical Engineer/Material Testing:	Ninyo & Moore, Geotechnical & Environmental Sciences Consultants

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- Drawing G001 through G501 (General)
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- Drawing I001 through IF103 (Interior Design)
- Drawing S001 through S714 (Structural)
- Drawing M001 through M605 (Mechanical)
- Drawing P001 through P.1.230 (Plumbing)
- Drawing E001 through ED100 (Electrical)
- Drawing FA001 through FA.1 250 (Fire Alarm)
- Drawing T001 through T503 (Technology)
- Drawing TAV001 through TAV600 (Audio Visual – FOR REFERENCE ONLY)
- Drawing FP-1.0 through FP-2.4 (Fire Protection)
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FONTANA CITY HALL FF&E CONCEPT PACKAGE; REVISED 12-15-25

STREET IMPROVEMENT PLANS: DRAWING NO. 6569, SHEETS 1 THROUGH 20 OF 20; REVISED: 12-15-25

ONSITE LANDSCAPE PLAN: DRAWING NO. 6589, SHEETS 1 THROUGH 23 OF 23; REVISED: 12-15-25

SOUTHERN CALIFORNIA EDISON PLANS: DESIGN DRAWING NO. 1864056_0.01, SHEETS 1 THROUGH 2 OF 2

CITY HALL BUILDING PLANS (FOR REFERENCE ONLY);

REVISED: 10-11-60 & 1-10-83

FONTANA CITY HALL REMODEL PLANS (FOR REFERENCE ONLY);

REVISED: 11-20-96

DSO BUILDING PLANS (FOR REFERENCE ONLY); REVISED 5-1-06

**NOTICE INVITING SEALED BIDS
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)**

BID NO.: DE-26-91-SB

PUBLIC NOTICE IS HEREBY GIVEN that the **City OF FONTANA**, as **City**, invites sealed bids to be received only by submitting electronically at www.fontanapurchasing.org, for the above stated project and **will receive such bids no later than the hour of 2:00 P.M. on the 29th day of January, 2026, at which time or thereafter said bids will be electronically opened and available online. Bids received after this time will not be able to submit electronically.**

A Mandatory pre-bid conference and site-walk will be held **January 14, 2026 at 2:30 pm** at the project site. Each and every Prime Bidder must attend the scheduled meeting; otherwise the submitted bid shall be considered non-responsive and shall be rejected by the City. Bidders will be required to sign-in and sign-out to demonstrate that they have attended the pre-bid meeting.

The **City** reserves the right to reject any or all bids, to waive any irregularity, to accept any bid or portion thereof, and to take all bids under advisement for a period of ninety (90) calendar days.

The work of improvement consists of furnishing all materials, equipment, tools, labor, and incidentals as required by the Plans, Specifications and Contract Documents for the above stated project. The general items of work to be done hereunder consist of **furnishing all materials, equipment, tools, labor, and all other work as required by the Plans, Specifications and other Contract Documents for the above stated project. The general items of work to be done hereunder consist of the demolition of the existing City Hall building and the construction of the new City Hall building, the remodel of a portion of the existing Development Services Offices (DSO) building, the construction of a pedestrian bridge from each building, utility installation, procurement of furniture, fixtures & equipment, in addition to all related on-site and off-site improvements as indicated in the Contract Documents.**

The project will have distinct phases of demolition and construction that need to be sequenced appropriately to facilitate construction of the Project. The demolition and construction of the improvements to the DSO building to be conducted in a manner that will minimize the impact of the day to day operations of the existing DSO Building which will remain occupied and operational. At no

point in time, shall utility services to the existing DSO building be impacted without notification and approval from the Owner and Architect.

The new building will encompass approximately 44, 451 square feet with a multi-level exterior plaza of roughly 14,000 square feet and 111 new ground-level parking spaces for staff and visitors. Furthermore, the scope for the DSO building involves the demolition of approximately 1,200 square feet of the first level , and the addition of approximately 1,700 square feet of a 2 story space, and the addition of approximately 420 square feet of a pedestrian bridge to connect level 2 of the DSO building to the proposed elevated City Hall Grand Plaza.

This proposed Project is to be constructed within the City of Fontana, CA and is bound by Upland Ave. to the north, Sierra Ave, to the West and by Nathan A. Simon Way (Wheeler Ave.) to the East.

Bid must be submitted electronically for the exact item(s) requested in the bid specifications. Copies of the plans, specifications, and contract documents are available for free from the City's Purchasing website www.fontanapurchasing.org.

Each Bid submitted electronically is required to be accompanied by the Proposal Documents; Proposal, Bidder's Information, Contractor's Licensing Statement, List of Subcontractors (enter online), References, Designator of Sureties, Bid Bond, Non-Collusion affidavit, Certificate of Non-Discrimination by Contractors, Proposal Bid Sheet (enter online), Addendum Acknowledgement, and all additional documentation required by the Instructions to Bidders. Bids must be submitted on the City's bid forms. Any questions pertaining to this project should be directed to **Sid Lambert at phone number (909) 350-7678 or email at slambert@fontana.org**.

Proposals must be accompanied by a proposal guarantee in the form of cash, cashier's check, a certified check or bid bond available to the **City** in the amount of at least ten percent (10%) of the total amount bid. Any proposal not accompanied by such a guarantee will not be considered. A payment bond and a performance bond, each in an amount equal to 100% of the total contract amount, shall be required concurrently with the execution of the contract and shall be in the form set forth in the contract documents.

Any contract entered into pursuant to this notice will incorporate the provisions of the **State Labor Code. Labor Code Section 1735** requires that no discrimination be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in **Government Code Section 12940**. Compliance with the prevailing rates of wages and apprenticeship employment standards established by the

State Director of Industrial Relations will be required. Affirmative action to ensure against discrimination in employment practices on the basis of race, color, national origin, ancestry, sex, or religion will also be required.

Pursuant to Section 1773.2 of the Labor Code, the current prevailing rate of per diem wages at the time of the Bid determined by the Director of the Department of Industrial Relations ("DIR") are on file at the office of the City Engineer. This project is subject to compliance monitoring and enforcement by the DIR.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the DIR. No Bid will be accepted, nor any Contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work.

Qualified To Bid Per Labor Code Section 1771.1. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. An unregistered contractor may only submit a bid if authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work at the time the contract is awarded. No bid will be accepted, nor any contract entered into without proof of the Bidder's and its subcontractors' current registration with the Department of Industrial Relations. If awarded a Contract, the Bidder and its subcontractors of every tier shall maintain active registration with the Department of Industrial Relations for the duration of the Project. It shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The **City** hereby affirmatively ensures that minority business enterprises will be afforded full opportunity to submit bids in response to this notice and will not be discriminated against on the basis of race, color, national origin, ancestry, sex, or religion in any consideration leading to the award of contract.

The contract documents call for monthly progress payments based upon the engineer's estimate of the percentage of work completed. The **City** will retain 5 percent of each progress payment as security for completion of the balance of the work. At the request and expense of the successful bidder, the **City** will pay the amounts so retained upon

compliance with the requirements of **Public Contract Code Section 22300** and the provisions of the contract documents pertaining to Substitution of Securities.

At the time of submitting a bid, the prime contractor and subcontractor shall possess a Class "A" contractor's license or a combination of Class "C" specialty contractor's license(s) sufficient to perform the work.

BY ORDER OF City OF FONTANA

**City OF FONTANA
8353 Sierra Avenue
Fontana, California 92335
(909) 350-7610**

**INSTRUCTIONS TO BIDDERS
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)**

BID NO.: DE-26-91-SB

PUBLIC WORKS CONTRACTOR DIR REGISTRATION REQUIREMENTS

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

AVAILABILITY OF CONTRACT DOCUMENTS

Bids shall be submitted to the City on the Bid Forms which are a part of the Bid Package for the Project. Contract Documents may be obtained from the City's Purchasing Department website www.fontanapurchasing.org as indicated in the Notice Inviting Bids.

EXAMINATION OF CONTRACT DOCUMENTS

Bidder shall be solely responsible for examining the Project Site and Contract Documents, including any Addenda issued during the Bidding period, and for informing himself/herself with respect to local labor availability, laws and codes, local permit requirements, availability of required insurance, and other factors that could affect the Work. Bidders are responsible for consulting the standards referenced in the Contract. Failure of Bidder to so examine and inform himself/herself shall be at his/her own risk, and no relief for error or omission will be given except as required under State law.

INSPECTION OF SITE

Each prospective Bidder is responsible for fully acquainting himself/herself with the conditions of the Project Site (which may include more than one site), as well as those relating to the construction and labor of the Project, to fully understand the facilities,

difficulties and restrictions which may impact the cost or effort required to complete the Project.

BID GUARANTEE (BOND)

Each Bid shall be accompanied by a proposal guarantee in the form of: (a) cash; (b) a certified check made payable to the City; (c) a cashier's check made payable to the City; or (d) a Bid bond payable to the City executed by the Bidder as principal and surety as obligor in an amount not less than 10% of the maximum amount of the Bid. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120.

The cash, check or Bid Bond shall be given as a guarantee that the Bidder shall execute the Contract if it be awarded to the Bidder, shall provide the payment and performance bonds and insurance certificates and endorsements as required herein within ten (10) calendar days after notification of the award of the Contract to the Bidder. Failure to provide the required documents may result in forfeiture of the Bidder's Bid deposit or bond to the City and the City may award the Contract to the next lowest responsible Bidder, or may call for new Bids.

PERFORMANCE BOND AND PAYMENT (LABOR AND MATERIALS) BOND REQUIREMENTS

Within the time specified in the Contract Documents, the Bidder to whom a Contract is awarded shall deliver to the City three identical counterparts of the Performance Bond and Payment (Labor and Material) Bond, each in an amount equal to one hundred percent (100%) of the Total Bid Amount and in the form supplied by the City and included in the Contract Documents. Failure to do so may, in the sole discretion of the City, result in the forfeiture of the Bid Guarantee. The surety supplying the bond must be an admitted surety insurer, as defined in the Code of Civil Procedure Section 995.120, authorized to do business as such in the State of California and satisfactory to the City.

SIGNING OF BONDS

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venture or partner appointing and designating one

of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

EXECUTION OF CONTRACT

As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The City may require appropriate evidence that the persons executing the Contract are duly empowered to do so.

NON-COLLUSION DECLARATION

Bidder shall declare that the only persons or parties interested in the proposal as principals are those named therein; that no officer, agent, or employee of the **City** is personally interested, directly or indirectly, in the proposal; that the proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that the proposal is in all respects fair and without collusion or fraud. The Non-Collusion Affidavit shall be executed and submitted with the proposal.

NON-DISCRIMINATION AFFIDAVIT

Labor Codes Section 1735 requires that no discrimination be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in **Government Code Section 12940**. Bidder shall declare that it does not discriminate in its employment with regard to such factors. The Non Discrimination Affidavit (on enclosed form) shall be executed and submitted- with the proposal.

PROPOSAL BID SHEET

Bidders shall give unit prices for each and all of the items set forth. No aggregate bids will be considered. The bidder shall set forth for each item of work, in clearly legible figures, a unit item price and a total for the item in the respective spaces provided for this purpose. The quantities listed in the Bid sheets are supplied to give an indication of the

general scope of work, but the accuracy of figures is not guaranteed, and the bidder shall make his own estimates from the drawings. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid.

REJECTION OF BIDS

The **City** reserves the right to reject any or all bids or waive any irregularity in any one or all bids received.

SUBMISSION OF BIDS

Once the Bid and supporting documents have been completed and signed as set forth herein, they shall be submitted electronically.

Only where expressly permitted in the Notice Inviting Bids, may Bidders submit their Bids via electronic transmission pursuant to Public Contract Code Sections 1600 and 1601. The acceptable method(s) of electronic transmission shall be stated in the Notice Inviting Bids.

DELIVERY AND OPENING OF BIDS

Bids are to be submitted electronically. Electronic Bid System will close exactly at the time set forth in the Notice Inviting Bids. All applicable forms required to be completed per the Bid Documents shall be submitted electronically prior to the Bid date and time. Hard copies will not be accepted as a viable bid. It is the Bidder's sole responsibility to ensure that its bid is received as specified. Bids may be submitted earlier than the date(s) and time(s) indicated.

Bids will be available at the date and time stated in the Notice Inviting Bids and the amount of each Bid will be available online and recorded. The City may in its sole discretion, elect to postpone the opening of the submitted Bids. City reserves the right to reject any or all Bids and to waive any informality or irregularity in any Bid.

WITHDRAWAL OF BID

Prior to the Bid submittal deadline, a Bid may be withdrawn by the Bidder only by using the City's electronic bidding system.

IRREGULAR PROPOSALS

Unauthorized conditions, limitations, or provisions attached to a proposal will render it irregular and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternative proposals will not be considered unless specifically requested. No oral, telegraphic, or telephonic proposal, modification, or withdrawal will be considered.

SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES

Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay permits, licenses and fees required by the agencies with authority in the jurisdiction in which the work will be located, unless otherwise expressly provided by the Contract Documents.

INTERPRETATION OF PLANS AND DOCUMENTS

If any bidder contemplates submission of a bid for the proposed contract and is in doubt as to the true meaning of any part of the plans, specifications or other proposed contract documents, or finds discrepancies in, or omissions from, the Plans, Specifications or other Contract Documents or questions as to their meaning shall be immediately brought to the attention of the City by submission of a written request for an interpretation or correction to the City. Such submission, if any, must be sent using the "Q&A" tab of the electronic bid system at www.fontanapurchasing.org. **Interpretations or corrections received within 5 days prior to bid opening will not be answered.**

Any interpretation of the Contract Documents will be made only by addendum duly issued electronically to each person registered on the prospective bidder's list. The City will not be responsible for any explanations or interpretations provided in any other manner. No person is authorized to make any oral interpretation of any provision in the Contract Documents to any Bidder, and no Bidder should rely on any such oral interpretation.

Bids shall include complete compensation for all items that are noted in the Contract Documents and are the responsibility of the Contractor.

ADDENDA

The City reserves the right to revise the Contract Drawings prior to the Bid opening date. Revisions, if any, shall be made by written Addenda. All Addenda issued by the City shall be included in the Bid and made part of the Contract Documents. Pursuant to the Public

Contract Code, Section 4104.5, if the City issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of Bids, the City will extend the deadline for submission of Bids. The City may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid submission date. Each prospective Bidder shall provide City a name, address, email, and facsimile number to which Addenda may be sent, as well as a telephone number by which the City can contact the Bidder. Copies of Addenda will be made available on the City's Purchasing Department website www.fontanapurchasing.org. Please Note: Bidders are responsible for ensuring that they have received any and all Addenda. To this end, each Bidder should contact the City's Purchasing Department website www.fontanapurchasing.org to verify that he/she has received all Addenda issued, if any, prior to the Bid submittal deadline. Failure to cover in his bid any such addenda issued may render his bid irregular and may result in its rejection by the City.

COMPLETION OF BID FORMS

Bids shall only be prepared using copies of the Bid Forms which are included in the Contract Documents. The use of substitute Bid Forms other than clear and correct photocopies of those provided by the City will not be permitted. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable) and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make substitutions thereon. USE OF BLACK OR BLUE INK, INDELIBLE PENCIL, ELECTRONICALLY OR A TYPED IS REQUIRED. Deviations in the Bid Form may result in the Bid being deemed non-responsive.

MODIFICATIONS OF BIDS

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms, nor make substitutions thereon. Oral, telephonic and electronic modifications will not be considered, unless the Notice Inviting Bids authorizes the submission of electronic Bids and modifications thereto and such modifications are made in accordance with the Notice Inviting Bids.

DESIGNATION OF SUBCONTRACTORS

Pursuant to State law, the Bidders must designate the name and location of each subcontractor who will perform work or render services for the Bidder in an amount that exceeds one half of one percent (1/2%) of the Bidder's Total Bid Amount, as well as the portion of the work each subcontractor will perform by entering the information online. No additional time will be provided to Bidders to submit any of the requested information in the Designation of Subcontractor Form.

Pursuant to the **Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contract Code)**, bidders are required to list in their proposal the name and location of place of business of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement or a subcontractor who specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications in excess of 1/2 of 1% of this prime contractor's total bid. Failure to list a subcontractor for a portion of the work means that the prime contractor will do that portion of the work. It is the **City's** intent for the Subletting and **Subcontracting Fair Practices Act** to apply to all phases of the work. The list of subcontractors (on enclosed form) shall be executed and submitted with the proposal.

LICENSING REQUIREMENTS

Pursuant to Section 7028.15 of the Business and Professions Code and Section 3300 of the Public Contract Code, all Bidders must possess proper licenses for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Section 7028.5 of the Business and Professions Code, the City shall consider any Bid submitted by a contractor not currently licensed in accordance with State law and pursuant to the requirements found in the Contract Documents to be non-responsive, and the City shall reject the Bid. The City shall have the right to request, and Bidders shall provide within five (5) calendar days, evidence satisfactory to the City of all valid license(s) currently held by that Bidder and each of that Bidder's sub-contractors, before awarding the Contract. Please also note that, pursuant to Public Contract Code Section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code Section 2717(b) in order to supply mined material for this contract.

LEGAL RESPONSIBILITIES

All proposals must be submitted, filed, made, and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same are expressly referred to herein or not.

Any Bidder submitting a proposal shall by such action thereby agree to each and all of the terms, conditions, provisions, and requirements set forth, contemplated, and referred to in the Plans, Specifications, and Contract Documents, and to full compliance therewith.

BASIS OF AWARD; BALANCED BIDS

The City shall award the contract to the lowest responsible Bidder submitting a responsive Bid. The City may reject any Bid which in the opinion of City staff when compared to other Bids received or to the City's internal estimates, does not accurately reflect the cost to perform the Work. The City may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular items.

DISQUALIFICATION OF BIDDERS; INTEREST IN MORE THAN ONE BID

No Bidder shall be allowed to make, submit or be interested in more than one Bid. However, a person, firm, corporation or other entity that has submitted a sub-proposal to a Bidder, or that has quoted prices of materials to a Bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other Bidders submitting a Bid to the City. No person, firm, corporation, or other entity may submit a sub-proposal to a Bidder, or quote prices of materials to a Bidder, when also submitting a prime Bid on the same Project.

INSURANCE REQUIREMENTS

The successful bidder shall procure the insurance in the form and in the amount specified in the Contract Documents.

AWARD PROCESS

Once all Bids are electronically opened and reviewed to determine the lowest responsible Bidder, the City will award the Contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Payment (Labor and Materials) Bond, and (2) the required insurance certificates and endorsements. Once the City notifies the Bidder of the award, the Bidder will have ten (10) consecutive calendar days from the date of this notification letter to execute the Contract and supply the City with all of the required documents and certifications. With the notification of award, a submittal list may be issued to the Contractor. Submittals related to the controlling operation(s) shall be reviewed and approved prior to the issuance of the Notice to Proceed (NTP).

FILING OF BID PROTESTS

Bidders may file a 'protest' of a Bid with the City's Purchasing Officer. In order for a Bidder's protest to be considered valid, the protest must:

- A. Be filed in writing within five (5) calendar days after the Bid submittal deadline;
- B. Clearly identify the specific irregularity or accusation;
- C. Clearly identify the specific City staff determination or recommendation being protested;
- D. Specify, in detail, the grounds of the protest and the facts supporting the protest; and
- E. Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each of these requirements, it will be rejected as invalid.

If the protest is valid, the City's Purchasing Officer, or other designated City staff member, shall review the basis of the protest and all relevant information. The Purchasing Officer will provide a written decision to the protester. The protestor may then appeal the decision to the City Manager.

LABOR CODE

In accordance with **Labor Code section 1771.4**, the Contractor and each subcontractor shall furnish certified payroll records directly to the Department of Industrial Relations on a weekly basis and in the format prescribed by the Department of Industrial Relations, which may include electronic submission. Contractor shall comply with all requirements and regulations from the Department of Relations relating to labor compliance monitoring and enforcement.

The Contractor shall have an affirmative obligation to verify that all subcontractors are currently and validly registered with the Department of Industrial Relations and shall not permit a subcontractor of any tier to perform work on the project without first verifying the subcontractor's registration. The Contractor shall maintain active registration with the Department of Industrial Relations for the duration of the Project. **The Contractor shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain valid registration for the duration of the project.**

Pursuant to the provisions of **Section 1773 of the Labor Code of the State of California**, the **City** has obtained the general provisions rate of per diem wages and the general prevailing rate for holiday and overtime work in this locality for each craft, classification or type of workman needed to execute the contract from the **Director of the Department of Industrial Relations**. These rates are on file at the office of the City Engineer and available online at <http://www.dir.ca.gov/dlsr>. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s).

The Contractor and all subcontractors shall comply with the provisions of **Section 1774 of the Labor Code** and other statutes relating to prevailing wages, benefits, overtime and so forth. Failure to comply with the subject section will subject the Contractor to penalty and forfeiture provisions of **Section 1775 of the Labor Code**.

Pursuant to the provisions of **Section 1770 of the Labor Code**, the general prevailing rate of wages has been ascertained (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work.

The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned.

The **City** will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the **City** on the contract.

The Contractor and subcontractors shall comply with **Section 1777.6** which stipulates that it shall be unlawful to refuse to accept otherwise qualified employees as registered apprentices solely on the grounds of race, religious creed, color, national origin, ancestry, sex, or age (of such employee), except as provided in **Section 3077**.

Pursuant to **Public Contract Code Section 6109**, contractors or subcontractors who are ineligible to perform work on a public works project pursuant to **Section 1777.1 or Section 1777.7 of the California Labor Code** shall not be allowed to perform any portion of the work contemplated herein. Any subcontract between the contractor and a debarred subcontractor shall be void as a matter of law, and the debarred subcontractor shall not receive any payment for performing such work. Any public money that has been paid to the debarred subcontractor on the project shall be returned to the Owner. The contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

REQUEST FOR SUBSTITUTIONS/ TRADE NAMES

The successful Bidder shall comply with the substitution request provisions set forth in the Special Provisions, including any deadlines for substitution requests which may occur prior to the Bid submittal deadline, as specified in the Special Provisions.

DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the Labor Code and Federal "Excluded Parties List System". Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for a Project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

WORKER'S COMPENSATION CERTIFICATE

Section 3700 of the State Labor Code requires that every employer shall secure the payment compensation by either being insured against liability to pay compensation with one or more insurers or by securing a certificate of consent to self-insure from the **State Director of Industrial Relations**.

In accordance with this section and with **Section 1861 of the State Labor Code**, the contractor shall sign a Compensation Insurance Certificate which is included with the Contract Agreement, and submit same to **City** along with the other required contract documents, prior to performing any work. Reimbursement for this requirement shall be considered as included in the various items of work.

CLAYTON ACT AND CARTWRIGHT ACT

Section 7103 of the Public Contract Code specifies that in executing a public works contract with the **City** to supply goods, services or materials, the Contractor or Subcontractor offers and agrees to assign to the **City** all rights, title and interest in and to all causes of action it may have under **Section 4 of the Clayton Act (15 U.S.C. Sec. 15)** or under the **Cartwright Act (Chapter 2 commencing with Sec. 16700) of Part 2 of Division 7 of the Business and Professions Code**, arising from purchase of goods,

services or materials pursuant to the contract or subcontract. This assignment shall become effective when the **City** tenders final payment to the Contractor without further acknowledgment by the parties.

SUBSTITUTION OF SECURITIES

In conformance with the **State of California Public Contract Code, Section 22300**, the contractor may substitute securities for any monies withheld by the **City** to ensure performance under the contract.

At the request and expense of the contractor, securities equivalent to the amount withheld shall be deposited with the **City** or with a State or Federally chartered bank as the escrow agent who shall pay such monies to the contractor upon notification by **City** of Contractor's satisfactory completion of the contract.

The type of securities deposited, and the method of release shall be approved by the **City's Attorney**.

NOTICE TO CONTRACTOR:

Pursuant to **Public Contract Code Section 3400(b)**, the **City of Fontana** may make a finding that designates certain materials, products, things, or services by specific brand or trade name for statutorily enumerated purposes. As required by **Section 3400(b)**, the **City of Fontana** has made such findings as further described in the **Project Special Provisions**. **These findings, as well the materials, products, things, or services and their specific brand or trade names that must be used for the Project are found in the Special Provisions and Drawings.**

The Contractor is hereby advised that a Furniture, Fixtures, and Equipment (FF&E) Concept Package, dated December 15, 2025, has been prepared for the Project. The Contractor shall review the FF&E Concept Package and shall be responsible for providing all labor, materials, equipment, coordination, and incidental work necessary to fully furnish and install the FF&E as shown or specified, whether or not each item is specifically referenced elsewhere in the Contract Documents. A cable path shall be provided through FFE procured by contractor for ease of installation of equipment to be furnished and installed by the City, including but not exclusive to computers, monitors, etc. All costs associated with furnishing, delivering, and installing the FF&E identified therein shall be included in the Contractor's lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to install all conduit pathways, pull strings, power, and network cabling required

to serve all technology and electrical outlets, devices, and drops shown or specified in the Technology and Electrical Plans. The Work includes, but is not limited to, furnishing, and installing network cabling to all cameras, wireless access points (WAPs), dais locations, network racks, cable management and grounding as shown or reasonably inferable from the Contract Documents. Payment for the Work described herein, shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

The Contactor shall be cognizant of protecting in place the DSO IDF room during construction, which houses the existing building's telecom and data network, security infrastructure, and other equipment and appurtenances as included in the Contract Documents. Throughout the duration of construction, staff located within the DSO building shall not be impacted, all systems shall remain fully operational during normal business hours, and any required outages or reconfigurations shall be coordinated in advance and scheduled outside normal operating hours with appropriate temporary measures in place. When the security infrastructure within the DSO IDF room is impacted due to the tenant improvements within the building, 24/7 security shall be provided to ensure the safety and security of all the property within and surrounding area of the DSO building. Payment for protection, coordination, reconfiguration and construction associated with DSO's IDF room shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

The Contractor shall comply with requirements set by the California Environmental Quality Act (CEQA) and the adopted Mitigation Monitoring and Reporting Program (MMRP) approved for the Project. The Contractor shall comply with all applicable mitigation measures, environmental conditions, and monitoring requirements identified in the MMRP and associated Initial Study and Mitigated Negative Declaration (IS/MND) which includes but is not limited to a Pre-Construction Breeding Bird Survey. CEQA compliance and implementation thereof shall be included in the Contractor's lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

The Contractor shall be responsible for coordinating all Work with affected utility owners, agencies, and service providers whose facilities may be encountered, relocated, protected, or adjusted as a result of the construction of the Project. Work will need to be coordinated with but not limited to: San Gabriel Valley Water Company (SGVWC, also known as Fontana Water Company), Southern California Edison (SCE), and the Southern California Gas Company. Payment for utility coordination, including delays, sequencing, and adjustments required to accommodate utility operations, shall be considered incidental to the Work shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

MANDATORY PRE-BID CONFERENCE:

A Mandatory pre-bid conference and site-walk will be held **January 14, 2026 at 2:30 pm** at the project site. Each and every (prime?) Bidder must attend the scheduled meeting; otherwise the submitted bid shall be considered non-responsive and shall be rejected by the City. Bidders will be required to sign-in and sign-out to demonstrate that they have attended the pre-bid meeting.

BUILDER'S RISK ["ALL RISK"] INSURANCE:

In addition to the insurance requirements specified in Section 7 of the Special Provisions, it is the Contractor's responsibility to maintain or cause to be maintained Builder's Risk ["All Risk"] extended coverage insurance on all work, material, equipment, appliances, tools, and structures which are part of the Contract and subject to loss or damage by fire, and vandalism and malicious mischief, in an amount to cover 100% of the replacement cost. The City accepts no responsibility until the Contract is formally accepted by the governing body of the work. The Contractor is required to file with the City a certificate evidencing fire insurance coverage.

Provide insurance coverage on completed value form, all-risk or special causes of loss coverage.

1. Insurance policies shall be so condition as to cover the performance of any extra work performed under Contract.
2. Coverage shall include all materials stored on site and in transit.
3. Coverage shall include Contractor's tools and equipment.
4. Insurance shall include boiler, machinery and material hoist coverage.

Such insurance shall comply with the provisions of the Contract Documents.

BIDDER'S NAME _____

**PROPOSAL (SUBMIT ONLINE)
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)**

BID NO.: DE-26-91-SB

TO City OF FONTANA, as City:

In accordance with the City's "**Notice Inviting Sealed Bids**", the undersigned BIDDER hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above stated project as set forth in the Plans, Specifications, and Contract Documents therefore, and to perform all work in the manner and time prescribed therein.

BIDDER declares that this proposal is based upon careful examination of the work site, Plans, Specifications, Instructions to Bidders, and Contract Documents. If this proposal is accepted for award, BIDDER agrees to enter into a contract with **City** at the unit and/or lump sum prices set forth in the following Proposal Bid Sheet. BIDDER understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to **City** of the Bid Bond accompanying this proposal.

BIDDER understands that a bid is required for the entire work that the estimated quantities set forth in the Proposal Bid Sheet are solely for the purpose of comparing bids, and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. It is agreed that the unit and/or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amounts.

BIDDER certifies that it has visited the construction site and familiarized itself with local conditions under which the work is to be performed. Furthermore, BIDDER certifies that it will be responsible for incorporating into its bid whatever contingencies which are discernible by a reasonable investigation.

BIDDER agrees and acknowledges that it is aware of the provisions of **Section 3700 of the Labor Code** which requires every employer to be insured against liability for workman's compensation or to undertake self-insurance- in accordance with the provisions of that code, and that the BIDDER will comply with such provisions of that code before commencing the performance of this Contract if awarded to it.

BIDDER certifies that in all previous contracts or subcontracts, all reports which may have been due under the requirements of any Agency, State, or Federal equal employment opportunity orders have been satisfactorily filed, and that no such reports are currently outstanding.

BIDDER declares that the only persons or parties interested in this proposal as principals are those named herein; that no officer, agent, or employee of the **City** is personally interested, directly or indirectly, in this proposal; that this proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that this proposal is in all respects fair and without collusion or fraud.

BIDDER certifies that affirmative action has been taken to seek out and consider disadvantaged business enterprises for those portions of the work to be subcontracted, and that such affirmative actions have been carefully documented, that said documentation is open to inspection, and that said affirmative action will remain in effect for the life of any contract awarded hereunder.

Furthermore, BIDDER certifies that affirmative action will be taken to meet all equal employment opportunity requirements of the contract documents.

BIDDER certifies that a person possesses a Class "A" or a combination of Class "C" licenses as required to perform the work.

BIDDER declares that the contractor's license number is _____ and that the license expiration date is _____.

DATED: _____, 20____

BIDDER: _____

BIDDER'S ADDRESS: _____ BY: _____

_____ TITLE: _____

PHONE: _____ FAX NO: _____

E-MAIL: _____

BIDDER'S INFORMATION (SUBMIT ONLINE)

BIDDER certifies that the following information is true and correct:

Bidder's Name: _____

Business Address: _____

Telephone: _____ Fax: _____

E-Mail: _____

State Contractor's License No. and Class: _____

Original Date Issued: _____ Expiration Date: _____

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal:

The dates of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows:

All current and prior DBA'S, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

CONTRACTOR'S LICENSING STATEMENT (SUBMIT ONLINE)

The undersigned certifies that bidder is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number: _____

License Classification: _____ Expiration Date: _____

Name of Individual Contractor (Print or type):

Signature of Owner: _____

Business Address: _____

or

Name of Firm: _____

Business Address: _____

Name: _____ Title: _____

Address: _____

Name _____ Title: _____

Address: _____

or

Name of Corporation: _____

Business Address: _____

Corporation organized under the laws of the State of California

Signature of President of Corp.

Signature of Secretary of Corp.

Date

LIST OF SUBCONTRACTORS (ENTER ONLINE)

BIDDER proposes to subcontract certain portions of the work as follows:

Name Under Which Subcontractor Is licensed	State License No.	Address of office, mill or shop	Percent total Contract	Specific description of work	DBE Yes / No
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LISTING OF SUBCONTRACTORS WILL BE ENTERED ONLINE WHEN SUBMITTING YOUR PROPOSAL

ALL ITEMS OF INFORMATION REQUESTED ON THIS PAGE ARE REQUIRED. BIDDERS SHALL SPECIFY EACH SUBCONTRACTOR WHO WILL PERFORM WORK OR LABOR OR RENDER SERVICE TO THE PRIME CONTRACTOR IN AN AMOUNT IN EXCESS OF ONE HALF OF ONE PERCENT (0.5%) OF THE PRIME CONTRACTOR'S TOTAL BID. FAILURE TO LIST ALL INFORMATION AS REQUESTED ABOVE MAY RESULT IN DISQUALIFICATION OF THE BID.

REFERENCES (SUBMIT ONLINE)

The bidder must demonstrate knowledge of public construction techniques and must possess a working ability to perform similarly sized construction work for a public agency. The City expressly reserves the right to reject the bid of any bidder who has failed to complete three (3) **similar projects of substantially the same type** in a timely fashion or in a satisfactory manner. The following are the names, addresses, phone numbers and contact person for three public agencies for which BIDDER has performed similar work within the past three (3) years: **FAILURE TO FURNISH SUCH INFORMATION (IN THE COMPLETE FORMAT REQUIRED) MAY CAUSE YOUR BID TO BE REJECTED AS NON-RESPONSIVE.**

AGENCY: _____

ADDRESS: _____

CONTACT PERSON: _____

PHONE: _____ EMAIL: _____

SCOPE OF WORK AND DOLLAR AMOUNT: _____

AGENCY: _____

ADDRESS: _____

CONTACT PERSON: _____

PHONE: _____ EMAIL: _____

SCOPE OF WORK AND DOLLAR AMOUNT: _____

AGENCY: _____

ADDRESS: _____

CONTACT PERSON: _____

PHONE: _____ EMAIL: _____

SCOPE OF WORK AND DOLLAR AMOUNT: _____

DESIGNATOR OF SURETIES (SUBMIT ONLINE)

The following are the names, addresses, and phone numbers for all brokers and sureties from whom BIDDER intends to procure insurance and bonds:

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

NAME/TITLE: _____

ADDRESS: _____

PHONE: _____ FAX: _____

E-MAIL: _____

BID BOND (SUBMIT ONLINE)
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)
BID NO.: DE-26-91-SB

KNOW ALL MEN BY THESE PRESENTS that we, the undersigned, _____
_____, (hereafter called "Principal"),
and _____, (hereafter called "Surety"), are held and firmly
bound unto the **City of Fontana** (hereafter called "**OWNER**"), in the sum of
_____ dollars (\$_____), for the payment of
which, well and truly to be made, we hereby jointly and severally bind ourselves and our
successors and assigns.

SIGNED this _____ day of _____, 20_____.

The condition of the above obligation is such that whereas the Principal has
submitted to the **OWNER** a certain Bid, attached hereto and hereby made a part hereof, to
enter into a contract in writing for the construction of the **City Hall Renovation Project -
Phase II (City Hall; Bid No. DE-26-91-SB)**.

NOW THEREFORE,

- a. If said Bid is rejected, or
- b. If said Bid is accepted and Principal executes and delivers a contract in the
attached Agreement form within then (10) days after acceptance (properly
completed in accordance with said Bid), and furnishes insurance certificates
and endorsements, bonds for faithful performance of said Contract and for the
payment of all persons performing labor or furnishing materials in connection
therewith, and all other required documents, then this obligation shall be void;
otherwise, the same shall remain in force and effect, it being expressly
understood and agreed that the liability of Surety for any and all claims
hereunder shall, in no event, exceed the amount of this obligation as herein
stated.

For value received, Surety hereby stipulates and agrees that the obligation of said
Surety and its bond shall be in no way impaired or affected by any bidding errors or extension
of the time within which the **OWNER** may accept such Bid, and said Surety hereby waives
notice of any such extension.

(Page 1 of 3)

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year first set forth above.

PRINCIPAL: _____

ATTEST: (if corporation)

By: _____ By: _____

Title: _____ Title: _____

Corporate Seal)

SURETY: _____

ATTEST:

By: _____ By: _____

Title: _____ Title: _____

(Corporate Seal)

IMPORTANT: Surety companies executing Bonds must possess a certificate of authority from the **California Insurance Commissioner** authorizing them to write surety insurance defined in **Section 105 of the California Insurance Code**, and if the work or project is financed, in whole or in part, with federal grant or loan funds, must also appear on the **Treasury Department's most current list (Circular 570 as amended)**. **THIS IS A REQUIRED FORM.**

Any claims under this bond may be addressed to:

(Name and address of Surety) _____

(Name and address of agent or Representative for service of Process in California, if Different from above)

(Telephone number and FAX Number of Surety and agent Or representative for Service of process in California)

_____/_____

E-MAIL: _____

(Page 2 of 3)

[INSERT NOTARY ACKNOWLEDGEMENT]

NON-COLLUSION DECLARATION (SUBMIT ONLINE)

The undersigned declares:

I am the _____ of _____
_____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____[date], at _____[City], _____[state].

(Signature)

(Print Name)

(Title)

**CERTIFICATION OF NON-DISCRIMINATION BY CONTRACTORS (SUBMIT
ONLINE)**

Labor Code Section 1735 requires that no discrimination be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status or sex of such persons, except as provided in **Government Code Section 12940**.

The firm listed below certifies that it does not discriminate in its employment with regard to the factors set forth in **Labor Code Section 1735**; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal employment opportunity in employment.

We agree specifically:

1. To establish or observe employment policies which affirmatively promote opportunities for minority persons at all job levels.
2. To communicate this policy to all persons concerned, including all company employees, outside recruiting services, especially those serving minority communities, and to the minority communities at large.
3. To take affirmative steps to hire minority employees within the company.

FIRM: _____

TITLE OF PERSON SIGNING: _____

SIGNATURE: _____

DATE: _____

Please include any additional information available regarding equal opportunity employment programs now in effect within your company.

PROPOSAL BID SHEET (SUBMIT ONLINE)
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)
BID NO.: DE-26-91-SB

ITEM NO.	Description General	ESTIMATED QUANTITY	UNIT
1	DEMOLITION OF EXISTING CITY HALL BUILDING AND CONSTRUCTION OF NEW CITY HALL BUILDING, TENANT IMPROVEMENTS WITHIN THE DEVELOPMENT SERVICES (DSO) BUILDING AND ALL RELATED ON-SITE AND OFF-SITE IMPROVEMENTS.	1	LS
2	TRENCH SAFETY AND SHEETING, SHORING AND BRACING FOR EXCAVATION	1	LS

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF**

CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)

BID NO.: DE-26-91-SB

(CONTRACT AWARD WILL BE BASED ON THE BID SCHEDULE TOTAL)

NOTE: The estimated quantities listed in the **Proposal Bid Sheet(s)** are supplied to give an indication of the general scope of the work, but the accuracy of these figures is not guaranteed and the bidder shall make his own estimates from the drawings. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid.

The Contractor shall perform, with its own organization, contract work amounting to at least 50 percent of the Contract Price, except that any designated "**Specialty Items**" may be performed by subcontract and the amount of any such "**Specialty Items**" so performed may be deducted from the Contract Price before computing the amount of work required to be performed by the Contractor with its own organization. The **City** reserves the right to reject any and or all bids, or to waive any information on any one or all bids received. The **City** specifically reserves the right to delete, reduce all or any portion of the work at any time prior to authorization to proceed with this portion of work.

**PROPOSAL BID SHEET
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)
BID NO.: DE-26-91-SB**

ADDENDUM ACKNOWLEDGMENT

ADDENDUM(S) TO BE ACKNOWLEDGED ONLINE WHEN YOU ARE SUBMITTING YOUR BID.

**CONTRACT AGREEMENT
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)
BID NO.: DE-26-91-SB**

THIS CONTRACT AGREEMENT is made and entered into for the
Above stated project this _____ day of _____, 20____,
BY AND BETWEEN **City of Fontana**, as **City**, and _____
_____, As Contractor.

WITNESSETH that **City** and Contractor have mutually agreed as follows:

ARTICLE I

The **CONTRACT DOCUMENTS** for the aforesaid project shall consist of the Notice Inviting Sealed Bids, Instructions to Bidders, Proposal Documents, General Conditions, Standard Specifications, Special Provisions, Plans (**Drawing. No.'s G001 through G501, C0.00 through C4.03, A001 through A880, I001 through IF103, S001 through S714, M001 through M605, P001 through P.1.230, E001 through ED100, FA001 through FA.1-250, T001 through T503, TAV001 through TAV600 (FOR REFERENCE ONLY), FP-1.0 through FP-2.4, PV-1.0 through PV-4.2, Fontana City Hall FF&E Concept Package, Drawing No. 6569 Sheet 1 through 7; Drawing No. 6570, Sheet 8 through 9; Drawing No. 6590, Sheet 10 through 17; Drawing No. 6571, Sheet 18 through 20; Drawing No. 6589, Sheet 1 through 23; Approved Southern California Edison Duct and Structures Job No. 1140336_0.01, Sheet 1 through 2**), and all referenced specifications, details, standard drawings, and appendices; together with this Contract Agreement and all required bonds, insurance certificates, permits, notices, and affidavits; and also including any and all addenda or supplemental agreements clarifying, amending, or extending the work contemplated as may be required to insure its completion in an acceptable manner. All of the provisions of said **CONTRACT DOCUMENTS** are made a part hereof as though fully set forth herein.

ARTICLE II

For and in consideration of the payments and agreements to be made and performed by **City**, Contractor agrees to furnish all materials and perform all work required for the above stated project, and to fulfill all other obligations as set forth in the aforesaid **CONTRACT DOCUMENTS**.

ARTICLE III

Contractor agrees to receive and accept the prices set forth in the **PROPOSAL BID SHEET(S)** as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of work during

its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid contract documents; and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.

ARTICLE IV

City hereby promises and agrees to employ, and does hereby employ, Contractor to provide the materials, do the work, and fulfill the obligations according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the contract documents.

ARTICLE V

Contractor acknowledges the provisions of the **State Labor Code** requiring every employer to be insured against liability for worker's compensation, or to undertake self-insurance in accordance with the provisions of that code, and certifies compliance with such provisions.

ARTICLE VI

Contractor shall defend, indemnify and hold harmless **City**, its officers, officials, agents, employees and contractors from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from performance of work under this Contract and which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of property, including the loss of use resulting therefrom, caused in whole or in part by any act or omission of the Contractor or anyone directly or indirectly employed or engaged by it or for whose acts it may be liable.

Without limiting the generality of the foregoing paragraph, Contractor specifically agrees to indemnify and hold harmless **City**, its officers, officials, agents, employees, and contractors from and against all claims, damages, losses, penalties, fines and expenses (including attorney's fees and litigation costs) arising out of or in any way resulting from Contractor's failure to perform the work required of it under this Contract in the manner required by this Contract and applicable provisions of federal and state law.

ARTICLE VII

Contractor affirms that the signatures, titles, and seals set forth hereinafter in execution of this Contract Agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein.

ARTICLE VIII

If any legal action is required to enforce or interpret the Contract Documents, then the prevailing party shall have the right to recover from the losing party all costs of such action including attorney fees.

ARTICLE IX

PAYMENTS WITHHELD AND BACKCHARGES In addition to amounts which the City may retain under other provisions of the Contract Documents the City may withhold payments due to Contractor as may be necessary to cover:

- a. Stop Notice Claims.
- b. Defective work not remedied.
- c. Failure of Contractor to make proper payments to its subcontractors or suppliers.
- d. Completion of the Contract if there exists a reasonable doubt that the work can be completed for balance then unpaid.
- e. Damage to another contractor or third party.
- f. Amounts which may be due the City for claims against Contractor.
- g. Failure of Contractor to keep the record ("as-built") drawings up to date.
- h. Failure to provide updates on the construction schedule.
- i. Site clean up.

- j. Failure of the Contractor to comply with requirements of the Contract Documents.
- k. Liquidated damages.
- l. Legally permitted penalties.

Upon completion of the Contract, the City will reduce the final Contract amount to reflect costs charged to the Contractor, back charges or payments withheld pursuant to the Contract Documents.

**SIGNATURE PAGE
CITY OF FONTANA
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL) AGREEMENT**

CITY OF FONTANA

**CONTRACTOR NAME [WILL BE INSERTED AFTER
CONTRACT AWARD]**

By: _____
Matthew C. Ballantyne
City Manager

By: _____
INSERT NAME
INSERT TITLE

Attest:

Attest: ¹

By: _____
Germaine McClellan Key
City Clerk

By: _____
INSERT NAME
INSERT TITLE

Approved as to form:

Best Best & Krieger LLP
City Attorney

By: _____
Phillip Burum, Deputy City Manager
Development Services Organization

By: _____
Gia Lam Kim
Public Works Director/ City Engineer

IN COMPLIANCE WITH INSURANCE ADMINISTRATION POLICIES/PROCEDURES

By: _____
Rakesha Voss, Director of
Human Resources and Risk
Management

**IN COMPLIANCE WITH PURCHASING AND CONTRACT ADMINISTRATION
POLICIES/PROCEDURES**

Jessica Brown
Chief Financial Officer

Purchasing

¹ Attestation of Consultant's signature must be obtained when required by the by-laws, articles of incorporation or other laws, rules or regulations applicable to Consultant's business entity.

CONTRACT PERFORMANCE BOND
(CALIFORNIA PUBLIC WORK)
FOR CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)
BID NO.: DE-26-91-SB

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Fontana (hereinafter referred to as "City") has awarded to _____, (hereinafter referred to as the "Contractor") _____ an agreement for _____ (hereinafter referred to as the "Project");

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by the Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of the Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto City in the sum of _____ DOLLARS, (\$_____), the sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one-year guarantee of all materials and workmanship; and shall indemnify and save harmless City, its officers and agents, as stipulated in the Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the guarantee obligation shall hold good for a period of one (1) year after the acceptance of the work by City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect City from loss or damage resulting from or caused by defective materials or faulty workmanship the above obligation in penal sum thereof shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit City's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by City in enforcing such obligation.

Whenever Contractor shall be, and is declared by City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at City's option:

1. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
2. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by City under the Contract and any modification thereto, less any amount previously paid by City to the Contractor and any other set offs pursuant to the Contract Documents.
3. Permit City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by City under the Contract and any modification thereto, less any amount previously paid by City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that City may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if City, when declaring the Contractor in default, notifies Surety of City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

[Remainder of Page Left Intentionally Blank.]

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____.

CONTRACTOR/PRINCIPAL

Name

By_____

SURETY:

By: _____
Attorney-In-Fact

Signatures of those signing for the Contractor and Surety must be notarized and evidence of corporate authority attached.

The rate of premium on this bond is _____ per thousand. The total amount of premium charges, \$_____.

(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

Name and Address of Surety

Name and Address of Agent or
Representative for service of process
in California, if different from above

Telephone number of Surety and
Agent or Representative for service of
process in California

NOTE: A copy of the Power-of-Attorney authorizing the person signing on behalf of the Surety to do so must be attached hereto.

[INSERT NOTARY ACKNOWLEDGEMENT]

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the City of Fontana (hereinafter designated as "City"), by action taken or a resolution passed _____, 20____ has awarded to _____ hereinafter designated as the "Principal," a contract for the work described as follows: _____ (the "Work"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, Principal is required to furnish a bond in connection with the contract described above; providing that if Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto City in the penal sum of _____ Dollars (\$_____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in section 9100 of the Civil Code, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition,

alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or City and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in section 9100 of the Civil Code, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned and the provisions of sections 2819 and 2845 of the California Civil Code.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of Contract, including but not limited to the provisions of sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the ____ day of _____ 20____ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

(Corporate Seal of Principal,
if corporation)

Principal (Property Name of Contractor)

By _____
(Signature of Contractor)

(Seal of Surety)

Surety

By _____
Attorney in Fact

NOTE: A copy of the Power-of-Authority to local representatives of the bonding company must be attached hereto

[INSERT NOTARY ACKNOWLEDGEMENT]

**SPECIAL PROVISIONS
FOR THE CONSTRUCTION OF
CITY HALL RENOVATION PROJECT - PHASE II (CITY HALL)**

BID NO.: DE-26-91-SB

EXCEPT AS SPECIFIED BELOW, 2024 EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), COMMONLY REFERRED TO AS "THE GREEN BOOK", WILL APPLY TO, AND CONTROL THIS WORK. THE SECTION NUMBERS OF THE FOLLOWING SPECIAL PROVISIONS COINCIDE WITH THOSE OF THE STANDARD SPECIFICATIONS. ONLY THOSE SECTIONS REQUIRING AMENDMENT OR ELABORATION, OR SPECIFYING OPTIONS, ARE CALLED OUT.

PART 1 - GENERAL PROVISIONS

SECTION 1 – GENERAL, TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-1 GENERAL [Add the following]:

All work shall be done in accordance with the Standard Specifications for Public Works Construction (2024 Edition and all subsequent supplements), hereinafter referred to as Standard Specifications; the State of California Department of Transportation Standard Specifications (Latest Edition and all subsequent supplements), hereinafter referred to as Caltrans Standard Specifications Latest Edition; Project Manual; Building Code; Plans, Sketches and Spreadsheets herein, Standard Construction Drawings; and these Special Provisions. The specifications are divided into eight parts, although Part Seven (7) and Part Eight (8) are often supplemented with Technical Specifications.

1-2 TERMS AND DEFINITIONS [Add the following]:

City	-	City of Fontana
Agency/Owner	-	City of Fontana
Board	-	City Council
County	-	County of San Bernardino
Engineer	-	City Engineer
Federal	-	United States of America
State	-	State of California
Caltrans	-	State of California Department of Transportation

SSPWC	-	Standard Specifications for Public Works Construction
SBCFCD	-	San Bernardino County Flood Control District
Civil Engineer	-	Snipes-Dye Associates
Geotechnical Engineer	-	Ninyo & Moore, Geotechnical & Environmental [OBJ] Sciences Consultants

City-Furnished and City-Installed Equipment - Certain equipment identified in the Contract Documents will be furnished and/or installed by the City. City-Furnished Equipment (CFE) shall be equipment furnished by the City and installed by the Contractor. City-Installed Equipment (CIE) shall be equipment furnished and installed by the City.

The Contractor shall coordinate its Work with the City's delivery and/or installation of such equipment and shall provide access, utilities, supports, sleeves, blocking, rough-ins, and other preparatory or incidental work as shown or reasonably inferable from the Contract Documents.

Unless specifically identified as CFE or CIE, all equipment shall be furnished and installed by the Contractor.

Items identified as CIE include: closed-circuit television cameras, card readers, wireless access points, computers, computer monitors, monitor arms, peripherals for computers, intrusion detection system, printer/copiers, televisions, and conference room scheduling panels. Other CIE items as they pertain to the new Council Chambers include: room speakers, microphones and cameras.

Development Services Organization Building – DSO

Fire Watch – A temporary, human-powered surveillance system, where trained individuals continuously patrol a building at every 15 minute interval to detect fire hazards, sound alarms, and notify the fire department when required fire protection systems (like alarms or sprinklers) are impaired.

[Replace with the following]:

Special Provisions - Additions and revisions to the Standard Specifications setting forth conditions and requirements peculiar to the Work. The Project Manual, "CITY OF FONTANA STANDARD LANDSCAPE SPECIFICATION MANUAL FOR CITY MAINTAINED STREETSCAPES, CFD's AND PARKS" and "SECTION E- SPECIAL PROVISIONS FOR THE CONSTRUCTION OF: CITY HALL RENOVATION PROJECT –

PHASE II (CITY HALL) STREET IMPROVEMENTS, SIGNING/STRIPING” shall also be considered as part of the Special Provisions.

Working Day - Any day within the period between the date of the start of the Contract time as specified in 6-1 and the date of completion of the Work as specified in 3-13.1, other than:

- a) Saturday,
- b) Sunday,
- c) any day designated as a holiday by the Agency to include the Winter Closure (December 24th through January 1st of each year),
- d) any other day designated as a holiday in a master labor agreement entered into by the Contractor or on behalf of the Contractor as an eligible member of a contractor association,
- e) any day the Contractor is prevented from working at the beginning of the workday for cause as specified in 6-4.1, or
- f) any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as specified in 6-4.1.

1-7- AWARD AND EXECUTION OF CONTRACT

1-7.1 General [Add the following]:

Within ten (10) working days after the date of the Notice to Award, the Contractor shall execute and return the following contract documents to the **City**:

- Contract Agreement
- Contract Performance Bond
- Payment Bond
- General Liability and Automobile Liability and all other
- Insurance Certificate and Endorsement Forms
- Worker's Compensation and Employer's Liability
- Insurance Certificate and Endorsement Forms
- Construction Schedule

Failure to comply with the above will result in annulment of the award and forfeiture of the Proposal Guarantee.

The Contract Agreement shall not be considered binding upon the **City** until executed by the authorized **City** officials.

A corporation to which an award is made may be required, before the Contract Agreement is executed by the **City**, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

1-7.2 Contract Bonds [Replace paragraphs 3 and 4 with the following]:

The Contractor shall provide 2 good and sufficient surety bonds. The “Payment Bond” (material and labor bond) shall be for not less than 100 percent of the Contract Price, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The Bond shall be maintained by the Contractor in full force and effect until the performance of the Contract is accepted by the Agency, or until thirty-five (35) days after the date of recordation of the Notice of Completion, whichever occurs later, and until all claims for materials and labor are paid, and shall otherwise comply with the Civil Code.

The “Performance Bond” shall be for 100 percent of the Contract Price to guaranty faithful performance of all work, within the time prescribed, in a manner satisfactory to the Agency, and that all materials and workmanship will be free from original or developed defects. The Bond must remain in effect until the end of all warranty periods set forth in the Contract Documents, or until one year after date of Acceptance, whichever occurs later.

SECTION 2 – SCOPE OF THE WORK

2-2 PERMITS [Replace with the following]:

Prior to the start of any work, the Contractor shall obtain the applicable City permits and make arrangements for City inspections. The Contractor and all subcontractors shall each obtain any and all other permits, licenses, inspections, certificates or authorizations required by any governing body or public utility. Payment for this work shall be included in the bid items of work and no additional compensation will be allowed. The City will waive the usual City encroachment permit (Permit for Off-Site Improvements) and City Building & Safety Division Permit fees. The Contractor will be required to pay for any fees for any permit from other agencies if applicable.

The Contractor shall provide the City with copies of all permits prior to commencement of construction. If the permit or license of any agency or public utility is more restrictive than the standard specifications, standard drawings or the special provisions, the requirements of the permit or license shall take precedence for that portion of the work in the agency or public utility right of way. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, those permits required for night work, overload, blasting, and demolition. For Private Contracts, the Contractor shall obtain all permits incidental to the Work or made necessary by its operation, and pay all costs incurred by the permit requirements. The Contractor shall pay all business taxes or license fees that are required for the Work.

2-3 RIGHT OF WAY [Add the following]:

The **Contractor** shall verify that the acquisition(s) is completed prior to beginning any work outside the public right of way. All cost for remobilization, downtime, etc., due to delays in obtaining the required rights of way, easements, and rights of entry shall be considered included in various bid items and no additional compensation will be allowed.

2-11 PROCEDURE FOR RESOLVING CLAIMS [Add the following]:

Contractor shall timely comply with any and all requirements of the Contract Documents pertaining to notices and requests for changes to the Contract time or Contract Price as a prerequisite to filing any claim governed by this Section. The failure to timely submit a notice of delay or notice of change, or to timely request a change to the time for completion or Contractor's compensation, or to timely provide any other notice or request required herein shall constitute a waiver of the right to further pursue the claim under the Contract or at law.

A. Intent. Effective January 1, 1991, Section 20104 et seq., of the California Public Contract Code prescribes a process utilizing informal conferences, non-binding judicial supervised mediation, and judicial arbitration to resolve disputes on construction claims of \$375,000 or less. Effective January 1, 2017, Section 9204 of the Public Contract Code prescribes a process for negotiation and mediation to resolve disputes on construction claims. The intent of this Section is to implement Sections 20104 et seq. and Section 9204 of the California Public Contract Code. This Section shall be construed to be consistent with all applicable law, including but not limited to these statutes.

B. Claims. For purposes of this Section, "Claim" means a separate demand by the Contractor for:

1. An adjustment to the time for completion including, without limitation, for relief from damages or penalties for delay assessed by the City;
2. Payment by the City of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract, payment for which is not otherwise expressly provided or to which the Contractor is not otherwise entitled; or
3. An amount the payment of which is disputed by the City.

A "Claim" does not include any demand for payment for which the Contractor has failed to provide notice, request a Change Order, or otherwise failed to follow any procedures contained in the Contract Documents.

C. Filing Claims. Claims governed by this Section may not be filed unless and until the Contractor completes any and all requirements of the Contract Documents pertaining to notices and requests for changes to the Contract time or Contract Price, and Contractor's request for a change has been denied in whole or in part. Claims governed by this Section must be filed no later than thirty (30) Days after a request for change has been denied in whole or in part or after any other event giving rise to the Claim. The Claim shall be submitted in writing to the City and shall include on its first page the following words in 16-point capital font: "THIS IS A CLAIM." The Claim shall include all information and documents necessary to substantiate the Claim, including but not limited to those identified below. Nothing in this Section is intended to extend the time limit or supersede notice requirements otherwise provided by Contract Documents. Failure to follow such contractual requirements shall bar any Claims or subsequent proceedings for compensation or payment thereon.

D. Documentation. The Contractor shall submit all Claims in the following format:

1. Summary description of Claim including basis of entitlement, merit and amount of time or money requested, with specific reference to the Contract Document provisions pursuant to which the Claim is made

2. List of documents relating to Claim:

- a. Specifications
- b. Drawings
- c. Clarifications (Requests for Information)
- d. Schedules
- e. Other

3. Chronology of events and correspondence

4. Narrative analysis of Claim merit

5. Analysis of Claim cost, including calculations and supporting documents

6. Time impact analysis in the form required by the Contract Documents or, if the Contract Documents do not require a particular format, CPM format, if an adjustment of the Contract time is requested

E. City's Response. Upon receipt of a Claim pursuant to this Section, the City shall conduct a reasonable review of the Claim and, within a period not to exceed 45 Days, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Any payment due on an undisputed portion of the Claim will be processed and made within 60 Days after the City issues its written statement.

1. If the City needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the City's governing body does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a Claim sent by registered mail or certified mail, return receipt requested, the City shall have up to three (3) Days following the next duly publicly noticed meeting of the City's governing body after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

2. Within 30 Days of receipt of a Claim, the City may request in writing additional documentation supporting the Claim or relating to defenses or Claims the City may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the City and the Contractor. The City's written response to the Claim, as further documented, shall be submitted to the Contractor within 30 Days (if the Claim is less than \$50,000, within 15 Days) after receipt of the further documentation, or within a

period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

F. Meet and Confer. If the Contractor disputes the City's written response, or the City fails to respond within the time prescribed, the Contractor may so notify the City, in writing, either within 15 Days of receipt of the City's response or within 15 Days of the City's failure to respond within the time prescribed, respectively, and demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, the City shall schedule a meet and confer conference within 30 Days for settlement of the dispute.

G. Mediation. Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the City shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 Days after the City issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the City and the Contractor sharing the associated costs equally. The City and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing, unless the parties agree to select a mediator at a later time.

1. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.

2. For purposes of this Section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this Section.

3. Unless otherwise agreed to by the City and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

4. The mediation shall be held no earlier than the date the Contractor completes the Work or the date that the Contractor last performs Work, whichever is earlier. All unresolved Claims shall be considered jointly in a single mediation, unless a new unrelated Claim arises after mediation is completed.

H. Procedures After Mediation. If following the mediation, the Claim or any portion remains in dispute, the Contractor must file a Claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code prior to initiating litigation. For purposes of those provisions, the running of the period of time within which a Claim must be filed shall be tolled from the time the Contractor submits his or her written

Claim pursuant to subdivision (a) until the time the Claim is denied, including any period of time utilized by the meet and confer conference.

I. Civil Actions. The following procedures are established for all civil actions filed to resolve Claims of \$375,000 or less:

1. Within 60 Days, but no earlier than 30 Days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties or unless mediation was held prior to commencement of the action in accordance with Public Contract Code section 9204 and the terms of this Contract. The mediation process shall provide for the selection within 15 Days by both parties of a disinterested third person as mediator, shall be commenced within 30 Days of the submittal, and shall be concluded within 15 Days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1114.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, (A) arbitrators shall, when possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

J. Government Code Claim Procedures.

1. This Section does not apply to tort claims and nothing in this Section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.5 of Title 1 of the Government Code.

2. In addition to any and all requirements of the Contract Documents pertaining to notices of and requests for adjustment to the Contract time, Contract Price, or compensation or payment for additional work, Disputed Work, construction claims and/or changed conditions, the Contractor must comply with the claim procedures set forth in Government Code Section 900, et seq. prior to filing any lawsuit against the City.

3. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to adjustment of the Contract time or Contract Price for additional work, Disputed Work, construction claims, and/or changed conditions have been followed by Contractor. If Contractor does not comply with the Government Code

claim procedure or the prerequisite contractual requirements, Contractor may not file any action against the City.

4. A Government Code claim must be filed no earlier than the date the Work is completed or the date the Contractor last performs Work on the Project, whichever occurs first. A Government Code claim shall be inclusive of all unresolved Claims known to Contractor or that should reasonably be known to Contractor excepting only new unrelated Claims that arise after the Government Code claim is submitted.

K. Non-Waiver. The City's failure to respond to a Claim from the Contractor within the time periods described in this Section or to otherwise meet the time requirements of this Section shall result in the Claim being deemed rejected in its entirety, and shall not constitute a waiver of any rights under this Section.

SECTION 3 – CONTROL OF THE WORK

3-3 SUBCONTRACTORS [Add the following]:

This written statement shall be in form of Caltrans Local Assistance Procedures Manual (LAPM) Exhibit 16-B Subcontracting Request Form.

3-7 CONTRACT DOCUMENTS

3-7.1 General [Replace the first paragraph with the following]:

The Contractor shall maintain a control set of Plans and Specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-built conditions. -Upon completion of all work, the Contractor shall return the control set to the **Engineer**. Final payment will not be made until this requirement is met. **Payment for the as-built plans shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."**

3-7.2 Precedence of the Contract Documents [Replace the second paragraph with the following]:

Detail drawings shall take precedence over general drawings. The instructions to bidders shall take precedence over the notice inviting bids.

If there is a conflict between the Project Manual and Special Provisions as provided herein, the more stringent of the two as determined by the Engineer shall take precedence.

3-8 SUBMITTALS

3-8.1 General [Add the following]:

The **City's Project Manager** may provide a list of expected submittals for improvements to be constructed within the Public Right of Way. The Contractor shall provide said submittals within thirty (30) calendar days following Contract award or receipt of said list, whichever occurs later. Failure of the Contractor to provide submittals within the time specified above may provide grounds for termination of the Contract for default, in accordance with Section 6-7.

For on-site improvements, the Contractor shall adhere to submittal requirements as specified in the Project Manual.

The Contractor shall be responsible for the preparation of deferred submittals including but not exclusive to Light Gauge Steel, Fire Sprinklers, Fire Alarm and Underground Fire Plans. The deferred submittals shall be submitted to the Architect and City Project Manager for review of the plans. The City Project Manager, Architect and Contractor will coordinate as needed, with the local Fire Authority, San Bernardino County Fire Department (SBCFD) to obtain final approval for construction of the submittals. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the Building Official and SBCFD. The cost to furnish and install work included in the deferred submittals shall be included in the Contractor's lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

The Contractor shall also pothole proposed traffic signal pole foundations, provide traffic signal pole submittals, and place order for said traffic signal poles within 30 calendar days of Contract execution.

Temporary Traffic Control Plan (TCP) submittals shall be included in controlling operation(s) submittals. Contractor will not be allowed to start the Work until TCP has been approved.

3-8.3 Shop Drawings [Add the following]:

All shop drawings and submittals required by the plans and specifications shall be submitted to the **City's Project Manager**. Contractor shall submit within ten (10) working days following "Notice to Proceed", a schedule of required submittals and shop drawings to the **City's Project Manager**.

3-10 SURVEYING

3-10.1 General [Replace with the following]:

The Contractor will perform and be responsible for the accuracy of surveying adequate for construction. The Contractor shall preserve construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement will be performed by the Contractor at their sole expense.

The Contractor shall dig all holes necessary for line and grade stakes.

Stakes shall be set and stationed by the Contractor for curbs, headers, sewers, storm drains, structures, and rough grade. A corresponding cut or fill to finished grade (or flowline) shall be indicated on a grade sheet and provided to the Engineer.

3-11 Contract Information Signs [Replace with the following:]

The Contractor shall furnish, install, and maintain mesh construction fence screening along the entire perimeter of the project site. The screening shall be securely affixed to the construction fencing, shall be the full height of the fence, and shall be fabricated from 9-ounce per square yard, material with reinforced edges and reinforced corners. The screening shall include full-coverage printed graphics and shall be kept in good condition for the duration of the project. Any portion of the screening that becomes torn, detached, faded, or otherwise damaged beyond repair, as determined by the Engineer, shall be replaced by the Contractor at no additional cost to the Agency.

The graphics on the screening shall include a rendering of the proposed project, the City logo, the names and titles of City elected officials, and the logos of the City's consultant team, including the Construction Manager, Architect, Geotechnical Engineer, and any other City-designated consultants. The screening shall also display the names, addresses, and specialties of the Contractor, Subcontractors, Architect, and/or Engineers associated with the project. The Contractor shall submit the proposed design, layout, and material samples to the Engineer for review and approval prior to fabrication and installation. Commercial advertising matter shall not be included on the screening.

Commercial advertising matter shall not be attached to or painted on the surfaces of buildings, fences, canopies, or barricades.

3-12 WORK SITE MAINTENANCE

3-12.1 General [Add the following to the first paragraph]:

Contractor shall be required to use City's franchise hauler for construction debris disposal services.

3-12.3 Noise Control [Replace with the following]:

A noise level limit of 86 dbA at a distance of fifty feet shall apply to all construction equipment on or related to the job, whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases required for the protection of personnel. Special consideration shall be given to occupants of the DSO building.

3-12.4.2 Storage in Public Streets [Replace with the following]:

Construction materials and equipment shall not be stored in streets, roads, or highways unless otherwise specified or approved by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets unless otherwise specified or approved by the Engineer. Immediately after placing backfill, all excess excavated material shall be removed.

No more than five hundred (500) linear feet of pipeline shall be stockpiled on the site, regardless of size. The Contractor shall assume full responsibility for any damage caused by stockpiling and shall repair same at his expense. The Contractor shall also be responsible for providing traffic control as required to protect the public from hazards caused by stockpiling within the right of way. The Contractor shall be responsible for obtaining the applicable City permit for stockpiling within the public right of way (Permit Fees will be waived for City contracts). Payment for the above, if any, will be deemed as included in the items of work and no additional compensation will be allowed.

The Contractor may, at his own expense, maintain and operate a work and storage area outside the public right-of-way. In such case the Contractor shall submit to **City** written authorization from the owners of the subject property prior to occupation. Occupation of site without written authorization shall be grounds for immediate suspension of work. Location of site to be approved by **City**. Condition and operation of yard shall conform to these specifications. The Contractor shall assume full responsibility for all damage to the site resulting from his operations and shall repair and/or replace same, at his own expense, to the satisfaction of the owner of the subject property.

The Contractor shall vacate site and return it to pre-project condition within five (5) working days following completion of work for which it was intended. The Contractor shall obtain a written release from the property owner accepting the condition of the vacated site and releasing the Contractor from any further clean-up or restoration work and shall submit a copy of such release to the **City**. The **Notice of Completion** will not be issued, and final retention payment will not be made, until said release is submitted and the **City** has approved the repairs, replacement and restoration of the site.

3-12.6 Water Pollution Control [Replace the entire section with the following]:

3-12.6.1 Scope of Work

- A.** The Contractor shall assume sole, complete, and continuous responsibility for storm water runoff management and erosion/sedimentation control during construction. The Contractor shall know and fully comply with the applicable provisions of the Manuals and Federal, State, and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.
- B.** The Contractor shall prepare a storm water pollution prevention plan for all associated construction activities. This plan shall include drawings showing methods for erosion and sediment control, sediment treatment control, wind erosion, vehicle and equipment tracking control, and non-storm water waste management. The plan shall outline what measures will be used as conditions change along the alignment. The plan shall also include a description of the sequence of construction and all storm water control procedures to be used.

- C. The Contractor shall fully comply with all applicable state and local regulations and requirements related to storm water management and sedimentation and erosion control including **San Bernardino County, City of Fontana, and Caltrans** requirements.
- D. The Contractor shall furnish all labor, materials, equipment, and incidentals necessary to perform all installation, maintenance, removal, and area cleanup related to erosion control devices and practices necessary to prevent the movement of sediment from the construction site to off-site areas including surface waters, storm drains, and flood control facilities.
- E. The Contractor shall implement **Best Management Practices (BMP)** including good housekeeping practices and erosion and sedimentation control to prevent the direct and indirect contribution of any contaminants into the storm drain system or waters of the United States.
- F. The **Storm Water Pollution Prevention Plan (SWPPP)** shall identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and shall identify water pollution control measures, hereafter referred to as control measures, to be constructed, implemented, and maintained in order to reduce to the extent feasible pollutants in storm water discharges from the construction site during construction under this contract.

The (SWPPP) shall incorporate control measures in the following categories:

- a. Soil stabilization
 - b. Sediment control
 - c. Tracking control
 - d. Wind erosion control
 - e. Non-storm water control
 - f. Waste management and material pollution control
- G.** The Contractor shall be responsible for the costs and for liabilities imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this Section "**Water Pollution Control**" including, but not limited to, compliance with the applicable provisions of the Manuals and Federal, State, and local regulations. For the purposes of this paragraph, costs and liabilities include, but are not limited to, fines, penalties, and damages whether assessed against the **City** or the Contractor, including those levied under the **Federal Clean Water Act** and the **State Porter Cologne Water Quality Act**.

In addition to the remedies authorized by law, an amount of the money due the Contractor under this contract, as determined by the **City of Fontana**, may be retained by the **City of Fontana** until disposition has been made of the costs and liabilities.

3-12.6.2 Submittals

- A. The Contractor shall provide SWPPP within thirty (30) calendar days following Contract award or receipt of submittal list, whichever occurs later. Submit "**Storm Water Pollution Plan (SWPPP)**" to the **Engineer** for approval, for all proposed storm water control facilities, defining the sequence of construction, and describing all erosion/sedimentation control procedures to be used.
- B. At least **ten (10) days prior to the start of any work with the potential to cause water pollution**, submit to the **Engineer** for approval, technical product literature for all commercial products to be used for storm water management and erosion/sedimentation control.
- C. All Qualified SWPPP Developers (QSDs) and Qualified SWPPP Practitioners (QSPs) shall be current in the required certifications for the 2022 Construction General Permit (CGP). Certifications will be included in the SWPPP document.
- D. If a Delegate QSP is proposed for the field inspections, the proposed Delegate QSP will require approval. As is required in the 2022 CGP, the Project QSD shall provide the following information for the proposed Delegate QSP: As is based on the guidelines set by the State's Construction General Permit Training Team:
 - a. Foundational training for all delegates regarding stormwater compliance roles and responsibilities, forecast information, and documentation and reporting procedures; and
 - b. Site-specific training regarding visual inspections, sampling procedures, and/or SWPPP and BMP implementation activities relevant to the delegate's assigned responsibilities.

3-12.6.3 Quality Assurance

- A. The Contractor shall be responsible for the timely installation of all storm water management and erosion/sediment control devices and practices necessary to prevent the movement of sediment from the construction site to off-site areas or into waterways via surface runoff or underground drainage systems. Measures necessary to prevent the movement of sediment off-site shall be installed, maintained, removed, and cleaned up at the expense of the Contractor. No additional charges to the **City** will be considered.
- B. The **SWPPP** shall be amended if the **SWPPP** has not achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved **SWPPP**, which are required on the project to control water pollution effectively. Amendments to the **SWPPP** shall be submitted for review and approval of the **Engineer** in the same manner specified for the initially approved **SWPPP**. Amendments shall be dated and attached to the on-site **SWPPP** document.

The Contractor shall keep a copy of the SWPPP, together with updates, revisions and amendments at the project site.

3-12.6.4 Materials

- A. The Contractor shall use the **California Storm Water Best Management Practice Handbook for Construction Activity, Latest Edition**, as a reference in selecting appropriate **BMP's** for the sites. Materials, including those used for storm drain inlet protection, slope protection and vehicle-tracking control shall be in conformance with this handbook.

3-12.6.5 SWPPP Implementation

- A. Work with the potential to cause water pollution shall not begin until the **Engineer** has approved the storm water management plan.
- B. Storm water management and erosion/sediment controls shall be installed in accordance with the approved storm water management plan and the procedures and requirements described in the **California Storm Water Best Management Practice Handbook for the Construction Activity, Latest Edition**.
- C. Unless otherwise directed by the **Engineer** or specified in these special provisions, the Contractor's responsibility for **SWPPP** implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in **Section 6-6, "Suspension of Work" of the Standard Specifications**. Requirements for installation, construction, inspection, maintenance, removal, and disposal of control measures are specified in the Manuals and these special provisions.
- D. Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the rainy season, defined as between **October 15th and April 30th**.
- E. Throughout the rainy season, active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control measures unless fair weather is predicted through the following workday. The weather forecast shall be monitored by the Contractor on a daily basis. **The National Weather Service** forecast shall be used. An alternative weather forecast proposed by the Contractor may be used if approved by the **Engineer**. If precipitation is predicted prior to the end of the following workday, construction scheduling shall be modified, as required and functioning control measures shall be deployed prior to the onset of the precipitation.
- F. The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the **SWPPP** for tracking control, wind erosion control, non-storm water control, and waste management and material pollution control.

- G.** The Engineer may order the suspension of construction operations that create water pollution if the Contractor fails to conform to the provisions in this Section, "Water Pollution Control" as determined by the Engineer. All costs associated with the suspension of work are non-comestible by the City. The Contractor will not be entitled to any increase in contract price or completion time extension for this suspension of construction operations.

3-12.6.6 Inspections and Maintenance

A. Inspections

Make a visual inspection of all devices as necessary to ensure proper operation but not less than once per week and as is required for all rain events per the 2022 CGP . If such inspection reveals that additional measures are needed to prevent movement of sediment to off-site areas, promptly install additional devices as needed. Sediment controls in need of maintenance shall be repaired promptly.

QSD/QSP inspection documentation will be submitted to the City of Fontana Project manager within 5 days of inspection completion.

The Special City Staff from the Environmental Section may inspect the construction site for NPDES compliance and issue correction notice as deemed necessary by such personnel. The Contractor will implement the corrective measures as required by such inspections and failure to do so may result in work stoppage and other legal actions permitted under the law.

B. Maintenance

Routine maintenance consisting of debris removal, silt/sediment removal, clearing of vegetation around flow control devices to prevent clogging, and maintenance of healthy vegetative cover, shall be performed.

During the rainy season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:

- a. Prior to a forecasted Qualifying Rain Event (QSE) storm.
- b. After all precipitation that causes runoff capable of carrying sediment from the construction site.
- c. At twenty-four (24) hour intervals during extended precipitation events.
- d. After the rain event is completed.

3-12.6.7 Flow and Acceptance of Water

It is anticipated that storm, surface or other waters will be encountered at various times during the work herein contemplated. The Contractor, by submitting a bid, acknowledges that he has investigated the risk arising from such waters and has prepared

his bid accordingly; and Contractor submitting a bid assumes all said risk.

The Contractor shall conduct his operations in such a manner that storm, or other existing waters, may proceed uninterrupted along their existing drainage courses. Diversions of water for short reaches to protect construction in progress will be permitted if public and/or private properties, in the opinion of the Engineer, are not subject to probability of damage. The Contractor shall obtain written permission from the applicable public agency or property owner before any diversion of water outside of street right of way will be permitted.

3-12.6.8 Dewatering

The Contractor shall provide and maintain at all times during construction ample means and devices to promptly remove and properly dispose of all water entering the excavations or other parts of the work. No concrete footing or floor shall be laid in water nor shall water be allowed to rise over them until the concrete or mortar has set at least two (2) hours. Water shall not be allowed to rise unequally against the wall for a period of twenty-eight (28) days. Dewatering for the structures and pipelines shall commence when ground water is first encountered, and shall be continuous until such time as water can be allowed to rise in accordance with the above paragraph.

Dewatering shall be accomplished by well points or some other method which will insure a dry hole and preservation of final lines and grade of the bottoms of excavation, all subject the approval of the Engineer.

Disposal of water from dewatering operations shall be the sole responsibility of the Contractor. Disposal methods shall conform to the Porter-Cologne Water Quality Control Act, 1974, the Federal Water Pollution Control Act Amendments of 1972, and the California Administrative Code, Title 23, Chapter 3.

Full compensation for dewatering shall be considered as included in the contract prices paid for the related items of work, and no additional compensation will be allowed therefore.

3-12.6.9 Furnishing and Applying Water

Furnishing and applying water shall conform to the applicable provisions of the Standard Specifications. Full compensation for furnishing and applying water will be considered as included in the prices paid for various items of work and no additional compensation will be made therefore. The Contractor shall make application for a permit for a temporary water meter as required.

3-12.6.10 Removal and Final Cleanup

Once the construction site has been fully stabilized against erosion, the contractor shall remove sediment control devices and all accumulated silt; and dispose of silt and waste materials in proper manner. All areas disturbed during this process shall be regraded and stabilized against erosion using surfacing materials.

3-13 COMPLETION, ACCEPTANCE, AND WARRANTY

3-13.1 Completion [Add the following paragraph]:

Completion will be in accordance with the Contract Documents, all applicable codes and to the full satisfaction and acceptance of the City, County, State and Federal authorities, having jurisdiction over the project so that the project or specified construction can be utilized for the purpose for which it was intended. Completion shall include Contractor's furnishing of all Contractors' "As-Built" data as required by the City and the Engineer to comply with the requirements of the appropriate governmental authorities and acceptance by any governmental authority or municipality. The receipt of a Temporary Certificate of Occupancy and/or Certificate of Occupancy shall not be considered as the Engineer's determination that the Work is complete. Substantial completion will not be considered.

3-13.2 Acceptance [Add the following after the first sentence]:

For the purpose of this article, "formal acceptance of the Work by the Council" shall mean the acceptance of the Work by the City Council per Fontana Municipal Code, but not for the purpose of extinguishing any covenant or agreement on the part of the Contractor to be performed or fulfilled under this Contract which has not, in fact, been performed or fulfilled at the time of such acceptance all of which covenants and agreements shall continue to be binding on the Contractor until they have been fulfilled.

3-14 PROJECT NOTIFICATION [Add the following]:

The Contractor shall furnish and install distribute written public notifications along project impact areas defined by the Engineer shall be distributed at least forty-eight (48) hours in advance of the impacts to the properties. Written notifications (Door hangers) will consist of 8"x11" paper and include information in which will be provided by the Engineer.

SECTION 4 - CONTROL OF MATERIALS

4-1 -GENERAL [Replace the third paragraph with the following]:

If the Contractor fails to remove or replace any defective material after reasonable notice, the Engineer may cause such work or materials to be removed or replaced. The removal or replacement expense will be deducted from the amount to be paid to the Contractor.

4-4 TESTING [Replace the first paragraph with the following]:

Before incorporation into the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the Agency. The Contractor, at its expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. All

initial testing will be performed under the direction of the Engineer, and at no expense to the Contractor. The Contractor shall pay for retests due to failure to meet specifications.

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

5-1 LAWS AND REGULATIONS [Add the following]:

The Contractor shall comply with requirements set by the California Environmental Quality Act (CEQA) and the adopted Mitigation Monitoring and Reporting Program (MMRP) approved for the Project. The Contractor shall comply with all applicable mitigation measures, environmental conditions, and monitoring requirements identified in the MMRP and associated Initial Study and Mitigated Negative Declaration (IS/MND) that are related to construction activities.

The Contractor shall coordinate with the Engineer and comply with all directives necessary to implement the applicable mitigation measures. Such measures may include, but are not limited to, restrictions on construction methods, sequencing, hours of work, noise and dust control, biological and cultural resource protection, and other environmental compliance actions.

Compliance with the MMRP and associated IS/MND shall be considered incidental to the Work and shall be included in the lump sum Bid price for “Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements.” Failure to comply with the MMRP requirements may result in suspension of Work until compliance is achieved, at no additional cost to the Agency.

5-3 LABOR [Add the following]:

5-3.3 Payroll Records [Add the following]:

Copy of the Certified Payroll Records submitted to the Department of Industrial Relations shall be submitted to the City by the tenth day of each month. Progress payments will be withheld pending receipt of any outstanding reports.

5-3.6 Equal Employment Opportunity

The Contractor, and all subcontractors, suppliers and vendors shall comply with applicable **City**, **State** and **Federal** orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments. The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers.

5-4 INSURANCE [Replace the entire Subsection with the following]:

5-4.1 Indemnification

The contractor's obligation to provide indemnification shall be as set forth in **Article VI of the Contract Agreement**.

5-4.2 Insurance Requirements

The Insurance afforded by this policy shall not be cancelled, suspended or modified, or renewal of such a policy declined unless notice is mailed, by certified mail return receipt requested, to the **City** at least forty-five (45) days prior to the effective date of the nonrenewable, suspension or modification or at least thirty (30) days prior to the effective date of cancellation.

The Contractor shall maintain during the life of the contract and the entire progress of the work and until sixty (60) days after notice of completion has been filed a Comprehensive Automobile and General Liability policy. The policy shall provide for not less than the following amounts:

General Liability:

Per Occurrence	\$5,000,000
Aggregate	\$10,000,000

Automobile Liability:	\$5,000,000 per accident
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Workers' Compensation:	\$1,000,000
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Contractor's Pollution Legal Liability:

Per Occurrence	\$1,000,000
Aggregate	\$2,000,000

All liability insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the **City** shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than thirty (30) days before expiration or cancellation is effective.

The following statement shall be included on the insurance certificate:

Additional Insured: The insurer agrees that the **City**, it's City Council, and/or all City Council appointed groups, committees, boards and any other City Council appointed body, and/or elective and appointive officers, servants, agents or employees of the **City** when acting as such are additional insured hereunder, for the acts of the insured, and such insurance shall be primary to any insurance of the **City**.

The Contractor agrees to protect, defend and indemnify the **City** against loss, damage or expense by reason of any suit claims, demands, judgments and causes of action caused by the Contractor, his employees, agents or any subcontractor, or by any third party arising out of or in consequence of the performance of all or any operations covered by the Certificate of Insurance. The Contractor, at his option, may include such coverage under his General Liability coverage.

5-4.3 Contractor's Liability

The **City**, its **City Council** or the **Engineer** shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any of the materials or other things used or employed in performing the work; or for injury to any person or persons, either workmen or the public; or for damage to any person or persons, either workmen or the public; or for damage to adjoining property from any cause which might have been prevented by the Contractor, or his workmen, or any one employed by him; against all of which injuries or damages to persons and property the Contractor, having control over such work, must properly guard. The Contractor shall be responsible for any damage to any person or property resulting from defects or obstructions or any time before its completion and final acceptance, and shall indemnify and save harmless as set forth in **Article VI of the Contract Agreement**, the **City**, its **City Council** and the **Engineer** from all suits or actions of every name and description brought for, or on account of, any injuries or damages received or sustained by any person or persons, by the Contractor, his servants or agents, in the construction of the work or in consequence of any negligence in guarding the same, in improper materials used in its construction, by or on account of any act or omission of the Contractor or his agents, and so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the **City** may be retained by the **City** until disposition has been made of such suits or claims for damages aforesaid.

If, in the opinion of the **Engineer**, the precautions taken by the Contractor are not safe or adequate at any time during the life of the Contract, the **Engineer** may order the Contractor to take further precautions, and if the Contractor shall fail to do so, the **Engineer** may order the work done by others and charge the Contractor for the cost thereof, such cost to be deducted from any monies due or becoming due the Contractor. Failure of the **Engineer** to order such additional precautions, however, shall not relieve the Contractor from his full responsibility for public safety.

5-4.4 Certificates of Insurance

The Contractor shall not commence work until Contractor has delivered to the City a Certificate of Insurance executed by a duly authorized agent of the insurance carrier specifying that the insurance affords coverage for all matters set forth in this contract in at least the minimum amount required. All of said certificates must show the correct job reference and location of the job site and are not to state "covering all tracts." Contractor at his own cost and expense shall insure this interest against loss resulting from fire, earth settlement, theft, embezzlement, riot or any other cause whatsoever.

5-7 SAFETY

5-7.4 Hazardous Substances [Add the following]:

Public Contract Code Section 7104 requires a contractor to notify the public entity of various problems, including the existence of possible hazardous materials, as follows: If the work entails digging a trench or other excavation four (4) feet or more in depth, contractor shall promptly, and before the following conditions are disturbed, notify the City in writing of any material that the contractor believes may be hazardous waste; any subsurface and latent physical conditions at the site differing from those indicated.

5-7.8.2 Thickness [Replace with the following]:

Steel plate covers shall conform to City of Fontana Standard Plan 1009.

5-7.8.3 Installation [Replace with the following]:

Steel plate cover installation shall conform to City of Fontana Standard Plan 1009.

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK

6-1.1 Construction Schedule [Add the following]:

The Contractor's proposed Construction Schedule identifying the order of operations shall be submitted to the **Engineer** for review, prior to the start of any work. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged and setting forth the dates that each item will be delivered. The schedule shall be in Microsoft Project (.mpp) format. Prior to issuing the Notice to Proceed, the **Engineer** will schedule a preconstruction meeting with the Contractor to review the proposed Construction Schedule and delivery dates, arrange the utility coordination, discuss construction methods and clarify inspection procedures.

The Contractor shall submit periodic Progress Reports, or a two-week look-ahead schedule, to the **Engineer** within three (3) Working Days of request. The Progress Report shall include an updated Construction Schedule. Any deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

The Contractor is advised as to the possibility of award of other construction projects within the proposed construction zone, within the public right of way, by the **City**, other governing agencies, or private companies. In the event of such award(s), the Contractor shall coordinate with the applicable parties as to the extent of and time required to complete their work and shall schedule his work and conduct his operations so as to permit access and time as required for the concurrent work. The Contractor shall immediately notify the

City and the **Engineer** in the event of a delay in scheduling caused solely by this concurrent work. Payment for the above, if any, shall be deemed as included in the items of work as shown on the proposal bid sheet and no additional compensation will be allowed.

6-2 PROSECUTION- OF THE WORK [Add the following]:

The Contractor's activities shall be confined to the hours between **7:00 AM and 4:00 PM, Monday through Friday, excluding holidays**. Deviation from these hours will not be permitted without the prior consent of the **City** and the **Engineer**, except in emergencies involving immediate hazard to persons or property.

The Contractor shall obtain approval for any deviation from regular working hours or days by submitting a written request to the **City** and the **Engineer** at least five (5) working days in advance, for approval by the **City** and the **Engineer**.

In the event of either a requested or emergency deviation, inspection service fees will be charged against the Contractor. The service fees will be calculated at overtime rates, including benefits, overhead and travel time. The service fees will be deducted from any amounts due the Contractor.

6-3 TIME OF COMPLETION

6-3.1 General [Add the following]:

The Contractor shall complete all work in every detail, within **320 Working Days** after the date of Notice to Proceed, exclusive of maintenance periods. The Contractor shall place the order for materials within 14 Days of receiving an approved submittal from the City. Verification of order shall be presented to City. The Contractor shall pothole proposed traffic signal pole foundations, provide traffic signal pole submittals, and place order for said traffic signal poles within 30 calendar days of Contract execution.

6-5 USE OF IMPROVEMENT DURING CONSTRUCTION [Add the following]:

The Contractor will assume the responsibility and liability for injury to persons or property resulting from the utilization of a traffic signal or appurtenant equipment so placed into service, except for any such injury to persons or property caused by any willful or negligent act or omission by the Agency.

6-6 SUSPENSION OF THE WORK

6-6.1 General [Add the following]:

The **City** has the right to suspend the work in whole or in part without liability for damages when in the **City's** opinion the Contractor is not complying in good faith, has become insolvent, has assigned or subcontracted any part of the work without **City's** consent, or shall fail to abide by the provisions of the Contract Documents.

In the event it is necessary for the **City** to suspend the work as provided in this section, the Contractor shall not be entitled to any additional compensation for labor, materials, or other cost or expenses which may be incurred as a result thereof. **City** shall further have the right to withhold from the Contractor any reasonable estimated sums as determined by the **Engineer** as may be required to correct the result of the Contractor's failure to abide by the provisions of the Contract Documents.

The Contractor shall remain liable to the **City** for any correction cost in excess of cost incurred. Should work be suspended in part, Contractor shall continue with other work as approved by the **Engineer**.

6-9 LIQUIDATED DAMAGES [Replace with the following]:

Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. Such damages are, and will continue to be, impracticable and extremely difficult to determine. For each consecutive calendar day in excess of the time specified for completion of the Work, as adjusted in accordance with 6-4, the Contractor shall pay to the Agency, or have withheld from monies due based on the table below, per Caltrans Local Assistance Procedures Manual (LAPM): Chapter 12.

Total Bid		Liquidated Damages per Day
From over	To	
\$0	\$200,000	\$2,800
\$200,000	\$500,000	\$3,600
\$500,000	\$1,000,000	\$3,600
\$1,000,000	\$2,000,000	\$4,200
\$2,000,000	\$5,000,000	\$5,200
\$5,000,000	\$10,000,000	\$6,700
\$10,000,000	\$20,000,000	\$9,500
\$20,000,000	\$50,000,000	\$13,200
\$50,000,000	\$100,000,000	\$16,000
\$100,000,000	\$250,000,000	\$19,300

If all work except plant establishment or permanent erosion establishment is complete and the total number of working days have expired, liquidated damages are \$950 per day.

Execution of the Contract shall constitute agreement by the Agency and Contractor that the values per the table above, is the minimum value of the costs and actual damage caused by the failure of the Contractor to complete the Work within the allotted time. Such sum is liquidated damages and shall not be construed as a penalty and may be deducted from payments due the Contractor if such delay occurs.

The amount prescribed in these Special Provisions, pursuant to the authority of **Public Contract Code Section 10226** to be paid to the City or to be deducted from any payments due or to become due the Contractor for each consecutive calendar day in completing the whole or any specified portion of the work beyond the time allowed in the

specifications as prescribed in these **Special Provisions, pursuant to Public Contracts Code Section 10226.**

SECTION 7 - MEASUREMENT AND PAYMENT

7-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK

7-1.1 General [Add the following:]

With the exception of Trench Safety and Sheeting, Shoring and Bracing for Excavation, items of work will not be measured separately for payment and all work per the Contract Documents shall be included in the lump sum Bid price for “Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements.”

7-2 LUMP SUM WORK [Replace the last paragraph with the following]:

The Contractor shall submit to the Engineer and Architect within 10 calendar days after award of Contract, a detailed schedule of values, to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum Bid items. This schedule shall equal the lump sum Contract Price or Bid item price and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

7-3 PAYMENTS

7-3.1 General [Replace the last paragraph with the following]:

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor's failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the Contractor in accordance with applicable laws. At the expiration of 35 Days from the date of recordation of the Notice of Completion, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

With the exception of Trench Safety and Sheeting, Shoring and Bracing for Excavation, items of work will not be measured separately for payment for all work per the Contract Documents shall be made at the lump sum Bid price for “Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements.” Items of work for payment on a lump sum Bid item shall be made in accordance with the approved schedule of values as approved per Special Provisions Section 7-2.

Trench Safety and Sheeting, Shoring and Bracing for Excavation will be made at the lump sum Bid price and shall include full compliance with the provisions of the safety orders, California Labor Code Section 6705-6707, and all other governing codes, laws, ordinances, and regulations.

7-3.2 Partial and Final Payment [Replace the first paragraph with the following]:

Progress payments may be submitted by the Contractor, at their discretion, unless otherwise requested by the Engineer. No more than one progress payment shall be submitted within a period of thirty (30) days. The final progress payment will not be released until the Contractor returns the control set of the Plans and Specifications showing the as-built- conditions.

The Engineer will make an approximate measurement of the work performed to the closure date and as a basis for making progress payments, estimate its value based on Contract Unit Prices or in accordance with 7-2. When the Work has been satisfactorily completed, the Engineer will determine the quantity of work performed and prepare the final estimate.

From each progress payment, 5 percent will be deducted and retained by the Agency. The full five percent (5%) retention will be deducted from all payments. The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion by the City. The City Council must accept the project at an official City Council meeting prior to the recordation of the Notice of Completion.

No progress payment made to the Contractor or its Sureties will constitute a waiver of the liquidated damages specified in 6-9.

In conformance with the **State of California Public Contract Code, Section 22300**, the Contractor may substitute securities for any monies withheld by the **City** to secure performance under the contract.

At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the **City** or with a **State or Federally chartered bank as the escrow agent** who shall pay such monies to the Contractor upon notification by **City** of Contractor's satisfactory completion of the contract. The type of securities deposited and the method of release shall be approved by the **City Attorney's office**.

Before the **City** shall make the final payment, Contractor shall execute and file with the **City** a release in the form supplied by the **City**, releasing its officers, employees, representatives, and agents from any and all claims for liability relating to any undisputed contract amounts for work performed in relation to the undisputed amounts.

7-3.3 Delivered Materials [Replace with the following]:

Materials and equipment delivered but not incorporated into the work will not be included in the estimate for progress payment.

7-3.4 Mobilization [Replace with the following]:

Mobilization shall consist of work and operations, including but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to and from the project site; for the establishment of all offices, buildings and other facilities necessary for the work on this project; and for all other work and operations which must be performed or cost incurred prior to the beginning of work on the various contract items on the project site. A 25% payment of the lump sum total shall be paid with the first progress payment and the remaining 75% shall be paid incrementally over the life of the contract where these subsequent payments will be based on the percentage of work completed to date. Payment for mobilization shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

The contractor shall be aware that more than one (1) mobilization per subcontractor/trade may be necessary depending on the phase of the work to be conducted.

7-4 PAYMENT FOR EXTRA WORK

7-4.2 Basis for Establishing Costs

7-4.2.1 Labor [Replace with the following]:

The cost of labor shall be the actual cost for wages of workers performing the Extra Work at the time the Extra Work is done as indicated in the Certified Payroll Record and associated Fringe Benefit Statement.

The use of a labor classification which would increase the Extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor cost for foremen shall be proportioned to all of their assigned work and only that applicable to the Extra Work will be paid.

Direct labor costs including, employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements, not included in the certified payroll records, and non-direct labor costs including superintendence, shall be considered part of the markup specified in 7-4.3.

7-4.2.3 Tool and Equipment Rental [Replace the second paragraph with the following]:

The Equipment Rates, whether rented or owned, shall be in accordance with the most current edition of the State of California Caltrans' "Labor Surcharge and Equipment Rental Rates". If a piece of equipment is not indicated in the Caltrans publication, the rate shall be an equitable rate consistent with rates prevailing locally at the time the extra work is performed.

7-4.3 Markup

7-4.3.1 Work by the Contractor [Replace with the following]:

The markups mentioned hereinafter shall include, but are not limited to, all costs for the services of superintendents, project managers, timekeepers and other personnel not working directly on the change order and pickup or yard trucks used by the above personnel. These costs shall not be reported as labor or equipment elsewhere except when actually performing work directly on the change order and then shall only be reported at the labor classification of the work performed.

The markups shall also constitute the payment to the Contractor and subcontractor(s) for all overhead costs, job site and home office, attributable to the time extension of a change order. These markups in either lump sum items or unit priced items shall constitute the full payment for all overhead costs, job-site and home office, involved with impacts, disruptions and delays of a change.

The following percentage shall be added to the Contractor's costs and shall constitute the markup for all overheads, profits, and compensations for bonding.

Labor	25%
Materials	15%
Tool and Equipment Rental	15%
Other Items	15%

7-4.3.2 Work by a Subcontractor [Replace with the following]:

When all or any part of the extra work is performed by a Subcontractor, the markup established in Subsection 7-4.3.1 shall be applied to the Subcontractor's actual cost of such work to which a markup of ten (10) percent of the first \$5,000 of the subcontracted portion of the extra work and a markup of five (5) percent on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

SECTION 8 – FACILITIES FOR AGENCY PERSONNEL

8-1 GENERAL [Add the Following]

When existing restroom facilities within the DSO Building are removed or rendered unavailable due to tenant improvement work, the Contractor shall furnish, install, operate, and maintain temporary restroom facilities for use by DSO staff and members of the public at locations approved by the Engineer.

At a minimum, the contractor shall provide two (2) Uni-sex restrooms, restroom facility, shall be provided. The facilities shall be fully compliant with the Americans with Disabilities Act (ADA) and shall include, at a minimum, the following:

- One (1) fully functioning toilet with continuous running water
- One (1) fully functioning sink with continuous running water
- Climate control suitable for year-round use
- Adequate odor control and ventilation

The temporary restroom facility shall be maintained in a clean, sanitary, and fully operable condition at all times during required operating hours.

The temporary restroom facility shall be open and available for use during regular City operating hours, defined as 7:00 a.m. to 6:00 p.m., Monday through Thursday, unless otherwise directed by the Engineer.

All costs associated with furnishing, installing, operating, maintaining, and removing the temporary restroom facilities, including utilities, servicing, cleaning, and compliance with all applicable codes and regulations, shall be included in the Contractor's lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements." No separate payment will be made.

PART 2 - CONSTRUCTION MATERIALS

SECTION 200 – ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS

200-2.5 Processed Miscellaneous Base [Replace with the Following]:

Processed Miscellaneous Base (PMB) will not be allowed for use in asphalt concrete.

SECTION 201 - CONCRETE, MORTAR AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE

In addition to the materials outlined in **Section 201-1 of the Standard Specifications**, the following materials are included under **Portland Cement Concrete** unless otherwise covered by specific bid item.

201-1.1 Requirements

201-1.3.3 Concrete Specified by Class and Alternate Class [Add the Following]:

- A. Concrete specified by alternate class will not be used.
- B. Contractor shall utilize **Concrete Class 560-C-3250** for Street Surface Improvements instead of the concrete class shown in Table 201-1.3.3. All reinforced structures shall be **Class 650-CW-4000** instead of the concrete class shown in Table 201-1.3.3.
- C. **Maximum Slump:** Five (5) inches for concrete containing superplasticizer admixture.

201-2 REINFORCEMENT FOR CONCRETE

201-2.2.1 Reinforcing Steel [Replace with the following]:

Unless otherwise specified, reinforcing steel shall be Grade 60 (400) billet steel conforming to ASTM A615/A615M. Steel bending processes shall conform to the requirements of the Manual of Standard Practice of the Concrete Reinforcing Steel Institute. Bending or straightening shall be performed in a manner that will not result in the steel being damaged. Kinked bars shall not be used.

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS

In addition to the materials outlined in **Section 201-3 of the Standard Specifications**, the following materials are included under **Expansion Joint Filler and Joint Sealants** unless otherwise covered by specific bid item.

201-3.2 Premolded Joint Filler [Add the Following]:

Contractor shall use Preformed Expansion Joint Filler (Bituminous), conforming to ASTM D994.

201-3.4 Type "A" Sealant (Two-Part Polyurethane Sealant) [Replace with the Following]:

Type "A" Sealant shall not be used.

201-3.5 Type "B" Sealant (Preformed Elastomeric) [Replace with the Following]:

Type "B" Sealant must not be used.

201-3.7 Type "D" Sealant (Hot-Poured Rubber-Asphalt) [Replace with the Following]:

Type "D" Sealant must not be used.

201-3.8 Type "E" Sealant (Polysulfide Polymer and Rubber Rod) [Replace with the Following]:

Type "E" Sealant must not be used.

201-4 CONCRETE CURING MATERIALS

In addition to the materials outlined in **Section 201-4 of the Standard Specifications**, the following materials are included under **Concrete Curing Compound** unless otherwise covered by specific bid item.

201-4.1 Membrane Curing Compounds.

201-4.1.1 General [Replace Paragraph 4 with the Following]:

Type 2 must be used.

SECTION 203 – BITUMINOUS MATERIALS

203-6 ASPHALT CONCRETE

203-6.4 Asphalt Concrete Mixtures

203-6.4.1 Class and Grade [Add the following]:

Unless otherwise specified, the class and grade for all streets designated as collector streets or above, in accordance with the City of Fontana's Hierarchy of Streets Plan, shall be B-PG 70-10 and C PG 70-10 for the base and finish courses, respectively. All local roads shall be B PG 64-10 and C PG 64-10 for base and finish courses, respectively.

SECTION 207 – GRAVITY PIPE

207-8 VITRIFIED CLAY PIPE (VCP)

207-8.1 General [Replace with the following]:

Except as modified in this subsection, vitrified clay pipe and fittings including perforated pipe shall be extra strength manufactured in accordance with ASTM C700.

SECTION 214 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS [Replace with the following]:

All work shall be done in accordance with supplemental technical specifications “SECTION E- SPECIAL PROVISIONS FOR THE CONSTRUCTION OF: CITY HALL RENOVATION PROJECT – PHASE II (CITY HALL) STREET IMPROVEMENTS, SIGNING/STRIPING.”

SECTION 217 – BEDDING AND BACKFILL MATERIALS

217-1 BEDDING MATERIAL

217-1.1 General [Replace with the following]:

Bedding Material for all pipe shall conform to City of Fontana Standard Plan No. 1008.

217-1.2 Bedding Material for Plastic Pipe [Delete]

217-2 TRENCH BACKFILL

217-2.1 General [Replace the first paragraph with the following]:

Trench backfill material shall be native material generated from trench excavations or imported. Trench backfill material shall conform to the requirements shown in City of Fontana Standard Plan No. 1008 and the following.

217-2.2 Imported Trench Backfill [Replace the first paragraph with the following]:

Imported trench backfill shall be trench backfill material imported from outside the Work site. Imported trench backfill shall conform to the requirements shown in City of Fontana Standard Plan No. 1008 and the following.

217-3 STRUCTURE BACKFILL [Replace the first sentence with the following]:

Materials used for structure backfill shall conform to the requirements shown in City of Fontana Standard Plan No. 1008 and the Special Provisions.

PART 3 - CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

300-1 CLEARING AND GRUBBING

300-1.2 Root Pruning and Tree Trimming [Replace with the following]:

Tree branches which hang within 13.5 feet (4.1m) above finished roadway grade or within 9 feet (2.7 m) above finished sidewalk or parkway grade shall be cut off to the boles in a workmanlike manner. The Contractor shall remove additional tree branches under the direction of the Engineer, in such a manner that the tree will present a balanced appearance. Scars resulting from the removal of branches shall be treated with a heavy coat of an approved tree sealant.

300-2 UNCLASSIFIED EXCAVATION

300-2.1 General [Add the following]:

Unless separately designated, unclassified excavation shall include excavating, loading, stockpiling, hauling and disposing of surplus material to the depth indicated on the plans or as directed by the **Engineer**. Any remnants of structures, foundations, and fences within limits of construction shall be removed and disposed of in the legal manner and will be considered part of **Unclassified Excavation**. Removal of existing asphalt concrete pavement shall be included in this item of work unless covered by a specific bid item.

300-3 STRUCTURE EXCAVATION AND BACKFILL

300-3.1 General [Add the following]:

Structure excavation and backfill shall be limited to the areas shown on the plans.

In making structure excavations for the project, the Contractor shall be fully responsible for designing, checking, providing and installing adequate sheeting, shoring, bracing, lagging, cribbing and piling as may be necessary as a precaution against slides, slippage or cave-in and to protect all existing and temporary improvements of any kind, either public or private property, fully from damage.

300-4 UNCLASSIFIED FILL

300-4.7 Compaction [Replace with the first sentence with the following]:

Unless otherwise specified, each layer of unclassified fill shall be compacted to a relative compaction of at least 95 percent.

SECTION 301 - SUBGRADE PREPARATION, TREATED MATERIALS, AND PLACEMENT OF BASE MATERIALS

301-1 SUBGRADE PREPARATION

301-1.2 Preparation of Sub grade [Replace with the following]:

Sub-grade preparation for areas of new pavement is required and shall include scarification, moisture conditioning, and compaction of the upper approximately twelve (12) inches of sub-grade. If areas of soft, saturated, or otherwise unsuitable materials are encountered, they should be removed to competent underlying material, as evaluated in the field by the geotechnical consultant, and replaced with compacted fill. No material greater than three (3) inch in any dimension shall be used in the top twelve (12) inches of the sub grade. No nesting of rocks shall be allowed.

301--1.3 Relative Compaction [Replace with the following]:

Relative compaction of finished sub-grade under paved areas and concrete curb, curb and gutter, gutters, and concrete spandrels shall be modified to require **95% minimum relative compaction of the top twelve (12) inches of the sub-grade**. All material removed and replaced for remedial grading, trenching, or disturbed by tree removal shall be **compacted at 95% minimum relative compaction, even where it extends beyond twelve (12) inches below finished sub-grade**. **Relative compaction of all other areas outside of curb, curb and gutters, concrete spandrels, gutters and paved areas shall require 90% minimum compaction.**

301-1.6 Soil Sterilant [Replace with the following]:

301-1.6.1 General

All areas to receive Asphalt Concrete Pavement shall be prepared in accordance with applicable sections of the Standard Specifications concerning sub grade preparation. In addition, after the compaction is completed, the Contractor shall apply a non-migrating soil sterilant to the sub grade. Application shall be by spray equipment which provides good mechanical agitation and even coverage of the area to be treated. Spray equipment shall be calibrated before material is applied and the City Inspector's decision as to the effectiveness of the spray equipment shall be final. Great care shall be taken to apply soil sterilant to the designated areas only. Aggregate base may be placed immediately after placement of soil sterilant.

301-1.6.2 Operator's License

The Contractor's operator applying the soil sterilant shall be licensed by the State of California, Department of Food and Agricultural Affairs and registered with the Office of the Agricultural Commissioner of San Bernardino County as pest control officer.

301-1-.6.3 Application

Any soil sterilant, which is approved in writing by a licensed pest control advisor (for the purpose of which it will apply) may be used upon acceptance by the Engineer. The dye shall not stain concrete or masonry. Certification shall be furnished to the Engineer showing the purchase receipt and manufacturer's recommended rate of application of the material.

SECTION 302 - ROADWAY SURFACING

302-4 SLURRY SEAL SURFACING

302-4.1 General [Replace the second sentence with the following]:

The combined aggregate gradation (Type) shall be as determined by the Engineer. The slurry seal mixture shall be EAS.

302-4.8 Scheduling, Public Convenience and Traffic Control [Replace the first two paragraphs with the following]:

In addition to Part 3 and Part 6, the Contractor shall comply with the following:

The Contractor shall, at least 48 hours in advance, post "No Parking" signs within the project limits. Said signs shall be provided by the Contractor and approved by the City Engineer prior to posting. The Contractor shall be responsible for maintaining notification signage in a serviceable manner. Signs shall indicate the date and hours of restriction.

The Contractor shall be responsible for adequate barricading of the work area and controlling of traffic in the vicinity of the project.

302-4.9 Spreading and Application.

302-4.9.1 General [Add the following]:

At least 7 days prior to cleaning, the Contractor shall remove all weeds from the existing roadway that may be objectional to the application of slurry as determined by the Engineer. All areas to be sealed with slurry seal, that contain weeds or plant growth of any kind, shall be treated with herbicides. Areas include, but are not limited to cracks, joint lines, edge lines and match lines. Herbicides shall be used with strict adherence to manufacturer's specifications and instructions, as well as any applicable governing rules.

Prior to cleaning, the Contractor shall remove all existing striping within the project limits, as approved by the Engineer, in accordance with Section-E of these Special Provisions.

Prior to the application of slurry seal, the Contractor shall route and crackfill all existing cracks. Crack treatment shall be in accordance with Caltrans Standard Specifications Section 37-5 Crack Treatment. Crack treatment shall be a hot-applied crack treatment.

All preparatory work shall be inspected by the Engineer at least 24 hours prior to the application of slurry. The Contractor shall be present for the field inspection of all preparatory work.

Slurry Seal Resurfacing shall be free of the following:

- More than 4 marks in the completed slurry seal that are up to 1 inch wide and up to 6 inches long per 1000 square feet of slurry seal place.
- Marks in the completed slurry seal surface that are over 1 inch wide or 5 inches long
- Excessive raveling consisting of the separation of the aggregate from the asphaltic emulsion.
- Bleeding consisting of the occurrence of a film of asphaltic material on the surface of the slurry seal.
- Delaminating of the slurry seal from the existing pavement.
- Rutting or wash-boarding

The Contractor will be required to work around all existing utility facilities and seal up to said facilities. During sealing operations, the Contractor shall cooperate with the owners of any utility covers and shall cover and completely protect said covers with heavy plastic or other suitable material.

Pneumatic rollers shall be used as soon as the asphalt slurry has set sufficiently to prevent any material being picked up. It shall be rolled by two to five complete coverages as directed. Rolling shall continue until all ridges have been ironed out and a uniform smooth surface is obtained. Pneumatic rollers shall be operated at a tire pressure of 50 pounds psi.

302-4.11.2 Emulsion-Aggregate Slurry Seal Surfacing [Delete this section]

302-4.11.3 Rubberized Emulsion-Aggregate Slurry Seal Surfacing [Delete this section]

302-4.13 Post-Application Sweeping [Add this section]:

After the application of slurry seal, the Contractor shall power sweep or vacuum the newly slurred surface three different times prior to completing the work. The first time is immediately after the slurry seal has cured. The second time shall be two weeks after the first sweeping. The third time shall be two weeks after the second sweeping. The surface shall be carefully cleaned with a power sweeper or vacuum, subject to approval of the Engineer. Cleaning shall occur from curb to curb including gutters, sidewalks and driveway approaches. Sweeping shall remove all foreign materials and excess slurry seal.

Post-Application Sweeping shall be included in Contract Unit Price for each type of Slurry Seal.

302-5 ASPHALT CONCRETE PAVEMENT

302-5.2 Materials

302-5.2.3 Tack Coat [Add the following]:

The Engineer will determine if the pavement is sufficiently dry for the application of the tack coat. Tack coat shall not be applied when the temperature of the surface to be tacked is below 50° F in the shade, or as determined by the Engineer. Tack coat shall be trackless.

Tack coat shall not be left exposed overnight. Immediately in advance of placing the overlay, additional tack coat shall be applied as directed by the Engineer, to areas where the tack coat has been destroyed or otherwise rendered ineffective.

The area to which tack coat has been applied shall be closed to public traffic. Care shall be taken to avoid tracking tack material onto existing pavement surfaces beyond the limits of construction. Existing striping and pavement markings which have been tacked with tack coat shall be repainted at the Contractor's expense. Certain driveways which are heavily used during hours of construction as determined by the Engineer, shall remain open as long as possible, and tack shall be applied to areas along said driveways as soon as possible before the asphalt is placed, or the Contractor may provide some means of protecting the tack coat while traffic passes over it. The means of protection shall be utilized only after approval by the Engineer.

The Contractor shall clean existing concrete and asphalt surfaces of any tack coat tracked onto them, to the satisfaction of the Engineer.

Existing cracks which are exposed after cold-milling, and which the cracks are hairline to 1/8" in width, shall be air-blown with compressed air, and cleaned to expose the A.C. with the appearance of clean edges. Cracks greater than 1/8" in width shall be routed to remove all loose A.C. particles and to leave a cracked edge line that is sound and integral with no secondary fractures emanating from the crack line. Areas that are badly fractured shall be brought to the attention of the City's representative prior to routing. These cracks, which are greater than 1/8" in width, shall then be air-blown with compressed air to the same extent as hereinbefore specified.

302-5.9 Placement

302--5.9.1 General [Replace Second Paragraph with the following]:

Asphalt concrete of the classes shown in Table 302-5.9.1(A) or Table 302-5.9.1(B) shall be placed in courses not exceeding 4" (100 mm) in compacted thickness for base courses and no more than 2" (50 mm) in compacted thickness for finish courses.

Asphalt concrete pavement for resurfacing shall be at least **four (4) inches thick**, regardless of the thickness of the pavement removed and shall be placed in two (2) or more courses. The finish course shall be a minimum one (1) inch thick.

Placement of the finish course shall not be completed until completion of all underground construction unless waived by the Engineer.

Contractor shall suspend all paving operations when the Engineer determines the weather conditions are not suitable for paving. The contractor will not be entitled to additional compensation if paving operations are suspended due to weather conditions.

302--5.9.2 Joints [Replace with the following]:

Longitudinal joints shall be located six inches off centerline of striped lane line. Joints between successive runs shall be vertical and at right angles to the line of the improvement. Care shall be exercised in connection with the construction of all joints to ensure that the surface of the pavement is true to grade and cross section. Lapped joints will not be permitted.

When terminating paving operations for the day, the Contractor shall construct temporary hot-mix ramps at all vertical joints open to through traffic. Temporary hot-mix ramp dimensions and compaction shall be approved by the Engineer. Prior to resuming paving operations, the Contractor shall remove temporary hot-mix ramps to provide for a vertical face and a full depth lift joint and apply a tack coat to the faces of the joint in accordance with 302-5.8.

At those locations where new asphalt concrete pavement overlay joins existing asphalt pavement, the Contractor shall rake out all aggregate three-eighths (3/8) inch or larger and feather the new paving to form a smooth transition to join the existing pavement. Pavement transitions shall be in conformance with Section 601-1.

302-5.11 Compaction

302-5.11.1 General [Replace the first paragraph with the following]:

Asphalt concrete, after the completion of rolling, shall be compacted to a minimum of 95 percent of the theoretical maximum density (TMD) as determined in accordance with AASHTO T 209.

302-5.13 Measurement

302-5.13.2 Headers [Replace with the following]:

Use and placement of headers shall be included in the measurement for installing asphalt concrete pavement.

302-5.13.3 Prime Coat [Replace with the following]:

Placement of prime coat shall be included in the measurement for installing asphalt concrete pavement.

302-5.13.4 Tack Coat [Replace with the following]:

Placement of tack coat shall be included in the measurement for installing asphalt concrete pavement.

302-5.13.5 Asphalt Concrete [Replace with the following]:

Asphalt concrete will be measured by the square feet for each thickness shown on the Plans or by the tons of material used in the Work, as shown in Bid.

SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

303-1 CONCRETE STRUCTURES

303-1.1 General [Add the following]:

The surfaces of all concrete inlet structures shall receive an ordinary surface finish. "NO DUMPING FLOWS TO CREEK" stencil shall be applied to all catch basin decks per City of Fontana Standard Plan No. 6002.

303-1.3 Forms [Add the following]:

Formed wall surface shall be free of any unevenness greater than one-quarter (1/4) inch when checked with a ten (10) foot straight edge.

Concrete in walls with side slopes flatter than 3/4:1 shall be placed on suitable material which has been overfilled, compacted and trimmed to true grade. Back forms shall be used where the side slope is 3/4:1 or steeper.

Contractor shall be responsible for the design, engineering, construction and safety of removable form work.

Contractor shall design removable forms for the loads and lateral pressures outlined in the American Concrete Institute Standard "Recommended Practice for Concrete Formwork" (ACI 347-78).

303-1.7 Placing Reinforcement

303-1.7.1 General [Add the following]:

Aluminum and plastic supports for reinforcement shall not be used.

303-1.9 Surface Finishes

303-1.9.2 Ordinary Surface Finish [Add the following]:

Ordinary Surface Finish shall not apply to rock pockets, which in the opinion of the Engineer, are of such extent or character as to affect the strength of the structure materially

or to endanger the life of the steel reinforcement. In such cases, the Engineer may declare the concrete defective and require the removal and replacement of the structure affected.

303-2 AIR PLACED CONCRETE

303-2.1 Requirements

303-2.1.1 General [Add the following]:

Rock slope protection shall conform to the provisions in CALTRANS Standard Specification, Section 72, "Slope Protection" and these special provisions.

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS [Add the following]:

The applicable provisions of **Section 303-5** shall apply to concrete paving for Bus Bays and placement of drainage inlet aprons.

303-5.1 Requirements

303-5.1.1 General [Replace paragraph two with the following]:

Unless otherwise shown on the Plans, and except as otherwise specified in 303-5.1.3, the minimum thickness of walks shall be 4 inches. The thickness of gutters, cross gutters, alley intersections, access ramps, and driveway aprons shall be as shown on the Plans.

303-5.1.3 Driveway Entrances [Replace paragraph 3 with the following]:

Where a walk is to be constructed across any and all driveways, the thickness thereof shall be 6 inches (150 mm) unless otherwise specified or shown on the Plans. Where a walk is to be constructed directly behind and across driveways, the thickness thereof shall be 6 inches.

303-5.5 Finishing

303-5.5.2 Curb [Replace paragraph 2 with the following]:

The face and top of the curb shall then be carefully troweled to a smooth and even finish; the top being finished to a transverse slope of 1/4 inch (6 mm) toward the gutter, with both edges rounded to a radius of 1/2 inch (12.5 mm). The troweled surface shall be finished with a fine-hair broom applied parallel with the line of the work. The edge of the concrete at all expansion joints shall be rounded to a 1/4 inch (6 mm) radius.

SECTION 306 - OPEN TRENCH CONDUIT CONSTRUCTION

306-3 TRENCH EXCAVATION

306-3.2 Removal of Surface Improvements [Replace with the following]:

Removal of surface improvements shall conform to Section 300-1.3 and 401.

306-3.3 Removal and Abandonment of Existing Conduits and Structures. [Add the following after paragraph 4]:

The above shall apply to all utilities and underground conduits.

306-5 DEWATERING [Replace with the following]:

The Contractor shall install, operate, and maintain a dewatering system of sufficient capacity so as to maintain the trench bedding zone free of standing or ponded water, and in a condition suitable for prosecution and progress of the Work. Unless otherwise specified, dewatering shall conform to 3-12.6.8.

Groundwater shall be allowed to rise to ambient groundwater elevation upon completion of final trench backfill operations to finished grade or subgrade of permanent surfacing. The rate at which groundwater is allowed to rise shall be controlled by the Contractor to assure protection of the Work in conformance with 4-2.

306-7 PREFABRICATED GRAVITY PIPE

306-7.8 Gravity Pipeline Testing

306-7.8.2.1 General [Add the Following]:

All storm drains, storm drain laterals, sewer lines, and sewer laterals shall be video inspected at Contractor's expense. Video inspection shall be performed prior to and after all backfill and compaction operations are completed within project limits. Contractor performing the video inspection must have a NASSCO PACP, LACP, and MACP certification.

All sewers shall be video inspected by the Contractor. Sewer video shall include clean-out connection, clean-out to lateral segment, lateral, and main line. Contractor shall provide an electronic copy of the video to inspection staff with an accompanying full report. Videos to be inspected and approved by City Inspector. If removal and replacement of any utility is required, a subsequent video of the repair will be required.

All storm drains shall be video inspected by the Contractor. Storm drain video shall include main lines and laterals. Contractor shall provide an electronic copy of the video to inspection staff with an accompanying full report. Videos to be inspected and approved by City Inspection. If removal and replacement of any utility is required, a subsequent video of the repair will be required.

306-12 BACKFILL

306-12.1 General [Add the following]:

Trenches shall be backfilled within 5 days of the installation and acceptance of the pipe or reinforced box.

306-12.3 Mechanically Compacted Trench Backfill

306-12.3.2 Compaction Requirements [Replace with the following]:

All trench backfill and bedding shall be densified to 90% minimum relative compaction. Relative compaction of top twelve (12) inches of subgrade shall be as required per Section 301-1 of these specifications.

306-12.4 Jetted Trench Backfill

306-12.4.1 General [Add the following]:

Jetting will not be permitted unless specifically approved in advance by the Engineer.

306-13 TRENCH RESURFACING

306-13.1 Temporary Resurfacing [Replace the first paragraph with the following]:

Unless permanent pavement is placed immediately, temporary resurfacing shall be at least 4 inches thick and shall be placed and maintained wherever excavation is made through pavement or driveways. All other areas shall be at least 2 inches thick.

Temporary Resurfacing shall be placed as soon as the condition of the backfill is suitable, as determined by the Engineer, and shall remain in place until permanent resurfacing. Temporary resurfacing shall be flush with adjacent pavement.

306-13.2 Permanent Resurfacing [Replace the first paragraph with the following]:

Unless otherwise specified, surface improvements damaged or removed as a result of the Contractor's operations shall be reconstructed by the Contractor to the same dimensions, except for the pavement thickness, and with the same type of materials. Trench and excavation resurfacing shall be 1 inch (25 mm) greater in thickness than existing pavement, or 4 inches thick, whichever is greater. Trench edges shall be removed by saw cutting full-depth and shall be removed to clean, straight lines.

306-13.4 Base Course for Asphalt Concrete Pavement [Replace with the first paragraph with the following]:

The base course shall be a B gradation and shall be placed by either a spreader box, paving machine or "shoe" attachment.

306-13.5 Finish Course for Asphalt Concrete Pavement [Replace with the first sentence of the first paragraph with the following]:

The finish course shall be a C2 gradation.

SECTION 309 – MONUMENTS

309-2 MATERIALS [Replace the second paragraph with the following]:

Marker plates for survey monuments will not be furnished by the Agency.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS [Replace with the following]:

Traffic striping, curb and pavement markings, and pavement markers shall be in accordance with “SECTION E- SPECIAL PROVISIONS FOR THE CONSTRUCTION OF: CITY HALL RENOVATION PROJECT – PHASE II (CITY HALL) STREET IMPROVEMENTS, SIGNING/STRIPING” of these Special Provisions.

PART 4 – EXISTING IMPROVEMENTS

SECTION 400 – PROTECTION AND RESTORATION

400-1 GENERAL [Replace with the following]:

The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property which is not designated for removals.

The Contractor shall repair or replace all existing improvements which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations. When a portion of a sprinkler system must be removed, the remaining lines shall remain functional. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension. Temporary interruption of fire protection service to the DSO Building will be required to construct the new fire underground piping. Any interruption shall be subject to approval by the City and the County of San Bernardino Fire Department. During any period fire protection service is out of service, the Contractor shall provide and maintain an approved, continuous Fire Watch in accordance with the 2022 California Fire Code (CFC) Section 901.7, 3305.5, and 403.11 and Authority Having Jurisdiction requirements.

The Contractor shall provide full-time third-party Fire Watch personnel, or approved equal, and shall notify the City’s Project Manager in writing at least fourteen (14) calendar days prior to any planned interruption. A mandatory coordination meeting shall be held prior to interruption. Fire Watch logs and required documentation shall be submitted to the City’s Project Manager and County Fire Marshal no later than 9:00 a.m. of the following business day. All Fire Watch services, coordination, and documentation

shall be at the Contractor's expense and shall be considered as included in the Contractor's lump sum Bid for construction of the new City Hall Building.

Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall conform to "SECTION E- SPECIAL PROVISIONS FOR THE CONSTRUCTION OF: CITY HALL RENOVATION PROJECT – PHASE II (CITY HALL) STREET IMPROVEMENTS, SIGNING/STRIPING."

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be repaired by installing sod of similar variety as that which was removed. Installation shall be in accordance with the grower/supplier's instructions.

The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements which are designated for removal and would be destroyed because of the Work.

Contractor shall prevent tracking tack coat, asphalt concrete emulsions, etc. onto existing concrete such as driveways, cross gutters, spandrels, and other adjacent improvements by sanding or other methods approved by the Engineer. Any material tracked onto existing improvements shall be removed to the satisfaction of the Engineer and the Owner of the improvements, at the Contractor's expense.

The Contractor shall ensure that demolition of the existing building does not impact the adjacent building, which will remain occupied and fully operational throughout construction. The Contractor shall develop and implement a comprehensive plan to conduct the demolition of the existing City Hall, construction of the new City Hall building, DSO tenant improvements, and construction of the pedestrian bridge in a manner that allows all surrounding buildings to maintain normal operations with minimal disruption. Effective sound-dampening measures and noise-controlled construction methods shall be employed to significantly reduce noise impacts, and construction noise audible within adjacent office spaces shall not exceed 40 decibels during normal business hours. Particular attention shall be given to the reconstruction of the IDF room, which houses the existing building's telecom and data network, security infrastructure, and other equipment and appurtenances as included in the Contract Documents; all systems shall remain fully operational during normal business hours, and any required outages or reconfigurations shall be coordinated in advance and scheduled outside normal operating hours with appropriate temporary measures in place. The Contractor shall maintain safe and unobstructed access to all surrounding buildings at all times, including pedestrian walkways, emergency exits, ADA routes, and fire department access. Vibration-producing activities shall be monitored and controlled to prevent damage to sensitive equipment and to avoid disturbance to building occupants, and the Contractor shall conduct preconstruction condition surveys of all adjacent structures. Dust, debris, and airborne particulates shall be contained using appropriate barriers, filtration, and cleaning procedures to prevent migration into occupied spaces. The Contractor shall prepare and maintain a site-specific Safety and Occupant Protection Plan, including communication protocols, emergency response procedures, and daily coordination with facility management. Deliveries, haul-routes, and high-noise work shall be scheduled to avoid

peak occupancy hours unless otherwise approved by the Engineer. The Contractor shall provide advance written notice to the Agency and affected occupants of any work anticipated to cause temporary disruption a minimum of 72 hours in advance prior to work commencing.

SECTION 401 –REMOVAL

401-2 ASPHALT CONCRETE PAVEMENT [Add the following]:

The City will require the contractor to provide documentation of all asphalt paving removed from the project that has been taken to a recycling plant for later use in asphalt concrete or pulverized at the jobsite and re-used as base or sub-base material.

401-3 CONCRETE AND MASONRY IMPROVEMENTS

401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Curb Ramps, Driveway, and Alley Intersections [Add the following]:

Concrete shall be removed to neatly sawed edges with saw cuts made through the entire thickness. Concrete sidewalk or driveway to be removed shall be neatly sawed in straight lines either parallel to the curb or at right angles to the alignment of the sidewalk. Removals and replacements shall be joint to joint, or as determined by the Engineer. Curb and gutter shall be sawed on a neat line at right angles to the curb face.

SECTION 402 – UTILITIES

402-1 LOCATION

402-1.1 General. [Replace the third paragraph with the following]:

Before starting the Work, the Contractor shall physically locate subsurface installations within 24 inches of any side of excavations or utilities to be crossed or joined as required for the Work. The Contractor shall determine the horizontal and vertical location, alignment, depth, material type, and size of each subsurface installation. Excavation shall be performed pursuant to California Government Code Section 4216.4. The Contractor shall provide the subsurface installation location data to the Engineer within seven Days.

The Contractor shall notify the following agencies at least 48 hours in advance of excavating around any of their structures. The utility companies listed below, may or may not be a complete list of utility companies and it shall be the Contractor's responsibility for proper notification of all utility companies that may be within their work zone area. The City does not guarantee the correctness of any information provided with regards to contact person and contact numbers.

- Charter Communication- (formerly TWC)
Valerie Patao (909) 239-4790
1500 Auto Center Drive
Ontario, CA 91761

- AT & T
Robert Sturtevant (951) 359-2263
3073 Adams Street, 2nd Floor
Riverside, CA 92807
- AT & T California
Char Hinzo (858) 886-1288
Substructure Org/Riv/SB
7337 Trade St, Rm. 5685
San Diego, CA 92121
- Cal Trans – District 8 – (Permits)
Local Telephone: (909) 383-4526
Public Affairs
464 W. 4th Street
San Bernardino, CA 92401
- Cucamonga County Water District
Russel Silva (909) 987-2591
10440 Ashford St.
Rancho Cucamonga, CA 91730
- Fontana – Development Services Organization
(Sewers, Storm Drain and Landscaping)
Engineering/Construction (909) 350-7610
Public Works (Maint.Yard) (909) 350-6760
Traffic Signal (Traffic Sect.) (909) 350-6525
- Fontana Water Company
Jim Chapman (Field) (909) 822-9190
15966 Arrow Route
Fontana, CA 92335
- Inland Empire Utilities Agency (IEUA)
Lisa Munoz (Civil Engineer) (909) 993-1522
6075 Kimball Avenue
Chino, CA 91708
- Kinder-Morgan (formerly Santa Fe Pacific Pipeline)
Philip Vasquez (714) 560-4641
2000 East Sepulveda Blvd
Carson CA 90810
- Kinder-Morgan (formerly Santa Fe Pacific Pipeline)
Don Quinn (714) 560-4940

1100 Town & Country Road
Orange, CA 92868

- Marygold Mutual Water
Justin Brokaw (909) 877-0516
9725 Alder Avenue
Bloomington, CA 92316
- Metropolitan Water District of Southern California
Kieran Callahan (213) 217-6000
P.O. Box 54153
Los Angeles, CA 90054
- San Bernardino County Fire District
Chief Jeff Birchfield (909) 829-4441
15380 San Bernardino Ave
Fontana, CA 92334
- San Bernardino County Flood Control District
Ken Eke, M.S.C.E., P.E. (909) 387-7910
Larry Brock (909) 387-7910
825 East Third Street
San Bernardino, CA 92415
- Southern California Edison
Douglas Pendleton: (909) 357-6168
7951 Redwood Ave.
Fontana, CA 92336
- Southern California Edison
Map Requests
1444 E McFadden Ave "Bldg D"
Santa Ana CA 92705
- Southern California Gas Company
Geary Ambers (909) 335-7955
1981 W. Lugonia Ave
Redlands, CA 92374
- Union Pacific Railroad (402) 544-5000
1400 Douglas Street
Omaha, NE 68179
- Sprint Communications Company
Lynn Durrett (909) 873-8022
282 S. Sycamore Ave.
Rialto, CA 92376

- Frontier Communications
Desiree Serrano (909) 748-6640
9 S. 4th Street
Redlands, CA 92373
- West Valley Water District (909) 875-1804
Roger Pound
855 W. Base Line Road
Rialto, CA 92376
- Zayo Group (866) 364-6033
Attn: Network Control Center
1821 30th Street, Unit A
Boulder, CO 80301
- Century Link (918) 547-0007
Caleb King
100 South Cincinnati Ave, Suite 1200
Tulsa, OK 74103
- Crawford Canyon Water (909) 356-1815
Dennis Allard
6106 Cherry Avenue
Fontana, CA 92336
- USA Member Utility, Phone (913) 451-5641
9200 Indian Creek Parkway Suite 201
Overland Park, KS 66210

The Contractor shall notify separately, City of Fontana Public Services Division at (909) 350-6760 and Traffic Division at (909) 350-6777 for location of utility lines, landscape irrigation lines, traffic signals and communication conduits.

[Add the following to the fifth paragraph]:

Removals for utility locations shall be in accordance with Section 401.

402-2 PROTECTION [Replace the first paragraph with the following]:

The contractor shall not interrupt the service function or disturb the support of any utility without authority from the utility owner or direction from the Engineer. This includes modification and demolition of the DSO lobby, specifically the vestibule and Main Distribution Frame Room located within. The demolition of the DSO lobby to be protected and demolished in a separate phase from that of the City Hall building. Valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

[Add the following to the third paragraph]:

Utilities located within 24 inches of the location plotted on the plan shall not be considered as shown incorrectly.

The California Public Utility Commission mandates that, in the interest of public safety, main line gas valves be maintained in a manner to be readily accessible and in good operating condition. The Contractor shall notify the Southern California Gas Company's Headquarters Planning Office at (909) 793-2725 at least two (2) working days prior to the start of construction.

To the extent required by Government Code Section 4215, the Owner shall compensate Contractor for the costs of locating and repairing damage to utility facilities not due to the failure of Contractor to exercise reasonable care, and for removing or relocating main or trunk line facilities not indicated in the plans with reasonable accuracy, and for equipment necessary idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of Owner to provide for removal or relocation of such utility facilities.

402-4 RELOCATION [Replace with the following]:

When feasible, the owners responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of the Work by the Contractor. When the Plans or Special Provisions indicate that a utility installation is to be relocated, altered, or constructed by others, the Agency will conduct all negotiations with the owners and utility work will be done at no cost to the Contractor, except as otherwise specified in 403-1. Utilities which are relocated in order to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of work necessitating such relocation.

After award of the Contract, portions of utilities which are found to interfere with the Work will be relocated, altered or reconstructed by the utility owners, or the Engineer may order changes in the Work to avoid interference. Such changes will be paid for in accordance with 7-3 or 7-4.

When the Plans or Special Provisions provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such work shall be included in the Bid for the items of work necessitating such work. Temporary or permanent relocation or alteration of utilities requested by the Contractor for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.

The utility owner will relocate service connections as necessary within the limits of the Work. When shown on the Plans, or as directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. Payment for the relocation or reconnection of such service connections shall be included in the various Bid items. Payment will include the restoration of all existing improvements which may be affected thereby. The Contractor may agree with the owner

of any utility to disconnect and reconnect interfering service connections. The Agency will not be involved in any such agreement.

Contractor shall be responsible for adjusting gas and water valve covers during the paving operation to finished grade and the cost shall be deemed to be included as part of the paving cost.

The Contractor shall be aware of work to be performed per Southern California Edison Drawing No. 1864056_0.01. The Contractor shall be responsible for the modification of existing facilities and installation of new facilities in accordance with this plan. The Contractor shall be responsible for any coordination with Southern California Edison in regard to improvements shown in the above mentioned plan. Payment for modification of existing facilities, the installation of the proposed facilities, and any coordination with Southern California Edison per Drawing No. 1864056_0.01, will not be measured separately for payment.

402-6 COOPERATION [Add the following]:

The Contractor is responsible for all utility service charges related to the work during the course of construction and construction maintenance periods until the project has been accepted by the City. Payment for the utility service charges shall be deemed as included in the items of work as shown on the proposal Bid sheet and no additional compensation will be allowed.

By submitting a bid, the Contractor acknowledges the above referenced utility work to be done in conjunction with this project. The contractor shall schedule the work and conduct the operations so as to permit access and time for the required utility work to be accomplished during the progress of the work. The Contractor shall coordinate with each utility company as to the extent of the required work and the time required to do so. The Contractor shall include this time in the schedule. Payment for the above, including coordination, protection in place, and temporary connections, shall be deemed as included in the items of work as shown on the proposal Bid sheet and no additional compensation will be allowed.

SECTION 404 – COLD MILLING

404-1 GENERAL [Add the following]:

The Contractor shall remove existing overlay materials from gutters adjacent to any area specified to be cold milled, as directed by the Engineer. All terminations, or edges, of cold milling shall be vertical.

Temporary asphalt pavement shall be placed in header cuts at join lines with adjoining streets to provide smooth ramps for vehicular traffic. The temporary A.C. shall be placed after cold milling but prior to reopening the milled section of the road to traffic. The temporary A.C. shall be maintained in good condition by the contractor until the road is overlaid.

At minimum, flagger control, pilot car, and appropriate signage on the street and adjoining streets shall be provided whenever lane closure is in effect on any streets where two 12-foot wide travel lanes cannot be maintained for two-way traffic. Pilot car, flaggers, traffic control setup workers and foreman shall have radio communication with each other.

For lane closure of less than 500 feet in length where there is direct and clear sight between flaggers, a pilot car will not be necessary subject to approval by the Engineer.

The contractor shall cooperate with the various parties involved in the delivery of mail and the collection of trash and garbage to maintain existing schedules for these services.

Cold milling and pavement rehabilitation operations shall be conducted by the contractor in a manner to provide a reasonably satisfactory surface for traffic.

When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

The Contractor shall notify all affected property owners of the proposed schedule a minimum of forty-eight (48) hours, but not more than seventy-two (72) hours, in advance of any limitation or closure of access to their property. Form of said notice shall be as approved by the Engineer and shall contain the date and time of the closure. In the event of delay, whether beyond the control of the Contractor or not, the Contractor shall notify all affected property owners as to the extent of the delay and his revised schedule. In the event of delay over seventy-two (72) hours, the Contractor shall re-notify the property owners as described above.

404-2 MILLING MACHINES

404-2.1 General [Add the following]:

The Contractor shall provide smaller machines if required to cold mill areas that are inaccessible to larger machines.

404-10 PAVEMENT TRANSITIONS [Replace with the following]:

Structures and vertical joints within the cold-milled areas shall be ramped in conformance with 302-5.7 and 601-1. Ramps shall be constructed the same day as the existing pavement is cold milled and removed prior to placement of the permanent paving pavement.

PART 6 – TEMPORARY TRAFFIC CONTROL

SECTION 600 – ACCESS

600-1 GENERAL [Add the following]:

Safe and adequate pedestrian and vehicular access shall be provided and maintained at all times in the vicinity of the Work Zone. Access to all affected

residences/establishments shall be continuous and unobstructed unless otherwise approved by the Engineer.

Contractor shall not adversely affect public services, including but not limited to, emergency services, postal service, transportation, trash collection, access to DSO, etc. When necessary construction precludes such access, the Contractor shall make necessary arrangements and notify affected owners/residents/establishments and emergency services prior to any scheduled work.

600-2 VEHICULAR ACCESS [Add the following]:

When necessary construction precludes driveway access, Contractor shall provide advanced notification and make necessary arrangements with the affected owner/resident/establishment at least one week prior to such restriction.

SECTION 601– TEMPORARY TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

601-1 GENERAL [Replace paragraph 1 with the following]:

Temporary traffic control (TTC) for construction and work zones shall conform to Part 6 of the California MUTCD, or California Temporary Traffic Control Handbook (CATTCH), the Specifications, and the temporary traffic control plan (TCP) if so included with the Plans or required to be prepared by the Contractor and submitted as a Working Drawing.

[Replace paragraph 7 with the following]:

For temporary resurfacing, if the Contractor elects to base pave work areas flush with existing pavement in lieu of placing temporary asphalt until the permanent resurfacing takes place, the top finish course section of the AC base pavement will not be measured separately for payment and shall be included in the lump sum Bid price for “Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements.” For areas where the entire width of the street is to be fully replaced, the City may allow the Contractor to base pave and leave the AC low, except at primary/major highway intersections.

The Contractor shall conduct roadway construction operations in a manner that provides a surface safe for vehicular traffic. All transverse vertical changes of pavement elevations shall have a beveled edge of 8 horizontal to 1 vertical or as determined by the Engineer. All longitudinal changes of pavement elevations shall not be exposed to traffic per the Traffic Control Plan.

[Add the following]:

Unless otherwise authorized by the Engineer, the Contractor shall maintain a minimum of one (1) lane open in each direction at all times. In special cases, the City may deem it necessary to have more than one (1) travel lane.

If in the opinion of the Engineer the Work creates excessive traffic delay the Contractor shall be required to provide flaggers to minimize traffic delays.

The Engineer reserves the right to make any changes to the traffic controls at any time. Any directed changes shall supersede these plans and shall be implemented at the sole expense of the Contractor.

No street or access closure to through traffic will be allowed without the express approval of the Engineer.

Payment for the above, including temporary AC pavement, shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements." .

601-2 TEMPORARY TRAFFIC CONTROL PLAN (TCP)

601-2.1 General [Replace paragraph 1 with the following]:

Unless otherwise authorized by the Engineer, the Contractor shall submit a Temporary Traffic Control Plan. The Contractor shall include proposed temporary construction site fencing and pedestrian access on the TCP in which will be submitted for review and approval. The Contractor shall assume a minimum of three (3) rounds of review for approval of the TCP, and any future amendments thereto, and shall allow the City 28 Days for each round of reviews. The Contractor will not be permitted to perform any item of Work in which will encroach into areas where existing improvements are utilized for pedestrian or vehicular access prior to approval of the TCP.

601-3 TEMPORARY TRAFFIC CONTROL (TTC) ZONE DEVICES

601-3.4 Operations and Maintenance [Replace with the following]:

The Contractor shall be responsible for operation and maintenance of the TTC zone devices and services. The Contractor shall patrol and monitor the Work site to ensure that the TTC devices are in-place, properly positioned, and operational. The Contractor shall ensure that TTC devices are repaired, replaced, and cleaned as necessary, or as directed by the Engineer, to preserve their appearance and visibility. TTC devices that are damaged shall be repaired or replaced to the satisfaction of the Engineer. Operations and maintenance shall be completed within 48 hours.

601-3.5 Signs and Signage

601-3.5.1 General [Replace with the following]:

Unless otherwise specified, signs shall conform to the California MUTCD. Signs shall be in good working order and meet minimum retro reflectivity requirements.

Signage shall include all temporary signs required for the direction of traffic through or around the Work site. Sign placement shall conform to the California MUTCD and the TCP.

Temporary “No Parking” and “No Stopping” signs shall be installed at least 48 hours before enforcement. Temporary “No Parking” and “No Stopping” signs shall be installed and removed as specified in the Special Provisions.

601-3.6 Channelizing Devices

601-3.6.2 Cones, Tubular Markers and Channelizers [Add the following]:

All cones, tubular markers and/or channelizers shall be retroreflective. The retroreflective material shall not be removable.

601-3.7 Traffic Sign Enhancement Devices

601-3.7.8 Measurement [Replace with the following]:

Flags, high-level warning devices, PCMS, flashing arrow signs, warning lights, and flashing directional bars will not be measured separately for payment.

601-4 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS

601-4.4 Measurement [Replace with the following]:

Application and removal of temporary traffic striping and pavement markings will not be measured separately for payment.

601-6 COVERING OF EXISTING TRAFFIC SIGNS AND SIGNAL FACES [Replace with the following]:

601-6.1 General

Covering of any existing conflicting traffic signs and signal faces shall be performed in accordance with “ SECTION E - SPECIAL PROVISIONS FOR THE CONSTRUCTION OF: CITY HALL RENOVATION PROJECT – PHASE II (CITY HALL) STREET IMPROVEMENTS, SIGNING/STRIPING” of these Special Provisions

601-7 TEMPORARY TRAFFIC CONTROL GUIDELINES FOR WORK WITHIN OR ADJACENT TO RAILROAD RIGHT OF WAY [Add the following]:

When Contractor’s activities are within or are in the vicinity of rail facilities and/or the Pacific Electric Trail, temporary traffic control devices are required to facilitate the work, the

Contractor shall coordinate with the applicable rail authority with regard to the traffic control devices required. The traffic control activities shall be coordinated with the applicable rail authority prior to the start of work. Queuing of vehicles across tracks shall not be permitted unless approved by the railroad authority. This coordination and all required traffic control devices and measures shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

601-8 ADDITIONAL SAFETY PROVISIONS [Add the following]:

The Contractor shall be responsible for safe, efficient and adequate methods and equipment during the progress of the work in order to ensure the safety of the workmen and the traveling public. In this respect, the Contractor is responsible for all traffic control measures undertaken 24 hours a day, 7 days a week until the Work is completed. In case of an emergency or an accident within the project construction work zone, the Contractor shall respond within half an hour of the observed emergency by the City Representative or Law Enforcement Agency. If the Contractor fails to do so, the City will rectify the situation in a safe and efficient manner and all expenses incurred would be back charged to the Contractor.

Adequate provisions shall be made for pedestrians through a zone of "Temporary Traffic Control" and construction work zone area. The following criteria shall be followed when planning for pedestrians in the aforementioned areas.

1. Pedestrians shall not be led into conflicts with work site vehicles, equipment, and operations.
2. Pedestrians shall not be led into conflicts with vehicles moving through or around the work site.
3. Pedestrians shall be accommodated with a 48"-wide path through the construction work zone. The path shall be convenient, continuous and accessible in accordance with ADA requirements. The path must resemble, as nearly as practical, the most desirable characteristics of the existing sidewalk(s) or footpath(s). The plans for pedestrian paths must be approved by the City's Traffic Engineer.
4. Consideration shall be given to separate pedestrian movements from both work site activity and vehicular traffic. When pedestrian movement through or around a work site is necessary, a separate usable footpath shall be provided. If the previous pedestrian facility was accessible to pedestrians with disabilities, the footpath provided during temporary traffic control shall, likewise, be in compliance with the ADA standards. When pedestrian and vehicle paths are rerouted to a closer proximity to each other, a temporary traffic barrier shall be utilized. If a temporary traffic barrier is utilized to shield pedestrians, it should be designed to

accommodate site conditions.

The Contractor shall assume the defense of and indemnify and hold harmless the City and its officers and agent from all claims of any kind arising from the Contractor's own negligence or that of the Contractor's agents in the performance of the work under this contract.

The Contractor shall be responsible for the custody of any material or traffic control furnished by the Contractor and for the care of all work until its completion and final acceptance and the Contractor shall at the Contractor's own expense, replace damaged or lost material and repair damaged parts of the work, or the same may be done at Contractor's expense by the City.

PART 7 – STREET LIGHTING AND TRAFFIC SIGNAL SYSTEMS

SECTION 700 – MATERIALS [Replace with the following]:

All work shown on the plans and contract bid specifications Section "E" shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements." .

PART 8 – LANDSCAPING AND IRRIGATION

SECTION 800 – MATERIALS

All landscape work shall be done in accordance with the "CITY OF FONTANA STANDARD LANDSCAPE SPECIFICATION MANUAL FOR CITY MAINTAINED STREETSCAPES, CFD's AND PARKS."

800-1 LANDSCAPING MATERIALS.

800-1.4 Plants [Add the following]:

All damage and reworked landscape areas shall be replaced to match the existing and to the satisfaction of the **City**.

SECTION 801 – INSTALLATION

801-8 PAYMENT

Payment for all landscaping and irrigation work as shown on the plans and the contract bid specifications shall be included in the lump sum Bid price for "Demolition Of Existing City Hall Building And Construction Of New City Hall Building, Tenant Improvements Within The Development Services (DSO) Building And All Related On-Site And Off-Site Improvements."

APPENDIX I
APPLICABLE STANDARD PLANS/DETAILS



CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

STD #	SHEETS	SECTION 1000 - STREETS	DATE APPROVED
1000	4	Curb & Gutter	9/7/2023
1001	4	Residential, Commercial, Industrial Driveway Approach	4/7/2021
1002	N/A	Not Used	
1003	3	Curb Return Access Ramp	10/23/2023
1004	N/A	Not Used	
1005	2	Standard Bus Bay	4/7/2021
1006	2	Sidewalks	7/18/2022
1007	1	Hot Mix Asphalt Concrete Dike	4/7/2021
1008	3	Roadway Repair and Trench Backfill	4/7/2021
1009	3	Trench Plate Bridging	4/7/2021
1010	1	Typical Undivided Street Sections	10/23/2023
1011	1	Typical Divided Street Sections	10/23/2023
1012	1	Street Design Requirements	8/30/2018
1013	2	Cross Gutter and Spandrel	10/23/2023
1014	1	Cul-De-Sac	10/18/2006
1015	1	Offset Cul-De-Sac	10/18/2006
1016	1	Standard Knuckle (Intersection and "L" Shape Design)	10/18/2006
1017	4	Street Lights	11/30/2022
1018	1	Access Management Requirements	4/28/2022



CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

STD # SHEETS		SECTION 2000 - SEWER	DATE APPROVED
2000	2	Standard Manhole Frame, Cover & Collar	7/20/2023
2001	2	Standard Manhole Cast in Place for Sewer	1/8/2008
2002	1	Standard Drop Manhole for 6" to 36" Pipe	10/18/2006
2003	1	Typical Sewer Manhole Bases	5/12/2016
2004	1	Sewer Terminal Cleanout	10/18/2006
2005	1	Sewer Lateral Cleanout	12/15/2014
2006	1	Concrete Sewer Cleanout Box	10/18/2006
2007	1	Plastic Sewer Cleanout Box	10/18/2006
2008	2	Sewer Saddle	10/18/2006
2009	2	Pipe Bedding Detail for PVC and VCP Sewers	10/20/2020



CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

STD #	SHEETS	SECTION 3000 - STORM DRAIN	DATE APPROVED
3000	1	Discharge Structure	10/18/2006
3001	1	Under Sidewalk Drain	10/18/2006
3002	1	Residential Curb Drain	10/18/2006
3003	3	Local Depressions at Catch Basins	10/18/2006
3004	2	Curb Opening Catch Basin	10/18/2006
3005	2	Monolithic Catch Basin Connection	10/18/2006
3006	2	Grate Catch Basin Reinforcement	10/18/2006
3007	6	Catch Basin Face Plate Assembly and Protection Bar	10/18/2006
3008	2	Catch Basin Manhole Frame and Cover	10/18/2006
3009	2	Junction Structure Pipe to Pipe (ID < 24")	10/18/2006
3010	2	Junction Structure Pipe to Pipe Inlet ID < 24" or OD > 1/2 Main Line ID	10/18/2006
3011	4	Manhole Pipe to Pipe (Large Side Inlet)	10/18/2006
3012	4	Manhole Pipe to Pipe (ID = 36" or Larger)	10/18/2006
3013	3	Manhole Pipe to Pipe (One or Both Main Line ID's 33" or Smaller)	10/18/2006
3014	2	Manhole Shaft with Eccentric Reducer	10/18/2006
3015	2	Manhole Shaft 36" Without Reducer	10/18/2006
3016	2	Pressure Manhole Shaft with Eccentric Reducer	10/18/2006
3017	2	Pressure Manhole Shaft and Pressure Plate Detail 36" Without Reducer	10/18/2006
3018	2	Manhole Frame & Cover Pressure Type	10/18/2006
3019	2	24" Manhole Frame and Cover	10/18/2006
3020	1	Headwall - Wing Type	10/18/2006
3021	3	Trash Rack Inclined	10/18/2006
3022	2	Concrete Collar for RCP 12" Through 72"	10/18/2006
3023	2	36" Manhole Frame and Cover	10/18/2006
3024	2	Steel Step	10/18/2006
3025	3	Pipe Connections to Existing Storm Drains	10/18/2006
3026	2	Transition Structure Pipe to Pipe	10/18/2006
3027	2	Standard Manhole Frame, Cover & Collar	8/10/2023



CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

STD #	SHEETS	SECTION 4000 - TRAFFIC	DATE APPROVED
4000	1	Barricade, End-Of-Roadway	10/18/2006
4001	2	Speed Humps	7/20/2022
4002	N/A	Not Used	
4003	4	Sign Installation (Ground Mount)	2/24/2022

STD #	SHEETS	SECTION 4100 - TRAFFIC SIGNAL	DATE APPROVED
4100	1	Cabinet Foundation, Type R	12/10/2015
4101	2	Video Detection (Solo Terra, RVP2, Iteris)	7/20/2018
4102	6	Sign Installation (Overhead Street Name)	2/24/2022
4103	2	P48 Pull Box Details	11/13/2019
4104	1	CCTV Camera/Cable Installation and Orientation	4/7/2021
4105	1	Loop, Traffic Detection, Type QC	1/29/2018

STD #	SHEETS	SECTION 5000 - LANDSCAPE	DATE APPROVED
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CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

5001	1	Typical Hose Connection	10/18/2006
5002	1	Controller Placement Detail	10/18/2006
5003	1	Rain Sensor	10/18/2006
5004	1	Rain Guard	10/18/2006
5005	3	Irrigation Controller	3/15/2022
5006	1	Tipping Bucket	10/18/2006
5007	2	Typical Backflow "Fertilization"	12/2/2019
5008	1	Typical Backflow "Private"	10/18/2006
5009	1	Typical Backflow	10/18/2006
5010	1	Flow Meter/Master Valve	3/15/2022
5011	1	Typical Brass Remote Control Valve Detail	3/15/2022
5012	1	Automatic Antisiphon Valve	10/18/2006
5013	1	Wire Connector	10/18/2006
5014	1	Wire Connector	10/18/2006
5015	1	Trenching Detail	10/18/2006
5016	1	Piping and Wiring	10/18/2006
5017	1	Splice Box Assembly	3/15/2022
5018	1	Sleeving Detail	10/18/2006
5019	1	Gate Valve	3/15/2022
5020	1	Thrust Block Assembly	10/18/2006
5021	1	Quick Coupler	3/15/2022
5022	1	Swing Joint	10/18/2006
5023	1	Lawn 4", 6" 8" Shrub Pop-up Head	10/18/2006
5024	1	Hi Popup Shrub Head	10/18/2006
5025	1	Shrub Spray Head	10/18/2006
5026	1	Bubbler Head	10/18/2006
5027	1	Shrub Rotor	10/18/2006
5028	1	Irrigation at Top of Slope	10/18/2006

STD # SHEETS

SECTION 5000 - LANDSCAPE (p. 2)

DATE
APPROVED

10/23/2023



CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

5029	1	Shrub Rotor on Slope	10/18/2006
5030	1	Oscillation Head Assembly	10/18/2006
5031	1	Tree Staking	10/18/2006
5032	1	Tree Guying	10/18/2006
5033	1	Tree Placement	10/18/2006
5034	1	Palm Tree Installation	10/18/2006
5035	1	Shrub Planting	10/18/2006
5036	1	Shrub on Slope	10/18/2006
5037	1	Vine Planting	10/18/2006
5038	1	Automatic Drip Valve	3/15/2022
5039	1	Emitter	3/15/2022
5040	1	Emitter Layout	10/18/2006
5041	1	Pot Irrigation	10/18/2006
5042	1	Drip Emitter	10/18/2006
5043	1	Redwood Header Board	10/18/2006
5044	1	Concrete Mow Curb	3/15/2022
5045	1	Typical Rock Treatment	12/2/2019
5046	3	Tree Grates	1/16/2015
5047	1	Valve Box Installation	3/15/2022

STD #	SHEETS	SECTION 6000 - MISCELLANEOUS	DATE APPROVED
6000	1	Gate Valve Adjustments	10/18/2006

10/23/2023



CITY OF FONTANA DESIGN STANDARDS

Link to Location on City Website:

<https://www.fontanaca.gov/3483/Design-and-Construction-Standards>

6001	4	Blue Dot Marker Placement	10/18/2006
6002	2	Storm Drain Inlet Signage	10/18/2006
6003	2	Project Sign	11/7/2022
6004	2	Sewer and Storm Drain Easement Widths	10/18/2006
6005	1	Underground Utility Location	5/12/2016

APPENDIX II
SOLID WASTE DISPOSAL AND RECYCLING
REPORT

Fontana Construction & Demolition Disposal Regulations

Per City Code [Sec. 24-15 (a)], self-hauling of refuse from a construction or demolition site is not permitted. Contractors/homeowners wishing to self-haul recyclable materials must own the collection container and vehicle that the recyclable materials are hauled in, and obtain a self-haul permit from the City.

Residential C&D Projects

Temporary Containers (7-day rental) for construction & demolition or clean-up projects can only be ordered from the City's Franchised hauler, Burrtec Waste Industries. Containers should be entirely on residential property and should not extend into the public right-of-way. Call Code Compliance Department for permission if container will be on property for longer than two weeks. Residential properties that are part of a Homeowners Association (HOA) may have to obtain approval for placement of temporary containers from the HOA.

Multi-Family, Commercial, and Industrial C&D Projects

Temporary Containers (7-day rental) and Permanent Containers for construction & demolition projects can be ordered from the City's Franchised hauler, Burrtec Waste Industries.

Burrtec Construction and Demolition Processing Facilities

To get started please call: (909) 822-9739

Burrtec Fontana Division

9820 Cherry Ave. • Fontana, CA 92335

West Valley MRF - (909) 889-0911

13373 Napa Street • Fontana, CA 92335

Agua Mansa MRF - (951) 786-0655

1830 Agua Mansa Road • Riverside, CA 92509

Important Phone Numbers

Building & Safety	(909) 350-7640
Code Compliance.....	(909) 854-8020
Economic Development	(909) 350-6741
Engineering.....	(909) 350-7610
Planning.....	(909) 350-7640
Police Department (Office Hours).....	(909) 350-7740
Police Department (Non-emergency 24-hour).....	(909) 350-7700
Public Works	(909) 350-6760
Mid-Valley Landfill Info.	386-8701
CA Recycling Info.....	1-800-CLEAN-UP
CA Redemption Center Info	1-800-732-9253
Co. Household Haz. Waste	1-800-645-9228
Commercial Hazardous Waste Waste Exchange Program	
SB Co. Environmental Health	884-4056
Pest Control	

City of Fontana Construction & Demolition Recycling Program



BURRTEC
"We'll Take Care Of It"

www.burrtec.com



Why Recycle Construction and Demolition Debris?

Reuse and recycling of C&D materials is a key component of sustainable or green building construction. The efficient use of resources is a fundamental principal of green building construction. This means reducing, reusing and recycling most if not all material that remain after a construction or renovation project. Many of these materials can be reused or recycled, thus prolonging our supply of natural resources and potentially saving money in the process.

How Do I Start?

There are many ways to recycle and reduce waste on your job site. The following are some basic recommendations:

Plan Ahead - Prior to starting your project, contact Burrtec to find out what options will work best for your site. Planning ahead will assist in diverting as much material as possible and as cost effectively as possible.

Source Separation - Provide one container on your site for one specific kind of material, such as wood, concrete, asphalt, cardboard, landscaping or metal.

Mixed Recycling Containers - Providing one container for mixed recyclables is ideal for projects with space limitations or that generate a large amount of varied materials at once.

Reuse or Donations - Depending on the characteristics of your project, you may have the opportunity to reuse or donate items.

What is LEED and CALGreen?

Leadership in Energy and Environmental Design, LEED, is helping to deliver energy and water efficient, healthy, environmentally-friendly, cost saving buildings, homes and communities. Projects earn points to satisfy green building requirements. Within each of the LEED credit categories, projects must satisfy prerequisites and earn points. The number of points the project earns determines its level of LEED certification. For the purposes of Solid Waste and Recycling, these points are in the area of Materials & Resources credits which encourage using sustainable building materials and reducing waste. Other credit categories include, sustainable sites, water efficiency, energy and atmosphere, and indoor environmental quality.

CALGreen is the California statewide Green Building Code. It is composed of several parts. The basic CALGreen code, which is mandatory, must be adopted by all local jurisdictions prior to January 1, 2017. For the purposes of Solid Waste and Recycling, a project site must divert at least 65% of construction waste from the landfill.

How Burrtec Will Help

Burrtec's C&D program assists in meeting new State regulations that require construction and demolition projects to divert 65% of C&D materials from local landfills. Burrtec can facilitate compliance, providing a minimum of 77% waste diversion guarantee on construction and demolition mixed waste disposal at our West Valley Material Recovery Facility. The program also helps to comply with local ordinance requirements, LEED certification and CalGreen building standards. Burrtec is a one stop solution for your C&D material; we can take care of it all or meet specific needs. Burrtec will partner with customers to develop on-site solutions, provide equipment, transport the material, process the material and report diversion and recycling data.

Typical Construction and Demolition Material

- Wood (tree trimmings, construction/demo wood, palm, cabinets, furniture)
- Mixed C&D
- Inerts (concrete, brick, gravel)
- Asphalt based – composite roofing
- Metal
- Tires
- Cardboard
- Injection molded plastic
- Mattresses
- Gypsum wall board
- Carpet and pad

Types of Containers



1.5 - 3 yard temporary and permanent bins



10 - 40 yard debris roll-off boxes



Project Name:		Type of Work:		Ongoing Report <input type="checkbox"/>	Final Annual Report <input type="checkbox"/>		
Contract Number:		Report for Calendar Year _____		[Note: Separate reports needed for each calendar year]			
Contractor Name:		Phone Number: _____		Fax: _____			
Street Address		City, State, Zip					
Contractor Certification: I certify under penalty of perjury that the information provided in this form is complete and accurate.							
Signature:		Print Name and Title:		Date of Report:			
*NOTE: Earth and rock material must not be reported as either waste material diverted from or disposed of in landfills.							
NAME AND LOCATION OF RECYCLING OR DISPOSAL FACILITY (OR ENTER "REUSED" FOR MATERIALS GENERATED AND REUSED ON THIS JOB)	CHECK IF RECYCLER	CHECK IF LANDFILL	TYPE OF MATERIAL (Enter a letter for each type on a separate line): A = Asphalt Concrete; C = Concrete; M = Metal; D = Mixed Debris; W = Wood/Cleared Vegetation; O = Other [Please Describe] *See note above	TYPE OF ACTIVITY (Enter one activity per line) 1 = Source - Separated Materials Recycling 2 = On-Site Reuse 3 = Mixed Debris Recycling 4 = Reuse of Salvageable Items 5 = Disposal at Landfill or Transfer to Station 6 = Other [Please Describe] ^{††}	AMOUNT TAKEN TO LANDFILL (TONS)	AMOUNT DIVERTED FROM LANDFILLS TO A RECYCLING FACILITY (TONS)	AMOUNT GENERATED AND THEN REUSED ON THIS JOB (TONS)
1							
2							
† Describe Material:							
†† Describe the Activity:							
I have reviewed the information submitted in this report for completeness.							
Resident Engineer's Name (Please Print):				Phone Number:			
Signature:				Date:			
3							

City of Fontana

SOLID WASTE DISPOSAL AND RECYCLING REPORT - INSTRUCTIONS

Section 1: To be completed by the contractor

Project Name: Give a brief description of the project, e.g., "Route 1 widening in Fort Bragg, CA"

Type of Work: Enter a general work description, e.g. "AC Grinding"

Ongoing Report: Checking this box means this is an annual report for a continuing project. More reports will follow this one

Final Annual Report: Checking this box means this report is for the calendar year of contract acceptance

Contract Number: Enter District/EA

Co./Rte/PM: Enter County/Route/Post-Mile

Report for Calendar Year: The calendar year for which data was collected - January 1 to December 31 [Note: This report is an annual report. A separate report is needed for each calendar year]

Company Information: Contractor Name, Phone Number, Fax Number, Street Address, City, State and Zip

Contractor Certification: I certify under penalty of perjury that the information provided in this form is complete and accurate.

Contractor should verify the data entered on this form, then sign the report and print your name, title, and date.
Return this report to the resident engineer by January 15 of each calendar year or within 15 days of contract acceptance.

Section 2: To be completed by the contractor

To count towards diversion, "solid waste" is defined as including any solid waste which would normally be disposed of at a disposal facility (PRC Section 41781 (b))

***NOTE: Earth and rock material must not be reported as either waste material diverted from or disposed of in landfills.**

NAME AND LOCATION OF RECYCLING OR DISPOSAL FACILITY (or enter "reused" for materials generated and reused on this job)

Each address should be checked as either landfills or recycler. When using a recycling facility that exists inside a landfill, check recycler and do not check landfill. When the solid waste is generated and reused on the job, the word "Reused" should be entered in place of the address.

TYPE OF MATERIAL Enter a letter for each type on a separate line:

A = Asphalt Concrete, C = Concrete; M = Metal; D = Mixed Debris; W = Wood/Cleared Vegetation; O = Other

[Describe the material when "Other" is selected]ⁱ

TYPE OF ACTIVITY Enter a number for each activity one per line:

1 = Source-Separated Materials Recycling; 2 = On-Site Reuse; 3 = Mixed Debris Recycling; 4 = Reuse of Salvageable Items;

5 = Disposal at Landfill or Transfer to Station; 6 = Other [Describe the activity when "Other" is selected]ⁱⁱ

AMOUNT TAKEN TO LANDFILL (Tons): Enter the amount of any solid waste, in tons, that is generated on this project and taken to a landfill.

AMOUNT DIVERTED FROM LANDFILLS TO A RECYCLING FACILITY (Tons): Enter the amount of any solid waste, in tons, that is generated on this project and taken to a recycling facility.

Solid waste from this job that is used in other projects, given to other agencies (county, city, etc.) or given to private individuals for reuse will be entered as taken to a recycling facility. In this case, check the activity as "Other" and describe who gets the solid waste in the row for other activity. (e.g. given to county, city or developer)

AMOUNT GENERATED AND THEN REUSED ON THIS JOB (Tons): Enter the amount of any solid waste, in tons, that is generated on this project and then reused.

TOTAL SOLID WASTE FROM EACH JOB SHOULD APPROXIMATE THE SUM OF THE THREE QUANTITIES ABOVE.

For calculating weights, some volume to weight conversions may be needed. These conversion factors may be found at the California Integrated Waste Management Board's (CIWMB) web site at:

<http://www.ciwmb.ca.gov/LGLibrary/DSG/AppendixI.htm#Conversion>

Section 3: To be completed by the resident engineer

I have reviewed the information submitted in this report for completeness.

Resident engineer please review the report. If the form is complete, sign and print your name, phone number, and date.
Discuss and resolve with the contractor any deficiency on the form.

APPENDIX III
GEOTECHNICAL INFORMATION
(SUBSURFACE DATA)

Geotechnical Evaluation City Hall Renovation Phase II 8353 Sierra Avenue Fontana, California

City of Fontana
8353 Sierra Avenue | Fontana, California 92335

March 5, 2025 | Project No. 212823001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

Geotechnical Evaluation
City Hall Renovation Phase II
8353 Sierra Avenue
Fontana, California

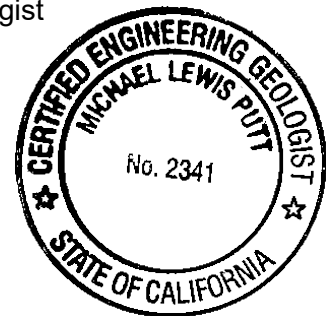
Mr. Sid Lambert
City of Fontana
8353 Sierra Avenue | Fontana, California 92335

March 5, 2025 | Project No. 212823001

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APPENDICES

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1 INTRODUCTION

In accordance with your request and authorization, Ninyo & Moore has performed a geotechnical evaluation for the proposed City Hall Renovation Phase II project located at 8353 Sierra Avenue in Fontana, California (Figure 1). The purpose of our study was to evaluate the soil and geologic conditions at the site in order to provide geotechnical recommendations for the design and construction of the proposed structure and associated improvements. This report presents our geotechnical findings, conclusions, and recommendations regarding the project improvements.

2 SCOPE OF SERVICES

The scope of our geotechnical services included the following:

- Project coordination, planning, and scheduling for the subsurface exploration.
- Review of readily available background information, including in-house published geotechnical literature and geologic maps, fault and seismic hazard maps, topographic maps, and stereoscopic aerial photographs.
- Acquisition of a San Bernardino County Environmental Health Services well permit for drilling borings deeper than 20 feet.
- Preparation of a site-specific health and safety plan to support our field exploration activities.
- Geotechnical site reconnaissance to observe the general site conditions, mark the boring locations, and coordinate with Underground Service Alert for utility clearance.
- Performance of a geophysical survey to clear the boring locations of underground utilities and obstructions prior to drilling.
- Subsurface exploration consisting of drilling, logging, and sampling of nine hollow-stem auger borings with a truck-mounted drill rig to depths ranging from approximately 1.4 to 80.3 feet below the ground surface. The borings were logged by a representative from our firm, and bulk and relatively undisturbed soil samples were collected at selected depth intervals for laboratory testing. In accordance with the San Bernardino County requirements, borings deeper than 20 feet were backfilled with cement-bentonite grout and soil cuttings were drummed and disposed of offsite. Borings shallower than 20 feet were backfilled with soil cuttings.
- Field percolation testing in four of the borings in order to evaluate the infiltration rate of the site soils.
- Laboratory testing on selected representative soil samples to evaluate in-situ moisture content and dry density, percentage of soil particles finer than the No. 200 sieve, Proctor density, direct shear strength, consolidation, R-value, and corrosivity.
- Data compilation and engineering analysis of the information obtained from our background review, subsurface evaluation, and laboratory testing.
- Preparation of this geotechnical report presenting our findings, conclusions, and geotechnical recommendations pertaining to this project.

3 SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The project site is located at the existing Fontana City Hall at 8353 Sierra Avenue in Fontana, California (Figure 1). The site is bounded by Upland Avenue to the north, Sierra Avenue to the west, an existing building to south, and a parking lot to the east. The site is relatively flat with elevations ranging from approximately 1,290 to 1,295 feet above the mean sea level (Valued Engineering, 2024). The site is currently developed with the existing single-story City Hall Building and an asphalt-concrete (AC) parking lot. Based on our review of historical aerial photographs, a small building was previously located on the eastern to southeastern sides of the project site. The building appears to have been constructed between 1938 and 1948 and demolished between 1959 and 1966 (Historical Aerials, 2024).

We understand that the project consists of demolishing the existing single-story City Hall building and constructing a two-story municipal building to serve as office space for city staff as well as public and employee parking. The proposed building will have parking and office spaces on the first floor and office spaces on the second floor. Each floor will have a footprint of approximately 35,000 square feet. The parking structure portion of the building is anticipated to have approximately 40 parking spaces. A pedestrian bridge is proposed to connect the new City Hall building to the existing Development Services Building to the south. The bridge will be a second-floor walkway with a canopy structure and will be located over an at-grade walkway. We anticipate that additional improvements associated with the project will include new utilities, pavements, and landscaping adjacent to the new structure. Additionally, we understand that the City of Fontana is planning to incorporate stormwater infiltration at the site. We understand that the stormwater infiltration features may consist of an underground infiltration tank, surface bioswales, or deeper infiltration using drywells. Site plans were not available at the time of this report.

We previously performed a geotechnical evaluation for the City Hall Renovation Phase I project and presented our results in our report dated March 19, 2024 (Ninyo & Moore, 2024b). The two-story municipal building is under construction at the time of this report and is located on the adjacent property east of the City Hall building.

4 SUBSURFACE EXPLORATION AND LABORATORY TESTING

Our subsurface evaluation was performed on October 14 through 18, 2024, and consisted of drilling, logging, and sampling of nine small-diameter borings (B-1 through B-3 and P-1 through P-4B) to depths ranging from approximately 1.4 to 80.3 feet. The exploratory borings were drilled using truck and track-mounted drill rigs fitted with 8-inch-diameter augers. The borings were logged by a representative from our firm and bulk and relatively undisturbed soil samples were obtained at selected depths for laboratory testing.

In-situ percolation testing was performed in borings P-1, P-2, P-3B, and P-4B to evaluate the infiltration rates of the on-site soils. Borings P-3A and P-4A encountered a flat concrete surface and were halted to avoid damage and were relocated. Details regarding the percolation testing are provided in the Field Percolation Testing Section of this report. The approximate locations of the borings and percolation tests are presented on Figure 2. The boring logs are presented in Appendix A.

Laboratory testing of representative soil samples included tests to evaluate in-situ moisture content and dry density, percentage of soil particles finer than the No. 200 sieve, Proctor density, direct shear strength, consolidation, R-value, and corrosivity. The results of our in-situ moisture content and dry density tests are presented on the boring logs in Appendix A. The remaining laboratory tests are presented in Appendix B.

5 GEOLOGY AND SUBSURFACE CONDITIONS

5.1 Regional Geology

The subject site is located in the northern margin of the Perris Block subunit of the Peninsular Ranges geomorphic province of southern California (Norris and Webb, 1990). The Peninsular Ranges Geomorphic Province encompasses an area that extends approximately 125 miles from the Transverse Ranges and the Los Angeles Basin south to the Mexican border, and beyond another approximately 775 miles to the tip of Baja California. The Peninsular Ranges province varies in width from approximately 30 to 100 miles and is characterized by northwest-trending mountain range blocks separated by similarly trending northwest-trending faults. The Perris Block lies between the Los Angeles Basin and the San Jacinto Mountains to the east. The site lies within the relatively deep alluvial portion of the San Bernardino drainage basin. Geologic mapping by Morton and Miller (2006) indicates that the site is underlain by late Holocene-age young alluvial-fan deposits consisting of unconsolidated to slightly consolidated coarse-grained sand to bouldery deposits. A regional geologic map for the site vicinity is shown on Figure 3.

5.2 Site Geology

Materials encountered during our subsurface exploration consisted of pavement sections, fill, and alluvium. AC was encountered in borings B-1 through B-3, P-3B, and P-4B and ranged in thickness from approximately 4 to 5 inches. Portland Cement Concrete (PCC) was encountered in borings P-1 through P-3A and P-4A and ranged in thickness from approximately 3.5 to 6 inches. Aggregate base was encountered beneath the PCC in boring P-1 and consisted of approximately 1 inch of moist, dense, poorly graded gravel with silt and sand.

Fill was encountered beneath the pavement sections in each boring to depths ranging from approximately 2 to 8 feet below the ground surface. The fill generally consisted of moist, medium dense to dense poorly graded gravel with silt and sand, poorly graded sand with silt, and silty sand. Variable amounts of gravel and cobbles were encountered in the fill. In borings P-3A through P-4B, concrete and asphalt debris were encountered in the fill. In borings P-3A and P-4A, a flat concrete surface was encountered at depths of approximately 1.4 and 2 feet, respectively, which resulted in drilling refusal. The borings were moved approximately 9 feet to the east and were drilled to the planned depths (borings P-3B and P-4B). Based on our review of historical aerial photographs, borings P-3A through P-4B are located within the footprint of a previous building on the site. The concrete surfaces encountered in borings P-3A and P-4A may be foundation remnants from the previous building. Additionally, the 8 feet of fill encountered in boring P-4B may be associated with the demolition of the previous building.

Alluvium was encountered beneath the fill to the explored depths of up to approximately 80.3 feet. The alluvium generally consisted of moist, loose to very dense poorly graded gravel with silt and sand, silty gravel with sand, poorly graded sand, poorly graded sand with silt, silty sand, and sandy silt. Variable amounts of gravel and cobbles were encountered in the alluvium. More detailed descriptions of the subsurface materials encountered during our exploration are presented on the boring logs in Appendix A.

5.3 Groundwater

Groundwater was not encountered in our exploratory borings during drilling to the explored depths of up to approximately 80.3 feet. Groundwater well data from the California Department of Water Resources' Water Data Library (2024) website indicates that groundwater was measured at a depth of approximately 614 feet below the ground surface in 2024 in a groundwater supply well located approximately 0.8 miles north of the site. Additionally, in a groundwater supply well located approximately 1.5 miles southeast of the site, groundwater was measured at a depth of approximately 400 feet below the ground surface in 2000. Fluctuations in groundwater levels will occur due to variations in precipitation, ground surface topography, subsurface stratification, irrigation, groundwater pumping, and other factors that may not have been evident at the time of our field evaluation.

6 FIELD PERCOLATION TESTING

Percolation testing was performed on October 16 and 17, 2024 in borings P-1, P-2, P-3B, and P-4B in general accordance with the San Bernardino County Technical Guidance Document for Water Quality Management Plans (San Bernardino County, 2013). The testing was performed to evaluate the infiltration rate of the on-site soils for use in the design of the proposed infiltration

improvements. The percolation tests were performed at the locations and depths provided by the client. The approximate locations of the percolation test borings are shown on Figure 2.

A 2-inch-diameter slotted polyvinyl chloride (PVC) pipe was placed in the borehole and the annulus between the borehole wall and pipe was backfilled with clean gravel to avoid caving in the test zone. In borings P-1 and P-4B, the depths of the infiltration zone were from approximately 6 to 11 feet. In borings P-2 and P-3B, the depths of the infiltration zone were from approximately 20 to 26 feet. The infiltration zone was pre-soaked with water prior to performing percolation testing. Falling-head percolation testing was conducted by placing clean water in the PVC pipe to establish a head of water and the rate at which the water level dropped in the pipe at consecutive time intervals (approximately 10 minutes) was measured. The test readings were repeated for a minimum of one hour and the test was concluded when a stabilized rate of drop was obtained, which is considered when the highest and lowest of three consecutive readings are within 10 percent of each other. The percolation rate during the last reading was utilized for the calculation of the field infiltration rate. The field infiltration rates are presented in Table 1.

In accordance with Appendix D of the San Bernardino County guidelines, a Suitability Assessment Safety Factor, S_A , of 1.25 is recommended based on the geotechnical considerations. This safety factor should be multiplied by the Design Safety Factor, S_B , to obtain the Combined Safety Factor (S_{TOT}). The S_B safety factor should be determined by the design engineer. The combined safety factor should not be less than 2.0, but may be higher at the discretion of the design engineer. The combined safety factor should be applied to the field infiltration rate to obtain the Design Infiltration Rate. For the purposes of this evaluation, we have assumed a combined safety factor of 2; however, this value should be adjusted as needed by the design engineer during the detailed design phase. The design infiltration rates based on a safety factor of 2 are presented in Table 1.

Table 1 – Percolation Test Results				
Test Boring	Approximate Depth Tested (feet)	Field Infiltration Rate (inches/hour)	Safety Factor	Design Infiltration Rate (inches/hour)
P-1	6.0 – 11.3	10.0	2.0	5.0
P-2	20.0 – 26.1	7.2	2.0	3.6
P-3B	20.0 – 26.0	11.2	2.0	5.6
P-4B	6.0 – 11.0	10.1	2.0	5.1

7 FLOOD HAZARDS

Based on our review of flood insurance rate maps for the project area (Federal Emergency Management Agency [FEMA], 2008), the project site is not located in the 100-year Flood Hazard Zone, A99. Zone A99 includes areas to be protected from a 100-year flood by the Federal Flood

Protection System under construction at the time of publication of the FEMA map; no base flood elevations are given. The site is located within Zone X, an area of minimal flood hazard.

8 FAULTING AND SEISMICITY

The project site is located in a seismically active area, as is the majority of southern California. The numerous faults in California include active, potentially active, and inactive faults. As defined by the California Geological Survey (CGS), active faults are faults that have ruptured within Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years) but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years. The approximate locations of major active faults in the region and their geographic relationship to the project sites are shown on Figure 4. The nearest mapped active faults to the site are the Cucamonga and San Jacinto faults, located approximately 5.0 and 5.4 miles northwest and northeast of the site, respectively (USGS, 2024a). The active San Andreas fault is located approximately 9.0 miles northeast of the site. The potentially active Fontana fault is located approximately 0.9 miles northwest of the site.

Based on our review of seismic hazard maps, geologic literature, and geologic maps, the site is not located within a State of California Earthquake Fault Zone, formerly known as the Alquist-Priolo Special Studies Zone (CGS, 2018), and no active faults are known to cross the subject site. The principal seismic hazards evaluated at the subject site are surface fault rupture, ground motion, and liquefaction, and landslides. A brief description of these hazards and the potential for their occurrences on site are discussed in the following sections.

8.1 Surface Fault Rupture

Based on our review of the referenced literature and our site reconnaissance, no active faults are known to cross the project site. Therefore, the probability of damage from surface ground rupture is considered to be low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

8.2 Site-Specific Ground Motion

Considering the proximity of the site to active faults capable of producing a maximum moment magnitude of 6.0 or more, the project area has a high potential for experiencing strong ground motion. The 2022 California Building Code (CBC) specifies that the risk-targeted maximum considered earthquake (MCE_R) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. Based on our review of CGS's shear wave velocity map, the average shear wave velocity in the upper 30 meters (i.e., 100 feet) of the

subsurface profile (V_{s30}) is estimated to be approximately 294 meters per second (i.e., 965 feet per second) (CGS, 2015). In accordance with Chapter 20 of the American Society of Civil Engineers (ASCE) Publication 7-16 (2016) for the Minimum Design Loads and Associated Criteria for Building and Other Structures, the site classification is Site Class D.

Per the 2022 CBC, a site-specific ground motion hazard analysis shall be performed in accordance with Section 21.2 of ASCE 7-16 for structures on Site Class D with a mapped MCE_R , 5 percent damped, spectral response acceleration parameter at a period of 1 second (S_1) greater than or equal to 0.2g. We calculated that the S_1 for the site is equal to 0.694g using the 2024 Applied Technology Council (ATC) seismic design tool (web-based); therefore, a site-specific ground motion hazard analysis was performed for the project area.

The site-specific ground motion hazard analysis consisted of the review of available seismologic information for nearby faults and performance of probabilistic seismic hazard analysis (PSHA) and deterministic seismic hazard analysis (DSHA) to develop acceleration response spectrum (ARS) curves corresponding to the MCE_R for 5 percent damping. Prior to the site-specific ground motion hazard analysis, we obtained the mapped seismic ground motion values and developed the mapped MCE_R response spectrum for 5 percent damping in accordance with Section 11.4 of ASCE 7-16 using the 2024 ATC seismic design tool. The depths to $V_s = 1,000$ m/s and $V_s = 2,500$ m/s are assumed to be 200 meters and 450 meters, respectively. These values were evaluated using the Open Seismic Hazard Analysis (OpenSHA) software developed by USGS (2021).

The 2014 new generation attenuation (NGA) West-2 relationships were used to evaluate the site-specific ground motions. The NGA relationships that we used for developing the probabilistic and deterministic response spectra are by Chiou and Youngs (2014), Campbell and Bozorgnia (2014), Boore, Stewart, Seyhan, and Atkinson (2014), and Abrahamson, Silva, and Kamai (2014). The OpenSHA software (USGS, 2021) was used for performing the PSHA. The Calculation of Weighted Average 2014 NGA Models spreadsheet by the Pacific Earthquake Engineering Research Center was used for performing the DSHA (Seyhan, 2014).

PSHA was performed for earthquake hazards having a 2 percent chance of being exceeded in 50 years multiplied by the risk coefficients per Section 21.2.1.1 of ASCE 7-16. The maximum rotated components of ground motions were considered in PSHA with 5 percent damping. For the DSHA, we analyzed accelerations from characteristic earthquakes on active faults within the region using the hazard curves and deaggregation plots at the site obtained from the USGS Unified Hazard Tool application (USGS, 2024b). A magnitude 8.0 event on the San Jacinto fault with a rupture distance of 5.4 miles (8.7 kilometers) from the site was evaluated to be the controlling earthquake.

Hence, the DSHA was performed for the site using this event and corrections were made to the spectral accelerations for the 84th percentile of the maximum rotated component of ground motion with 5 percent damping.

The site-specific MCE_R response spectrum was taken as the lesser of the spectral response acceleration at any period from the PSHA and DSHA, and the site-specific general response spectrum was determined by taking two-thirds of the MCE_R response spectrum with some conditions in accordance with Section 21.3 of ASCE 7-16. Figure 5 presents the site-specific MCE_R response spectrum and the site-specific design response spectrum. The mapped design response spectrum calculated in accordance with Section 11.4 of ASCE 7-16 is also presented on Figure 5 for comparison. The site-specific spectral response acceleration parameters, consistent with the 2022 CBC, are provided in Section 10.2 for the evaluation of seismic loads on buildings and other structures.

8.3 Liquefaction Potential

Liquefaction is the phenomenon in which loosely deposited granular soils and cohesionless fine-grained soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure. This causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

According to the geologic hazard map for San Bernardino County, the site is not located within a mapped area subject to seismically induced liquefaction hazards (San Bernardino County, 2009). Groundwater was not encountered in our exploratory borings to the explored depths of up to approximately 80.3 feet and nearby groundwater data indicate that the regional groundwater table is located at depths of 400 feet or more. Based on the depth to groundwater and the relatively dense granular soils encountered at the site, it is our opinion that liquefaction and liquefaction-related seismic hazards (e.g., dynamic settlement, ground subsidence, and/or lateral spread) are not design considerations for this project.

8.4 Landslides

The site is located in an area of relatively flat terrain. There are no mapped landslides on site or in the vicinity (San Bernardino County, 2009). Landslides are not considered to be a potential hazard at the site.

9 CONCLUSIONS

Based on the results of our evaluation, it is our opinion that the proposed project is feasible from a geotechnical standpoint, provided that the following recommendations are incorporated into the design and construction of the project. In general, the following conclusions were made:

- Based on our exploratory borings, the site is underlain by fill and alluvial soils generally consisting of moist, loose to very dense poorly graded gravel with silt and sand, silty gravel with sand, poorly graded sand, poorly graded sand with silt, silty sand, and sandy silt. Variable amounts of gravel and cobbles were encountered in the fill and alluvium.
- Undocumented fill was encountered during our subsurface exploration to depths ranging from approximately 2 to 8 feet below the ground surface. Concrete and asphalt debris were encountered in the fill. In borings P-3A and P-4A, a flat concrete surface was encountered at depths of approximately 1.4 and 2 feet, respectively. The concrete surfaces encountered may be foundation remnants from a previous building. Additionally, the 8 feet of fill encountered in boring P-4B may be associated with the demolition of the previous building. Additional undocumented fill and construction debris from the previous structure on site may be encountered during construction. Undocumented fill soils should be removed and recompacted to provide suitable support for the proposed building or other structural improvements. Obstructions such as existing foundations that extend below the finished grade should be removed and the resulting holes filled with compacted soil or slurry.
- Excavation of the fill and alluvial soils should be achievable with heavy earthmoving equipment in good operating condition. However, contractors should anticipate difficulty excavating due to very dense gravel and cobbles. Difficult drilling and sheet pile driving conditions, if used, should be anticipated during construction of shoring, including encountering very dense gravel and cobbles. Boulders may be present in the alluvial sediments and should be anticipated and planned for by the contractor.
- We anticipate that the on-site sandy soils should be suitable for use as compacted fill following moisture-conditioning, provided they are free of trash, debris, roots, vegetation, deleterious materials, and cobbles or hard lumps of materials in excess of 4 inches in diameter.
- Granular soils encountered at the site are anticipated to have little cohesion and may be subject to caving. These soils should be considered Type C soils in accordance with the Occupational Safety and Health Administration (OSHA) soil classifications.
- Groundwater was not encountered in our exploratory borings during drilling to the explored depths of up to approximately 80.3 feet. Fluctuations in the groundwater level will occur as a result of variations in seasonal precipitation, irrigation practices, groundwater pumping and other factors.
- The site is not located within a mapped Seismic Hazards Zone considered susceptible to liquefaction. Based on the significant depth to groundwater and the occurrence of relatively dense soils, liquefaction is not a design consideration for the project.

- The site is not located in a State of California Earthquake Fault Zone (Alquist-Priolo Special Studies Zone). Based on our review of the published geologic maps and aerial photographs, no known active or potentially active faults transect the site. The potential for surface fault rupture at the site is considered to be low.
- The site is not located in an area considered susceptible to landslides.
- The site is not located within a designated flood inundation zone.
- Our limited laboratory corrosivity testing indicates that the on-site earth materials can be classified as non-corrosive based on the California Department of Transportation corrosion guidelines (Caltrans, 2021).

10 RECOMMENDATIONS

The recommendations presented in the following sections provide geotechnical criteria regarding the design and construction of the proposed site improvements. The recommendations are based on the results of our subsurface evaluation, geotechnical analysis, and project understanding. When grading and foundation plans are available, they should be reviewed by Ninyo & Moore. Additional and/or revised recommendations may be appropriate. The proposed work should be performed in conformance with the recommendations presented in this report, project specifications, and requirements of the applicable governing agencies.

10.1 Earthwork

Earthwork at the site is anticipated to consist of remedial grading of the near-surface soils, fill placement, foundation excavations, trenching and backfilling for new utilities, pavement construction, and finish grading for establishment of site drainage. Earthwork may also involve excavations to install stormwater infiltration features such as an underground infiltration chamber system. Earthwork should be performed in accordance with the requirements of the applicable governing agencies and the recommendations presented in the following sections.

10.1.1 Pre-Construction Conference

We recommend that a pre-construction conference be held. The owner and/or their representative, the governing agencies' representatives, the civil engineer, Ninyo & Moore, and the contractor should attend to discuss the work plan, project schedule, and earthwork requirements.

10.1.2 Clearing and Site Preparation

Prior to excavation and fill placement, the site should be cleared of existing site improvements, pavements, surface obstructions and other deleterious materials, and abandoned utilities. Existing utilities to remain in place (if any) should be located and

protected from damage by construction activities. Obstructions such as existing foundations that extend below the finished grade should be removed and the resulting holes filled with compacted soil. The materials generated from the clearing operations should be removed from the site and disposed of at a legal dump site.

10.1.3 Excavation Characteristics

Based on the subsurface exploration data, we anticipate that excavations should be feasible with heavy earthmoving equipment in good working order. The on-site fill and alluvial deposits generally consist of moist, loose to very dense poorly graded gravel with silt and sand, silty gravel with sand, poorly graded sand, poorly graded sand with silt, silty sand, and sandy silt with variable amounts of gravel and cobbles. Boulders may be also present in the subsurface soils. Additionally, asphalt and concrete construction debris were encountered in the fill. A flat concrete surface was also encountered in borings P-3A and P-4A at depths of approximately 1.4 and 2 feet, respectively, that may be remnants of a previous building that occupied the eastern to southeastern portions of the site. Difficult excavating should be anticipated in materials containing dense to very dense gravel, cobbles, boulders, and concrete. Trench excavations may be particularly difficult where large boulders are encountered and may involve over-excavation or chipping with breaker bars or other specialized excavating equipment. Excavations for foundations may result in disturbed bottoms due to removal of large cobbles and boulders. Loose disturbed materials should be removed from foundation excavation bottoms. Holes resulting from removal of boulders may be filled with compacted fill or concrete. Our representative should check foundation excavations prior to the placement of reinforcing steel and concrete.

Oversize materials (larger than 4 inches in the longer dimension), including cobbles, are not considered suitable for backfill and should be disposed of off-site. Contractors should make their own independent evaluation of the excavatability of the on-site materials prior to submitting their bids.

10.1.4 Temporary Excavations and Shoring

Soils at the project site include sand and gravel with little cohesion that are considered to be prone to caving. In particular, bedding materials for existing pipelines, if encountered, may be prone to caving. Temporary slopes in the site soils should be stable at inclinations of approximately 1:1 (horizontal to vertical) up to a depth of about 4 feet below the existing grade and stable at inclinations of approximately 1.5:1 (horizontal to vertical) for excavations deeper than 4 feet but not exceeding the depth of 20 feet below the existing grade. Temporary excavations should be evaluated in the field and constructed in accordance with applicable

OSHA guidelines. The site soils should be considered as OSHA Soil Type C. Onsite safety of personnel is the responsibility of the contractor.

Temporary shoring may be needed if there are boundary constraints with existing streets and existing buildings or other improvements that will be kept in-place. Shoring systems, if used, should be designed for the anticipated soil conditions using the lateral earth pressure values shown on Figures 6 and 7 for braced and cantilevered excavations, respectively. The recommended design earth pressures are based on the assumption that the shoring system will be constructed without raising the ground surface elevation behind the shored sidewalls of the excavation, that there will be no surcharge loads, such as soil stockpiles and construction materials, and that no loads will act above a 1:1 (horizontal to vertical) plane ascending from the base of the shoring system. For a shoring system subjected to the above-mentioned surcharge loads, the contractor should include the effect of these loads on the lateral earth pressures acting on the shored walls. Spoils should not be placed near the edge of the open cut excavation. For open cut excavations, the spoil pile should be placed at a distance more than the depth of excavation from the top of the excavation.

We anticipate that settlement of the ground surface will occur behind shored excavations. The amount of settlement depends heavily on the type of shoring system, the contractor's workmanship, and soil conditions. To reduce the potential for distress to adjacent improvements, we recommend that the shoring system be designed to limit the ground settlement behind the shoring system to 0.5 inch or less. Possible causes of settlement that should be addressed include settlement during installation of the shoring elements, excavation for structure construction, construction vibrations, and removal of the support system. We recommend that shoring installation be evaluated carefully by the contractor prior to construction. Ground vibration and settlement monitoring may be appropriate during construction depending on the depths of the shored excavations.

The contractor should retain a qualified and experienced engineer to design the shoring system. The shoring parameters presented in this report are minimum requirements, and the contractor should evaluate the adequacy of these parameters and make the appropriate modifications for their design. We recommend that the contractor take appropriate measures to protect workers. OSHA requirements pertaining to worker safety should be observed.

10.1.5 Treatment of Near-Surface Soils

Based on our subsurface evaluation, it is our opinion that suitable foundation support for the proposed at-grade structure and other site improvements may be provided by remedial grading consisting of the excavation and recompaction of the near-surface soils.

Undocumented fill was encountered to depths ranging from approximately 2 to 8 feet below the ground surface. Undocumented fill soils should be removed and recompacted to provide suitable support for settlement-sensitive improvements. Remedial grading should include the removal of any concrete foundations and slab remnants from the previous building that was located in the eastern to southeastern portions of the site.

We recommend that excavation and recompaction extend to a depth that will provide 2 feet or more of compacted fill below the bottom of the proposed structure footings, or to the depth of the undocumented fill, whichever is deeper. The limits of excavation should extend laterally beyond the outside edge of footings to a distance equivalent to the depth of excavation. The excavation should remove existing loose surficial soils and expose relatively dense alluvial deposits. The removal and recompaction work should consist of 1) excavating to the depths discussed above, 2) scarifying, moisture-conditioning, and compacting the exposed subgrade soils to a depth of 8 inches or more, and 3) replacing the excavated materials as engineered fill. The fill soils should be moisture-conditioned to generally above the optimum moisture content and should be compacted to a relative compaction of 90 percent as evaluated by the ASTM International (ASTM) test method D 1557.

Structural pavement sections and exterior flatwork may be supported on compacted, low-expansion potential soil. Subgrades for non-vehicular exterior flatwork areas should be prepared by scarifying the upper approximately 8 inches of exposed subgrade, moisture-conditioning to slightly over the optimum moisture content and compacting to 90 percent relative compaction as evaluated by ASTM D 1557. Subgrade for vehicular pavements should be prepared by excavating the upper approximately 12 inches of exposed subgrade, moisture-conditioning to slightly over the optimum moisture content and compacting to 95 percent relative compaction as evaluated by ASTM D 1557.

10.1.6 Subgrade Preparation for Underground Infiltration

We understand that the proposed stormwater infiltration feature may consist of an underground infiltration chamber system, surface bioswales, or deeper infiltration using drywells. Details about the type of system and invert depth were not available at the time of preparation of this report. The excavation bottom for underground infiltration systems should be evaluated by our representative during the excavation work. In the event that unsuitable materials are encountered along the bottom of the infiltration system excavation, including undocumented fill and/or waste or low-permeability silt and clay materials, the unsuitable materials should be removed and replaced with loosely-packed clean sand or gravel, such as additional drainage rock. The actual recommendations for removal and replacement

should be based on our field observations. We recommend that minimal compaction be performed on the exposed subgrade, suitable on-site materials be used to replace unsuitable materials (if needed), and/or rock blanket be placed beneath the infiltration system. We recommend that the rock blanket consist of open-graded gravel of 0.75-inch- to 1.5-inch-diameter rock underlain by filter fabric consisting of Mirafi 140N or equivalent. Compaction of the subgrade could potentially reduce the infiltration rate. If the subgrade of the infiltration system is compacted, we recommend that additional percolation testing be performed.

10.1.7 Fill Material

Oversize cobbles and boulders are not considered suitable to use as fill and should be screened out of material for use as fill. After removal of oversize material, we anticipate that the on-site granular soils should be suitable for re-use as fill and trench backfill. Non-granular silt and clay materials, if encountered, may be used as general fill, but should not be used as structure backfill. Fill should generally be free of rocks or lumps of material in excess of 4 inches in diameter. Rocks or hard lumps larger than approximately 4 inches in diameter should be broken into smaller pieces or should be removed from the site. Structure backfill should be comprised of granular, non-expansive soil that conforms to the “Greenbook” Standard Specifications for Public Works Construction (Public Works Standard, Inc., 2024) for structural backfill. “Non-expansive” can be defined as soil having an expansion index (EI) of 20 or less in accordance with ASTM D 4829. The site soils will involve moisture-conditioning to bring the soils near the optimum moisture content prior to placement and compaction.

Imported materials, if used, should consist of clean, non-expansive, granular material, which conforms to the “Greenbook” for structure backfill. The imported materials should also meet the Caltrans (2021) criteria for non-corrosive soils (i.e., soils having a chloride concentration of less than 500 parts per million [ppm], a soluble sulfate content of less than approximately 0.15 percent [1,500 ppm], a pH value of more than 5.5, and an electrical resistivity of more than 1,500 ohm-centimeters [ohm-cm]). Imported materials for use as fill should be evaluated by the geotechnical consultant prior to importing. The contractor should be responsible for the uniformity of imported materials brought to the site.

10.1.8 Fill Placement and Compaction

Fill soils placed should be compacted in horizontal lifts to a relative compaction of 90 percent as evaluated by ASTM D 1557. The lift thickness for fill soils will vary depending on the type of compaction equipment used but should generally be placed in horizontal lifts not exceeding 8 inches in loose thickness. Fill soils should be placed at slightly above the optimum moisture

content as evaluated by ASTM D 1557. Special care should be taken to avoid damage to utility lines when compacting fill and subgrade materials.

10.1.9 Pipe Bedding

We recommend that pipes be supported on 6 inches or more of granular bedding material. Bedding material should be placed around pipe zones to 12 inches or more above the top of the pipes in accordance with the current “Greenbook”. The bedding material should be classified as sand, should be free of organic material, and have a sand equivalent (SE) of 30 or more. Special care should be taken not to allow voids beneath and around the pipe. Bedding material and compaction requirements should be in accordance with the recommendations of this report, the project specifications, and applicable requirements of the appropriate governing agencies.

10.1.10 Modulus of Soil Reaction

The modulus of soil reaction is used to characterize the stiffness of soil backfill placed on the sides of buried flexible pipelines for the purpose of evaluating lateral deflection caused by the weight of the backfill above the pipe. We recommend that a modulus of soil reaction of 1,000 pounds per square inch (psi) be used for design provided that the granular bedding material is placed adjacent to the pipe, as recommended in this report.

10.2 Site-Specific Seismic Design Considerations

Design of the proposed improvements should be performed in accordance with the requirements of governing jurisdictions and applicable building codes. Table 2 presents the site-specific spectral response acceleration parameters in accordance with the 2022 CBC guidelines.

Table 2 – 2022 California Building Code Seismic Design Criteria	
Spectral Response Acceleration Parameters	Values
Site Classification	D
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_s	2.068g
Mapped MCE_R Spectral Response Acceleration at 1.0-Second Period, S_1	0.694g
Site-Specific Spectral Response Acceleration at Short Periods, S_{MS}	1.784g
Site-Specific Spectral Response Acceleration at 1.0-second Period, S_{M1}	1.665g
Site-Specific Design Spectral Response Acceleration at Short Periods, S_{DS}	1.189g
Site-Specific Design Spectral Response Acceleration at 1.0-second Period, S_{D1}	1.110g
Site-Specific Maximum Considered Earthquake Geometric Mean (MCE_G) Peak Ground Acceleration, PGA_M	0.753g

10.3 Foundations

The proposed structure may be supported on shallow spread footings bearing on compacted fill material prepared in accordance with the recommendations presented in the Earthwork section

of this report. The pedestrian bridge may be supported on drilled pier foundations. Foundations should be designed in accordance with the structural considerations and the following recommendations. In addition, requirements of the appropriate governing jurisdictions and applicable building codes should be considered in the design of the structure.

10.3.1 Spread Footings

Spread footings should extend 24 inches or more below the lowest adjacent finished grade. Continuous and isolated pad footings should have a width of 24 inches or more. Spread footings should be reinforced and detailed in accordance with the recommendations of the structural engineer.

Footings, as described above and bearing on compacted fill soils with very low to low expansion potential, may be designed using a net allowable bearing capacity of 3,000 pounds per square foot (psf). The net allowable bearing capacity may be increased by 500 and 1,000 psf for every additional foot increase in width and depth, respectively, up to a value of 4,000 psf. Total and differential settlements for footings designed and constructed in accordance with the above recommendations are estimated to be on the order of 1 inch and 0.5 inch over a horizontal span of 40 feet, respectively.

Footings bearing on compacted fill may be designed using a coefficient of friction of 0.40, where the total frictional resistance equals the coefficient of friction times the dead load. Footings may be designed using a passive resistance of 350 psf per foot of depth for level ground condition up to a value of 3,500 psf. The allowable lateral resistance can be taken as the sum of the frictional resistance and passive resistance provided the passive resistance does not exceed one-half of the total allowable resistance. The net allowable bearing capacity and passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces.

10.3.2 Slab-On-Grade

Building floor slabs should be designed by the project structural engineer based on the anticipated loading conditions. Building floor slabs should be underlain by compacted soil with very low expansion potential, prepared with the recommendations presented in this report. The floor slabs should be 5 inches thick and reinforced in accordance with the recommendations of the structural engineer. The placement of reinforcement in the slab is vital for satisfactory performance. The floor slab and foundations should be tied together by extending the slab reinforcement into the footings. The slab should be underlain by a 4-inch-thick capillary break (consisting of either sand, crushed rock, or gravel) overlain by a

polyethylene vapor retarder (with a thickness of 10 mils or more). The steel reinforcements for the floor slab shall be placed on the vapor retarder using chairs, as appropriate. The vapor retarder is recommended in areas where moisture-sensitive floor coverings are anticipated. Soils underlying the slabs should be moisture-conditioned and compacted in accordance with the recommendations presented in this report prior to concrete placement. Joints should be constructed at intervals designed by the structural engineer to help reduce random cracking of the slab.

10.3.3 Drilled Piers

Drilled piers for the pedestrian bridge walkway should have a diameter of 18 inches or more and may be designed using an allowable unit side friction value of 120 psf in compression under static loading conditions starting at a depth of 1 foot below the ground surface. End bearing should be ignored for these drilled piers. In addition, an allowable unit side friction value of 70 psf in tension (for uplift) can also be used in design. The lateral capacity of drilled piers may be evaluated using a passive resistance of 350 psf per foot of depth, up to a value of 3,500 psf. The passive resistance may be considered to act on an area equal to the product of the effective width (two times the pier diameter) and the embedded length of the pier. The passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces. These calculations assume that the piers have a minimum spacing of three times the pier diameter. The project structural engineer should evaluate the design depth of the piers based on the recommendations provided above.

10.3.4 Drilled Pier Construction Considerations

The drilled pier drilling contractor should mobilize equipment of sufficient size and operating capability to achieve the recommended embedment length. The excavation technique chosen by the contractor should not adversely affect the quality or strength of the shaft side or end bearing materials. If refusal is encountered in these materials during actual installation, Ninyo & Moore should be retained to evaluate the subsurface condition to establish that refusal has been met with adequate drilling equipment.

Groundwater is not expected to be encountered during drilling; however, seepage and perched water conditions could be encountered that could result in caving of the drilled holes. The fill and alluvial soils at the site also have low fines content and may be subject to caving. The contractor should be prepared to mitigate such conditions. A temporary casing may be used in the drill-hole to reduce water infiltration and caving potential. While pouring concrete, the casing should be withdrawn gradually. In addition, cobbles were encountered during our

subsurface exploration and boulders may also be present. Difficult drilling conditions should be anticipated by the contractor.

The concrete should be placed in the annular space between the steel reinforcing cage and the drill-hole surface using the tremie method. Concrete utilized in the drilled pier should be a fluid mix with sufficient slump so that it will fill the void between the steel reinforcing cage and the drill-hole wall. The contractor should take care to reduce enlargement of the excavation at the tops of the drilled pier, which could result in mushrooming of the drilled pier top.

The drilled pier hole should be cleaned prior to placement of concrete. Care should be taken to check that the soils at the drilled pier bottom have not been disturbed. The successful advancement of the drill hole for the construction of drilled pier will depend largely on the suitability of the drilling equipment and the skill of the operator. The drilled foundation contractor should make an effort to reduce the time during which the excavation remains open. The contractor should schedule the sequence of operations so that the excavation can be finished, the steel reinforcing cage placed, and the concrete placed within the same work day. The drilled pier excavation should not be left open overnight. In case of delay in placing concrete within the drill hole due to equipment breakdown or other unforeseen circumstances, casing may be used to maintain the integrity of the hole. While placing concrete, the casing should be withdrawn gradually.

The drilled pier installation should be observed by Ninyo & Moore or a qualified representative to check that, among other things: 1) subsurface conditions are as anticipated from the borings, 2) the drilled piers are constructed to the specified size and penetration, 3) drill-hole bottom is clean and competent, 4) drilled piers are within allowable tolerances for plumbness, and 5) reinforcements are placed per project specifications. These items are fundamental to the installation and behavior of the drilled piers. Furthermore, we recommend the following for the installation of drilled piers:

- The clear spacing between the rebar cage and the drill-hole surface should be three times the maximum size of the coarse aggregate used in the concrete.
- Centralizers should be installed to keep the rebar cage positioned per project specifications.
- If casing is used, a sufficient head of concrete that fills the casing should be used before pulling the casing.

10.4 Lateral Earth Pressures for Underground Structures

We understand that stormwater infiltration features may consist of an underground infiltration tank. Underground structures may be designed for lateral earth pressures presented on Figure 8. To reduce the potential for pipe-to-wall differential settlement, which could cause pipe shearing, we recommend that a flexible pipe joint be located close to the exterior of the wall. The type of joint should be such that minor relative movement can be accommodated without distress.

10.5 Infiltration Setback

We recommend that proposed underground infiltration systems be placed at a distance of 15 feet or more from new or existing buildings and outside of an imaginary 1:1 (horizontal to vertical) plane projected upward and outward from the bottom of the lowest foundation element of any existing or new structure.

10.6 Preliminary Pavement Recommendations

Preliminary pavement design was performed based on our evaluation of the subgrade soil conditions and laboratory testing. The R-value characteristics of the subgrade soils were evaluated from representative near-surface soil samples obtained from our exploratory borings. Laboratory R-value testing indicates that the R-value of the materials encountered ranges from 75 to 80. Due to the variability of the on-site soils, an R-value of 60 was used for the pavement design.

Our AC pavement analysis utilized the methodology outlined by the Highway Design Manual (Caltrans, 2020) and the computer software program CalME (Caltrans, 2022). For the design of Portland cement concrete (PCC) pavements, we used the methodology presented in the Navy Pavement Design Manual (1979) assuming a 28-day concrete compressive strength of 2,500 psi. We have evaluated pavement structural sections for Traffic Indices (TI) of 5.0, 6.0, and 7.0. The analysis assumes an approximately 20-year design life for the new pavements. Based on the R-value and TIs considered, preliminary recommendations for new pavement sections are provided in Table 3.

Table 3 – Preliminary Structural Pavement Sections			
Traffic Index	AC over CAB or AC over CMB (inches)	Full Depth AC (inches)	PCC (inches)
≤5.0	3.0 over 4.0	4.0	5.5
6.0	3.5 over 4.0	5.0	6.0
7.0	4.0 over 4.0	6.0	8.0
Notes: AC – Asphalt Concrete CAB – Crushed Aggregate Base CMB – Crushed Miscellaneous Base PCC – Portland Cement Concrete with a 28-day compressive strength of 2,500 pounds per square inch.			

We recommend that approximately 4 inches of crushed aggregate base (CAB) or crushed miscellaneous base (CMB) be placed under the PCC. Prior to placement of the new structural pavement section presented above, the subgrade soils should be prepared in accordance with the recommendations provided in the Earthwork section of this report. If full-depth AC pavement is used, we recommend that the subgrade soils be recompacted to a relative compaction of 95 percent.

Aggregate base material should conform to the specifications in Section 200-2.2 for CAB or Section 200-2.4 for CMB of the “Greenbook” and should be compacted to a relative compaction of 95 percent in accordance with ASTM D 1557. Grinding and recycling existing AC and existing base material may be considered as a potential source of CMB material provided that those meet the requirements in the “Greenbook.” AC should conform to Section 203-6 of the “Greenbook” and should be compacted to a relative compaction of 95 percent in accordance with ASTM D 1560 or California Test (CT) method 304.

Pavement sections should be selected based on actual anticipated traffic loading conditions and evaluation of the subgrade materials, including R-value testing, at the time of construction. We recommend that the paving operations be observed and tested by Ninyo & Moore. We further recommend that mix designs for the various pavements be made by an engineering company specialized in this type of work.

10.7 Hardscape

We recommend that new exterior concrete sidewalks and flatwork (hardscape) have a minimum thickness of 4 inches. The hardscape should be underlain by 4 inches of granular material such as CAB or CMB and installed with crack-control joints at an appropriate spacing as designed by the structural engineer to reduce the potential for shrinkage cracking. Positive drainage should be established and maintained adjacent to flatwork. To reduce the potential for differential offset, joints between the new hardscape and adjacent curbs, existing hardscape, building walls, and/or other structures, and between sections of new hardscape, should be doweled.

10.8 Corrosivity

Laboratory testing was performed on representative samples of near-surface soils to evaluate soil pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content. The soil pH and electrical resistivity tests were performed in general accordance with CT 643. Chloride content testing was performed in general accordance with CT 422. Sulfate testing was performed in general accordance with CT 417. The laboratory test results are presented in Appendix B.

The pH of the tested samples was measured to range from approximately 6.1 to 6.4. The electrical resistivity was measured to range from approximately 7,831 to 15,988 ohm-cm. The chloride content was measured to range from approximately 10 to 20 ppm, and the sulfate content was approximately 0.001 percent (i.e., 10 ppm). Based on the laboratory test results and Caltrans (2021) corrosion criteria, the project site would be classified as a non-corrosive site, which is defined as having earth materials less than 500 ppm chlorides, less than 0.15 percent sulfates (i.e., 1,500 ppm), a pH of more than 5.5, and an electrical resistivity of more than 1,500 ohm-cm. If corrosion susceptible improvements are planned on site, we recommend that a corrosion engineer be consulted for further evaluation and recommendations, if needed.

10.9 Concrete Placement

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. Based on the American Concrete Institute criteria (2022), the potential for sulfate attack is negligible for water-soluble sulfate contents in soil ranging from 0.00 to 0.10 percent by weight and moderate for water-soluble sulfate contents ranging from 0.10 to 0.20 percent by weight. The potential for sulfate attack is severe for water-soluble sulfate contents ranging from 0.20 to 2.00 percent by weight and very severe for water-soluble sulfate contents over 2.00 percent by weight. The soil samples tested for this evaluation, using Caltrans Test Method 417, indicate a water-soluble sulfate content of approximately 0.001 percent by weight. Accordingly, the on-site soils are considered to have a negligible potential for sulfate attack. However, due to the potential variability of the on-site soils, consideration should be given to using Type II/V cement for the project.

In order to reduce the potential for shrinkage cracks in the concrete during curing, we recommend that the concrete for the proposed structure be placed with a slump of 4 inches based on ASTM C 143. The slump should be checked periodically at the site prior to concrete placement. We further recommend that concrete cover over reinforcing steel for foundations be provided in accordance with CBC (2022). The structural engineer should be consulted for additional concrete specifications.

10.10 Drainage

Positive surface drainage is imperative for satisfactory site performance. Positive drainage should be provided and maintained to transport surface water away from foundations and other site improvements. Positive drainage is defined as a slope of 5 percent or more (2 percent or more if paved) for a distance of 10 feet or more away from the foundations. Surface water should not be allowed to pond adjacent to the footings. Concentrated runoff should not be allowed to flow over

asphalt pavement as this can result in early deterioration of the pavement. Area drains for landscaped and paved areas are recommended.

11 CONSTRUCTION OBSERVATION

The recommendations provided in this report are based on our understanding of the proposed project and on our evaluation of the data collected based on subsurface conditions disclosed by widely spaced exploratory borings. It is imperative that the interpolated subsurface conditions be checked by our representative during construction. Observation and testing of compacted fill and backfill should also be performed by our representative during construction. We further recommend that the project plans and specifications be reviewed by this office prior to construction. It should be noted that, upon review of these documents, some recommendations presented in this report might be revised or modified.

During construction, we recommend that the duties of the geotechnical consultant include, but not be limited to:

- Observing site clearing, grubbing, and removals.
- Observing excavation bottoms and the placement and compaction of fill and trench backfill.
- Evaluating on-site soil for suitability of its use as engineered fill/structural backfill prior to placement.
- Evaluating imported materials prior to their use as fill, if any.
- Performing field tests to evaluate fill compaction.
- Observing foundation excavations for bearing materials and cleaning prior to placement of reinforcing steel or concrete.
- Performing material testing services including concrete compressive strength and steel tensile strength tests and inspections.

The recommendations provided in this report are based on the assumption that Ninyo & Moore will provide geotechnical observation and testing services during construction. In the event that the services of Ninyo & Moore are not utilized during construction, we request that the selected consultant provide the owner with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this report.

12 LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty,

expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

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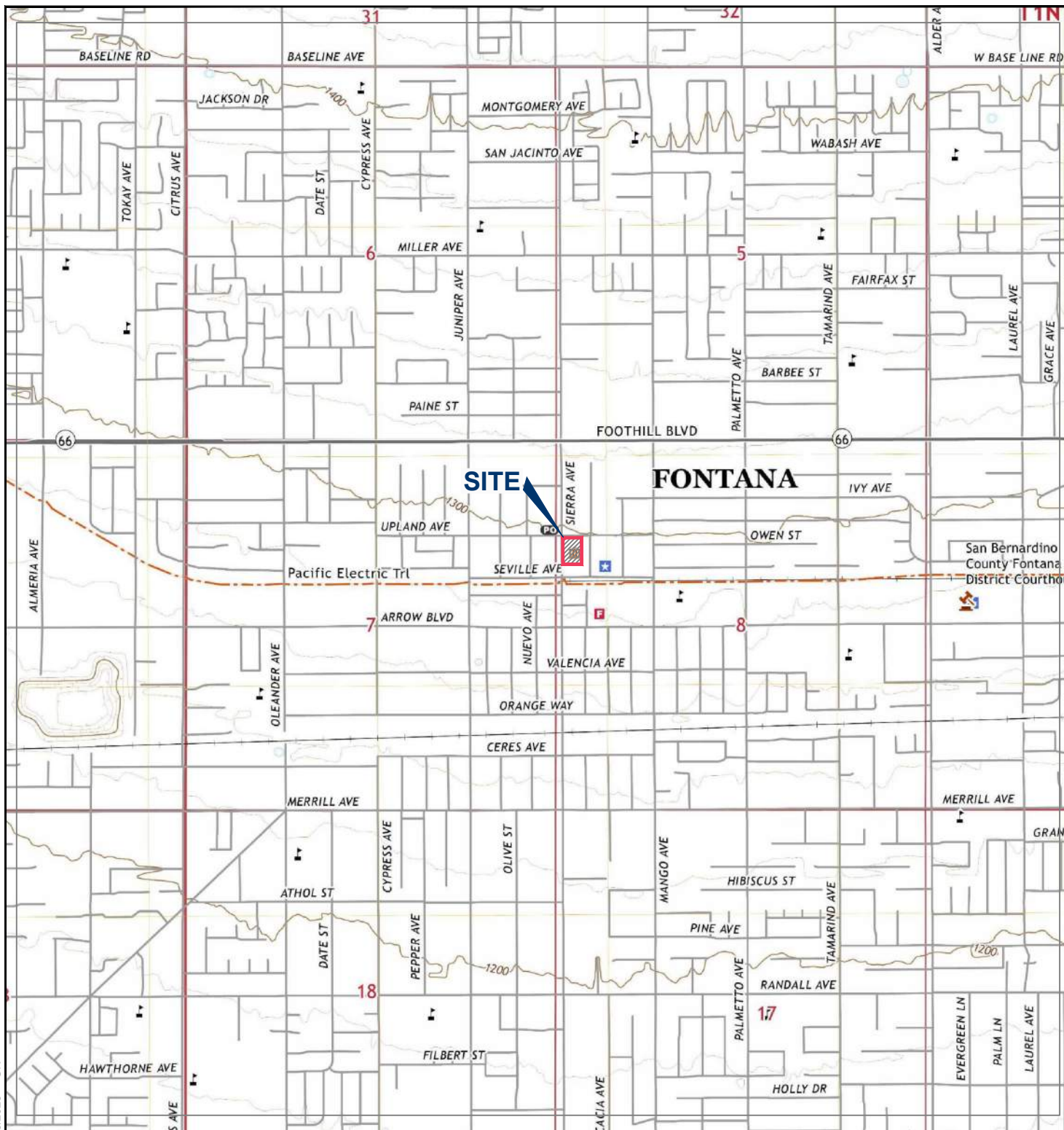
United States Geological Survey, 2024b, Unified Hazard Tool; <https://earthquake.usgs.gov/hazards/interactive/>.

Valued Engineering, Inc., 2024, Alta/NSPS Land Title Survey, Civic Center – 8356 Sierra Ave, dated September 10.



FIGURES

212823001.dwg_SL 03/05/2025 GK



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: USGS, 2021.

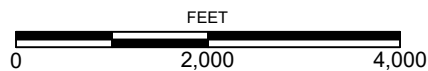
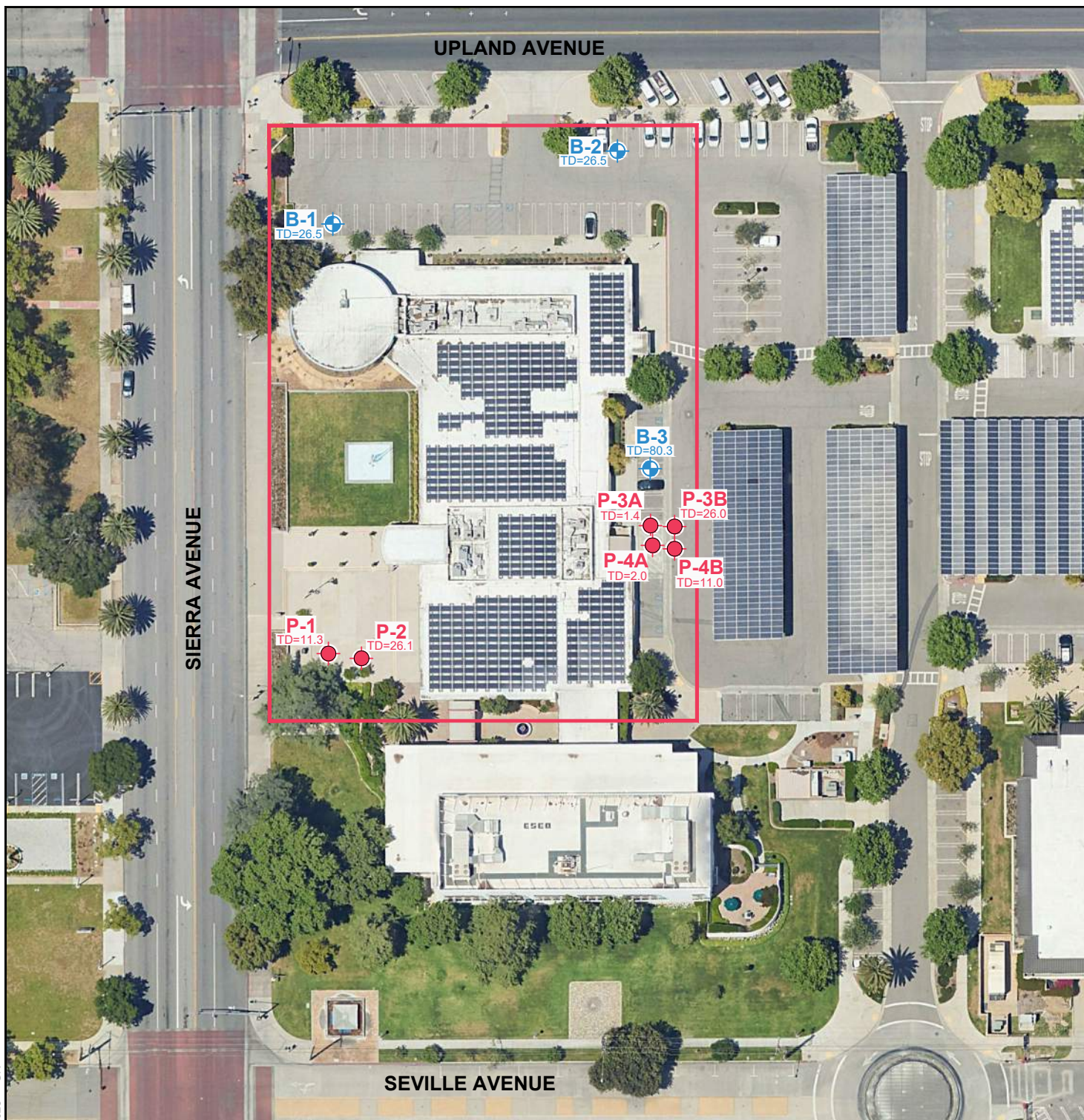





FIGURE 1

SITE LOCATION

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE
FONTANA, CALIFORNIA
212823001 | 3/25



LEGEND

- B-3**  BORING;
TD=80.3 TD=TOTAL DEPTH IN FEET
- P-4B**  PERCOLATION TEST;
TD=11.0 TD=TOTAL DEPTH IN FEET
-  SITE BOUNDARY

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: GOOGLE EARTH, 2024.

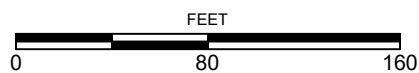
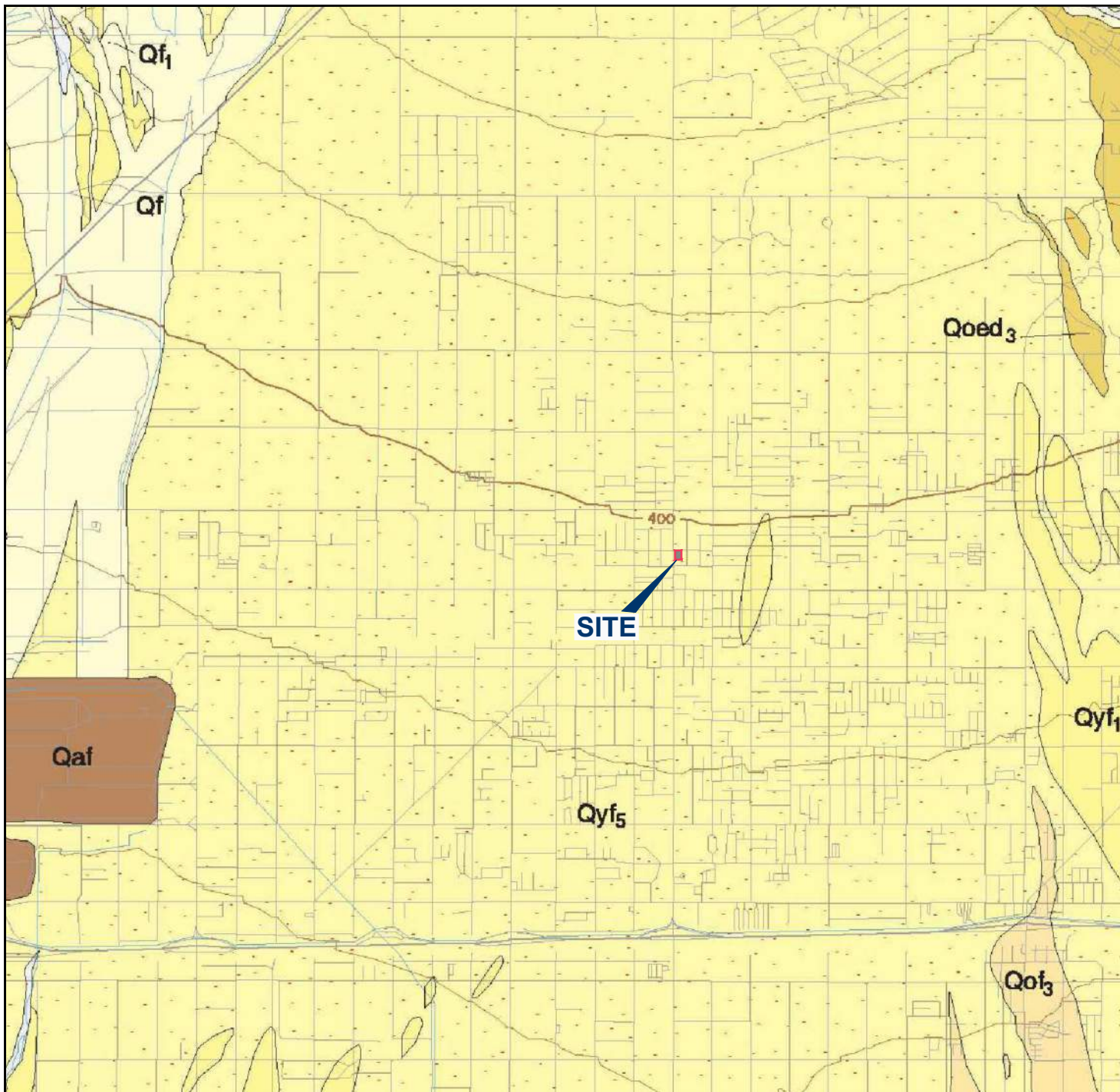


FIGURE 2

BORING AND PERCOLATION TEST LOCATIONS



LEGEND

Qaf	ARTIFICIAL FILL	Qof₃	OLD ALLUVIAL-FAN DEPOSITS
Qf	VERY YOUNG ALLUVIAL-FAN DEPOSITS	Qoed	OLD EOLIAN DEPOSITS
Qyf₅	YOUNG ALLUVIAL-FAN DEPOSITS		GEOLOGIC CONTACT

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: MORTON AND MILLER, 2006.

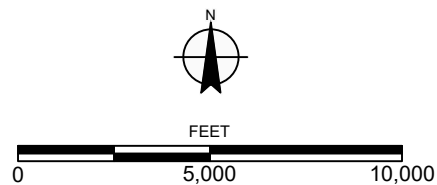
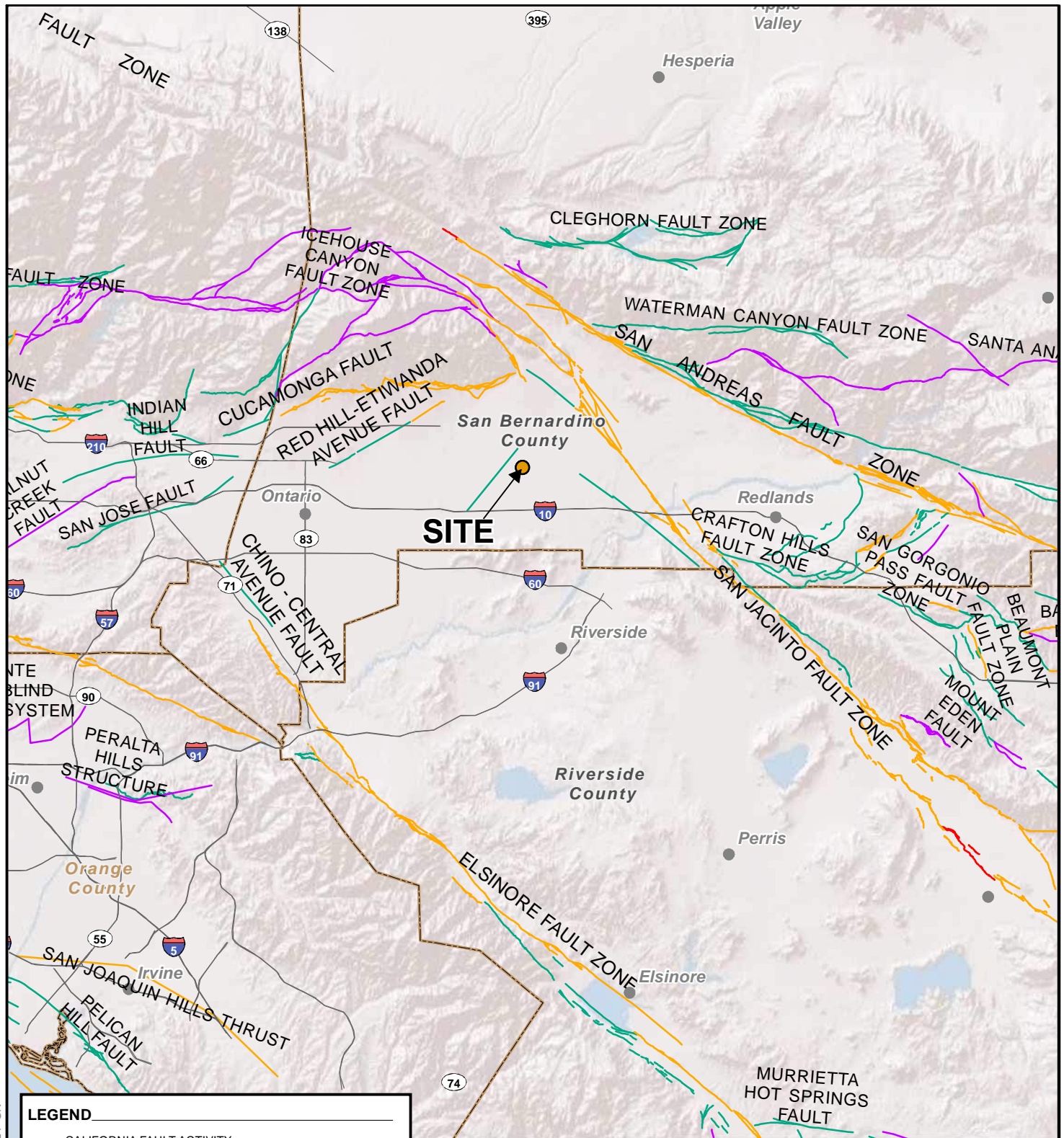


FIGURE 3



LEGEND

CALIFORNIA FAULT ACTIVITY

- HISTORICALLY ACTIVE
- HOLOCENE ACTIVE
- LATE QUATERNARY (POTENTIALLY ACTIVE)
- QUATERNARY (POTENTIALLY ACTIVE)
- STATE/COUNTY BOUNDARY

SOURCES: QUATERNARY FAULTS DATABASE - U.S. GEOLOGICAL SURVEY AND CALIFORNIA GEOLOGICAL SURVEY, QUATERNARY FAULT AND FOLD DATABASE FOR THE UNITED STATES, ACCESSED NOVEMBER 05, 2024, AT: <https://www.usgs.gov/programs/earthquake-hazards/faults>, ESRI, 2023.



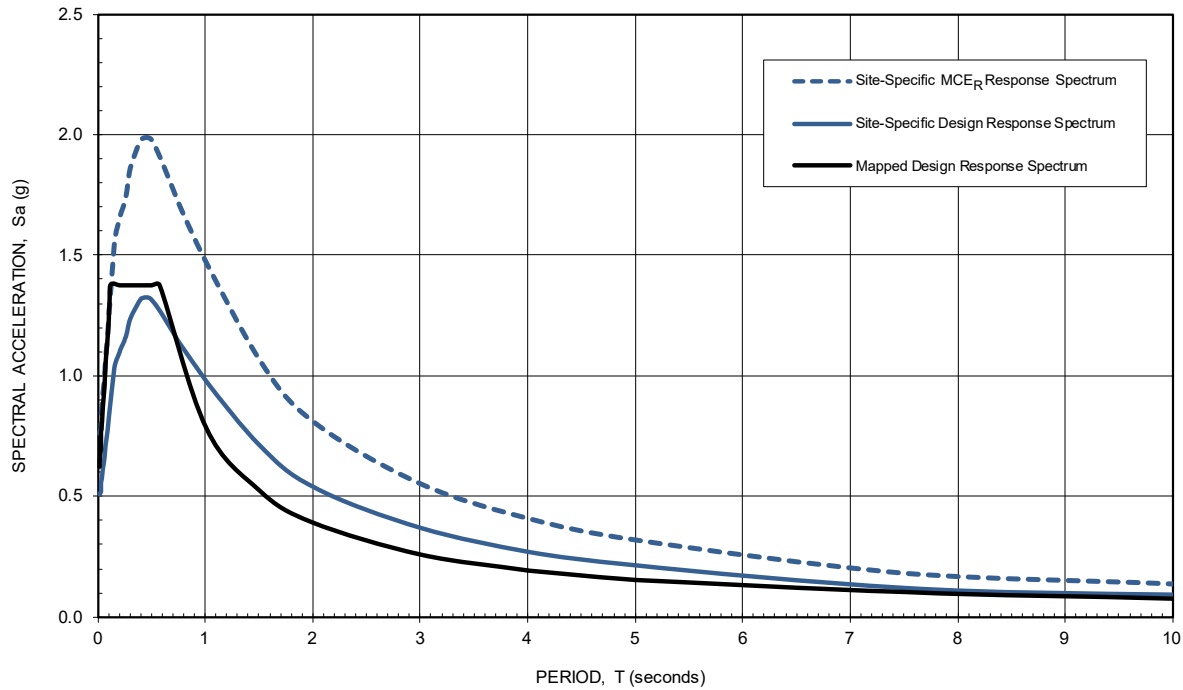
NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

FIGURE 4

PERIOD (seconds)	SITE-SPECIFIC MCE _R RESPONSE SPECTRUM S _a (g)	SITE-SPECIFIC DESIGN RESPONSE SPECTRUM S _a (g)
0.010	0.763	0.509
0.020	0.780	0.520
0.030	0.839	0.559
0.050	0.958	0.638
0.075	1.105	0.737
0.100	1.253	0.836
0.150	1.549	1.033
0.200	1.654	1.103
0.250	1.732	1.155
0.300	1.861	1.241
0.400	1.982	1.321

PERIOD (seconds)	SITE-SPECIFIC MCE _R RESPONSE SPECTRUM S _a (g)	SITE-SPECIFIC DESIGN RESPONSE SPECTRUM S _a (g)
0.500	1.978	1.319
0.750	1.718	1.145
1.000	1.473	0.982
1.500	1.070	0.713
2.000	0.813	0.542
3.000	0.555	0.370
4.000	0.411	0.274
5.000	0.323	0.215
7.500	0.185	0.123
10.000	0.139	0.093

$S_{MS} = 1.784 \text{ g}$
 $S_{M1} = 1.665 \text{ g}$
 $S_{DS} = 1.189 \text{ g}$
 $S_{D1} = 1.110 \text{ g}$
 $PGA_M = 0.753 \text{ g}$

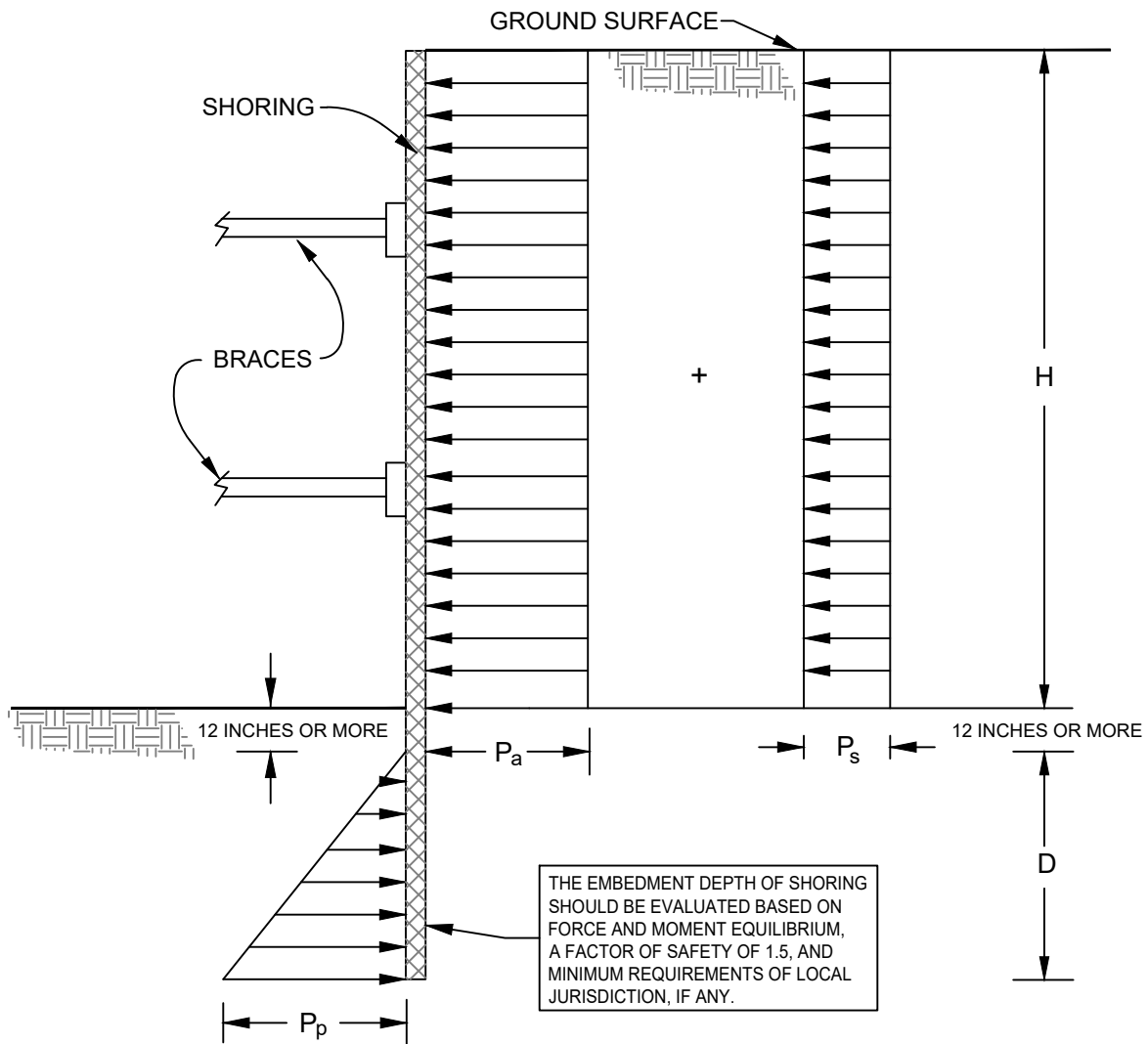


NOTES:

- 1 The probabilistic ground motion spectral response accelerations are based on the risk-targeted Maximum Considered Earthquake (MCE_R) having a 2% probability of exceedance in 50 years in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships and the risk coefficients per ASCE 7-16 Section 21.2.1.1.
- 2 The deterministic ground motion spectral response accelerations are the 84th percentile geometric mean values in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships for deep soil sites considering a Mw 8.0 event on the San Jacinto fault zone located 8.7 kilometers from the site. It conforms with the lower bound limit per ASCE 7-16 Section 21.2.2.
- 3 The Site-Specific MCE_R Response Spectrum is the lesser of the spectral ordinates of the deterministic and probabilistic accelerations at each period per ASCE 7-16 Section 21.2.3. The Site-Specific Design Response Spectrum conforms with the lower bound limit per ASCE 7-16 Section 21.3.
- 4 The Mapped Design Response Spectrum is computed from the mapped spectral ordinates modified for Site Class D (stiff soil profile) per ASCE 7-16 Section 11.4. It is presented for the sake of comparison.

FIGURE 5

ACCELERATION RESPONSE SPECTRA



NOTES:

1. APPARENT LATERAL EARTH PRESSURE, P_a
 $P_a = 24H$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 120$ psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 350D$ psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

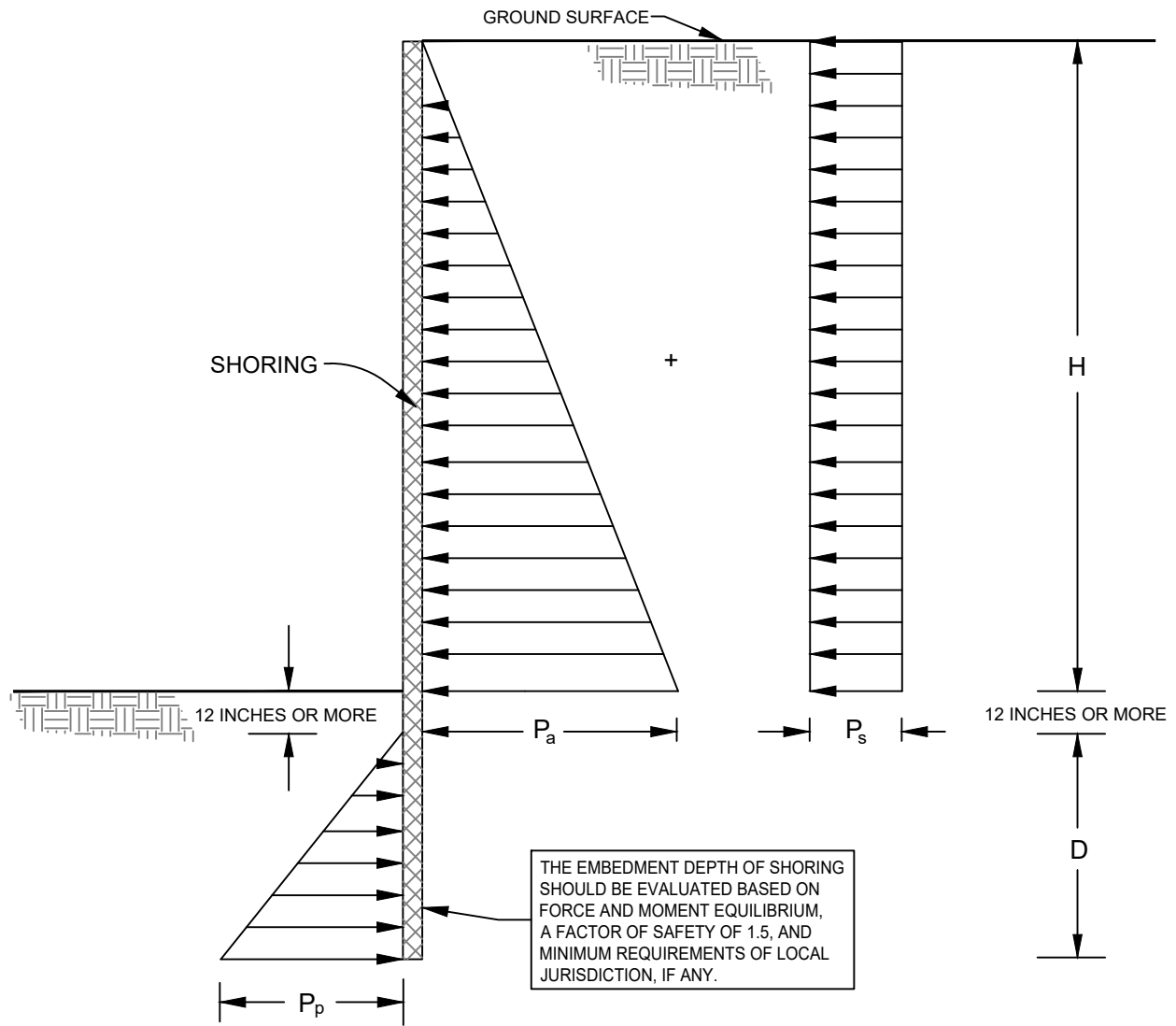
NOT TO SCALE

FIGURE 6

LATERAL EARTH PRESSURES FOR BRACED EXCAVATION

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE
FONTANA, CALIFORNIA

212823001 | 3/25



NOTES:

1. ACTIVE LATERAL EARTH PRESSURE, P_a
 $P_a = 37H$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 72$ psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 350D$ psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. H AND D ARE IN FEET

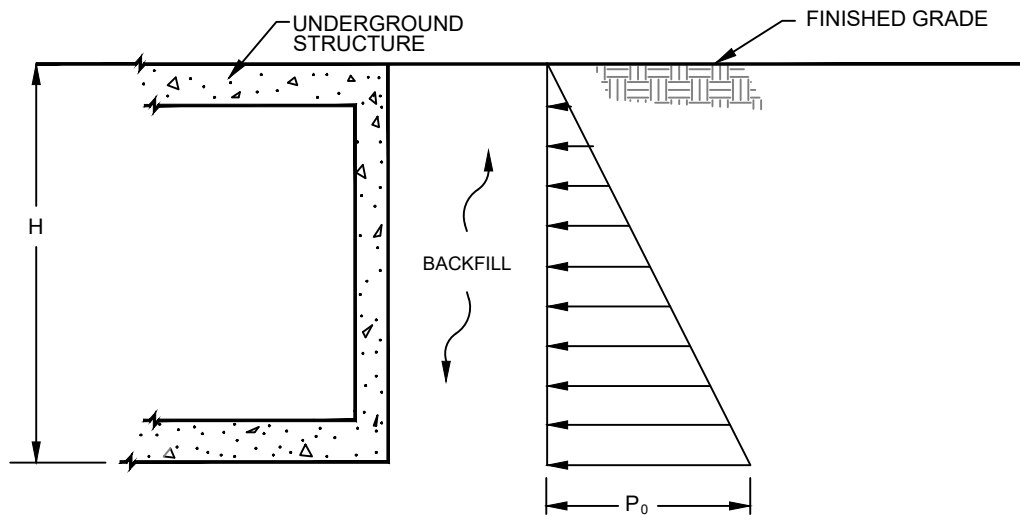
NOT TO SCALE

FIGURE 7

**LATERAL EARTH PRESSURES FOR
TEMPORARY CANTILEVERED SHORING**

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE
FONTANA, CALIFORNIA

212823001 | 3/25



STATIC PRESSURE

NOTES:

1. APPARENT LATERAL EARTH PRESSURES, P_0
 $P_0 = 56H$ psf
2. SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES ARE NOT INCLUDED
3. H IS IN FEET

NOT TO SCALE

FIGURE 8

LATERAL EARTH PRESSURES FOR UNDERGROUND STRUCTURES

CITY HALL RENOVATION PHASE II
 8353 SIERRA AVENUE
 FONTANA, CALIFORNIA

212823001 | 3/25



APPENDIX A

Boring Logs

APPENDIX A

BORING LOGS

Field Procedure for the Collection of Disturbed Samples

Disturbed soil samples were obtained in the field using the following method.

Bulk Samples

Bulk samples of representative earth materials were obtained from the exploratory borings. The samples were bagged and transported to the laboratory for testing.

The Standard Penetration Test (SPT) Sampler

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of approximately 1.4 inches. The sampler was driven into the ground 18 inches with a 140-pound hammer falling freely from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

Field Procedure for the Collection of Relatively Undisturbed Samples

Relatively undisturbed soil samples were obtained in the field using the following method.

The Modified Split-Barrel Drive Sampler

The sampler, with an external diameter of 3 inches, was lined with 1-inch-long, thin brass rings with inside diameters of approximately 2.4 inches. The sampler barrel was driven into the ground with the weight of a hammer of the drill rig in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sampler barrel in the brass rings, sealed, and transported to the laboratory for testing.

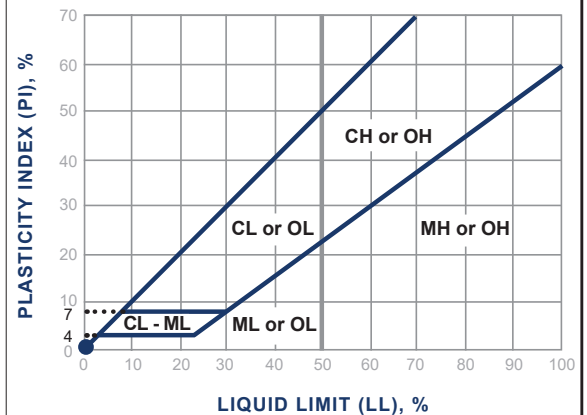
Soil Classification Chart Per ASTM D 2488

Primary Divisions			Secondary Divisions	
			Group Symbol	Group Name
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVEL more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL less than 5% fines	GW	well-graded GRAVEL
			GP	poorly graded GRAVEL
		GRAVEL with DUAL CLASSIFICATIONS 5% to 12% fines	GW-GM	well-graded GRAVEL with silt
			GP-GM	poorly graded GRAVEL with silt
			GW-GC	well-graded GRAVEL with clay
			GP-GC	poorly graded GRAVEL with clay
		GRAVEL with FINES more than 12% fines	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND 50% or more of coarse fraction passes No. 4 sieve	CLEAN SAND less than 5% fines	SW	well-graded SAND
			SP	poorly graded SAND
		SAND with DUAL CLASSIFICATIONS 5% to 12% fines	SW-SM	well-graded SAND with silt
			SP-SM	poorly graded SAND with silt
			SW-SC	well-graded SAND with clay
			SP-SC	poorly graded SAND with clay
		SAND with FINES more than 12% fines	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOILS 50% or more passes No. 200 sieve	SILT and CLAY liquid limit less than 50%	INORGANIC	CL	lean CLAY
			ML	SILT
			CL-ML	silty CLAY
		ORGANIC	OL (PI > 4)	organic CLAY
			OL (PI < 4)	organic SILT
	SILT and CLAY liquid limit 50% or more	INORGANIC	CH	fat CLAY
			MH	elastic SILT
			OH (plots on or above "A"-line)	organic CLAY
		ORGANIC	OH (plots below "A"-line)	organic SILT
			PT	Peat

Grain Size

Description		Sieve Size	Grain Size	Approximate Size
Boulders		> 12"	> 12"	Larger than basketball-sized
Cobbles		3 - 12"	3 - 12"	Fist-sized to basketball-sized
Gravel	Coarse	3/4 - 3"	3/4 - 3"	Thumb-sized to fist-sized
	Fine	#4 - 3/4"	0.19 - 0.75"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	0.075 - 0.19"	Rock-salt-sized to pea-sized
	Medium	#40 - #10	0.017 - 0.075"	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	0.0029 - 0.017"	Flour-sized to sugar-sized
Fines		Passing #200	< 0.0029"	Flour-sized and smaller

Plasticity Chart



Apparent Density - Coarse-Grained Soil

Apparent Density	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Modified Split Barrel (blows/foot)	SPT (blows/foot)	Modified Split Barrel (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70

Consistency - Fine-Grained Soil

Consistency	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Modified Split Barrel (blows/foot)	SPT (blows/foot)	Modified Split Barrel (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
Stiff	9 - 15	11 - 20	6 - 10	7 - 13
Very Stiff	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26

BORING LOG EXPLANATION SHEET

DEPTH (feet)	Bulk Driven SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0							Bulk sample.
							Modified split-barrel drive sampler.
							No recovery with modified split-barrel drive sampler.
							Sample retained by others.
							Standard Penetration Test (SPT).
5							No recovery with a SPT.
	XX/XX						Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
							No recovery with Shelby tube sampler.
							Continuous Push Sample.
10							Seepage.
							Groundwater encountered during drilling.
							Groundwater measured after drilling.
						SM	MAJOR MATERIAL TYPE (SOIL):
							Solid line denotes unit change.
						CL	Dashed line denotes material change.
15							Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Shear Bedding Surface
20							The total depth line is a solid line that is drawn at the bottom of the boring.

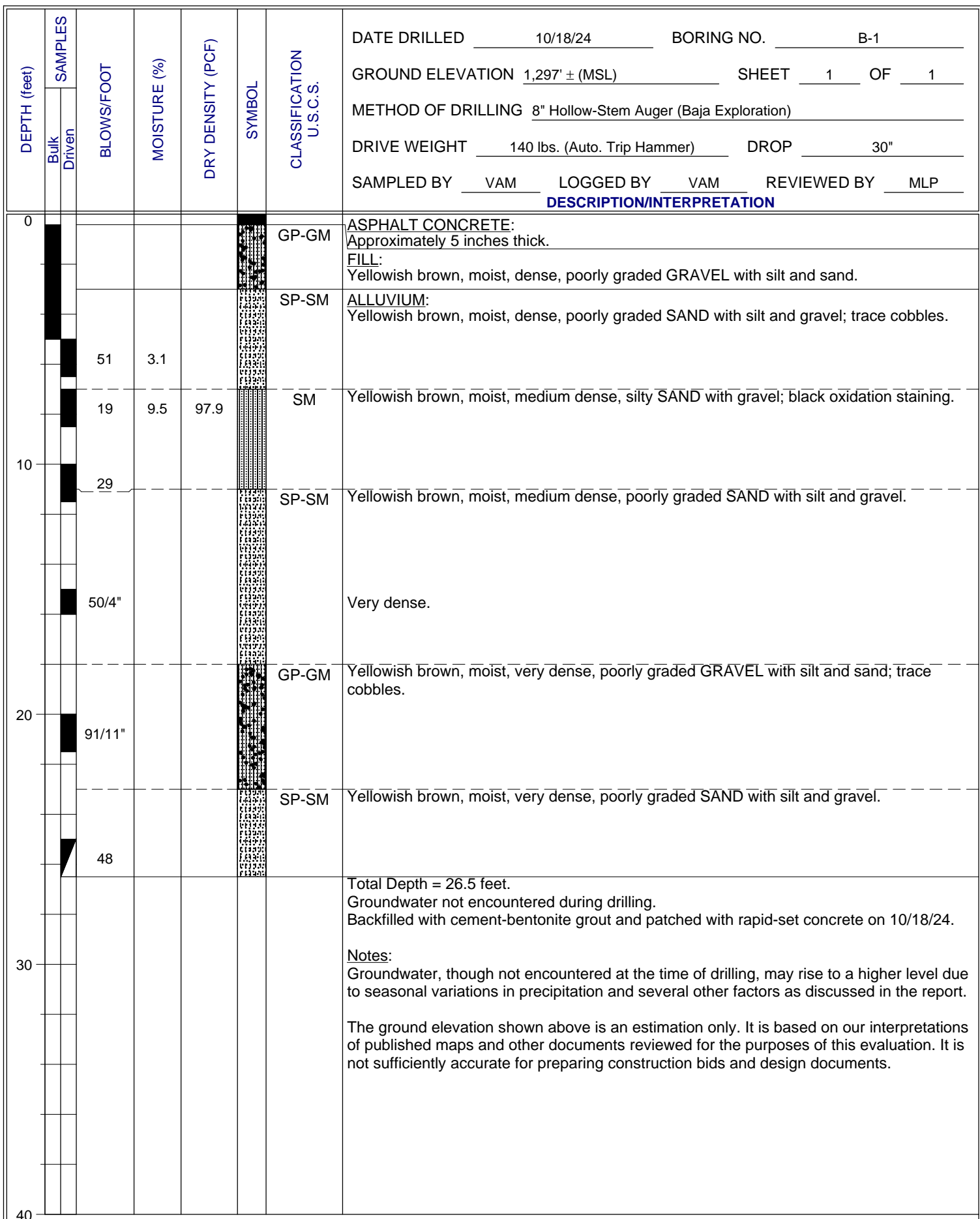


FIGURE A- 1

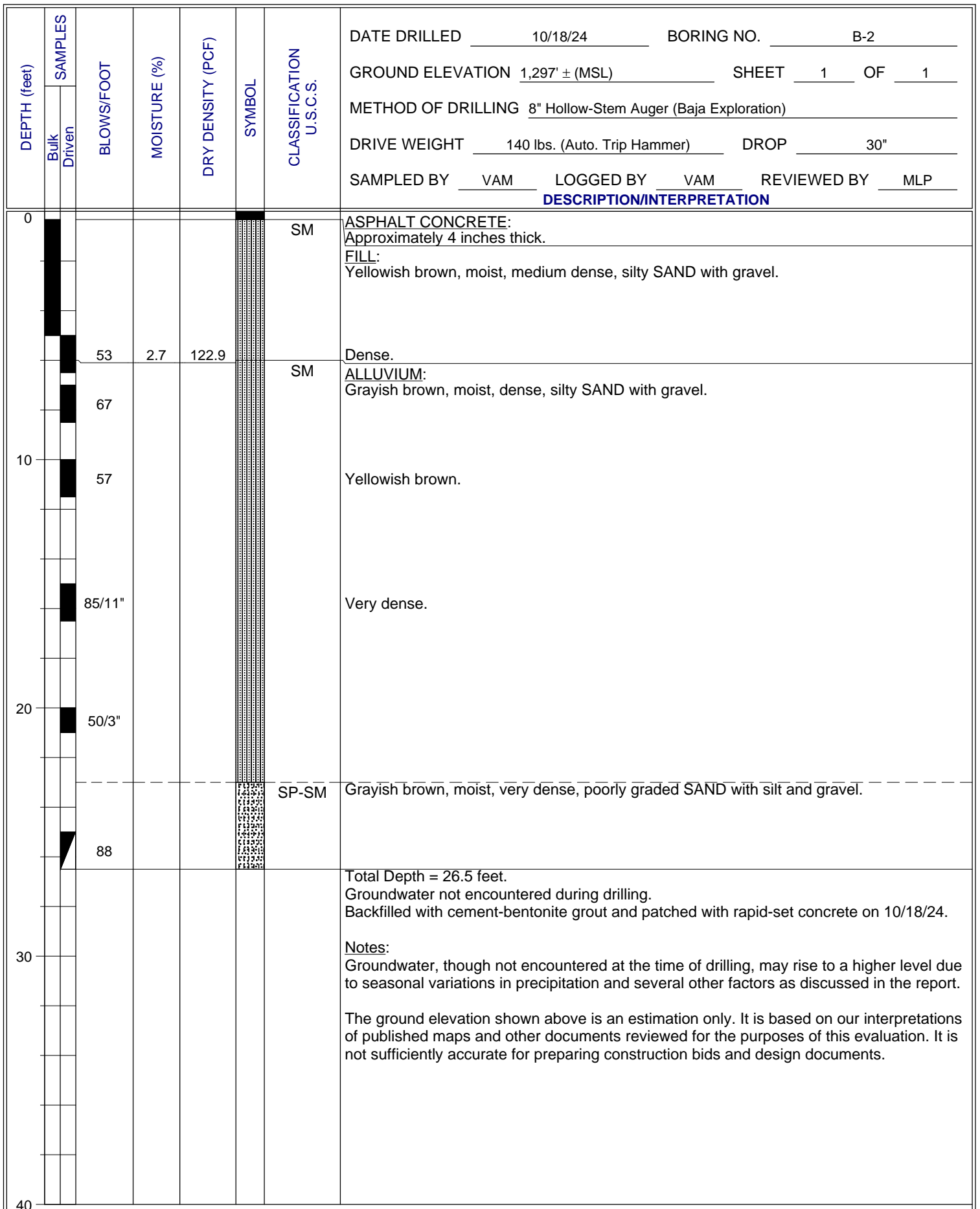


FIGURE A- 2

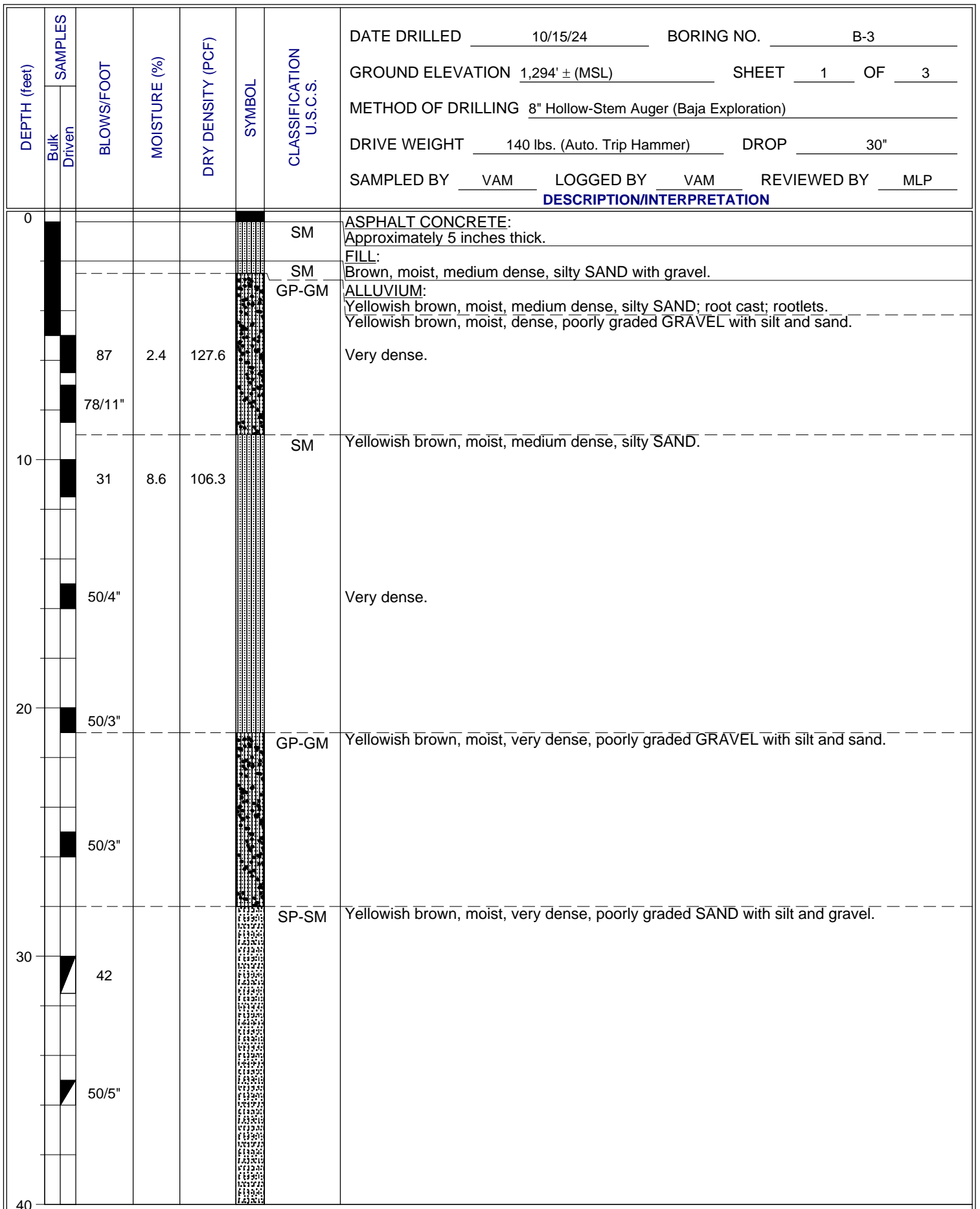


FIGURE A-3

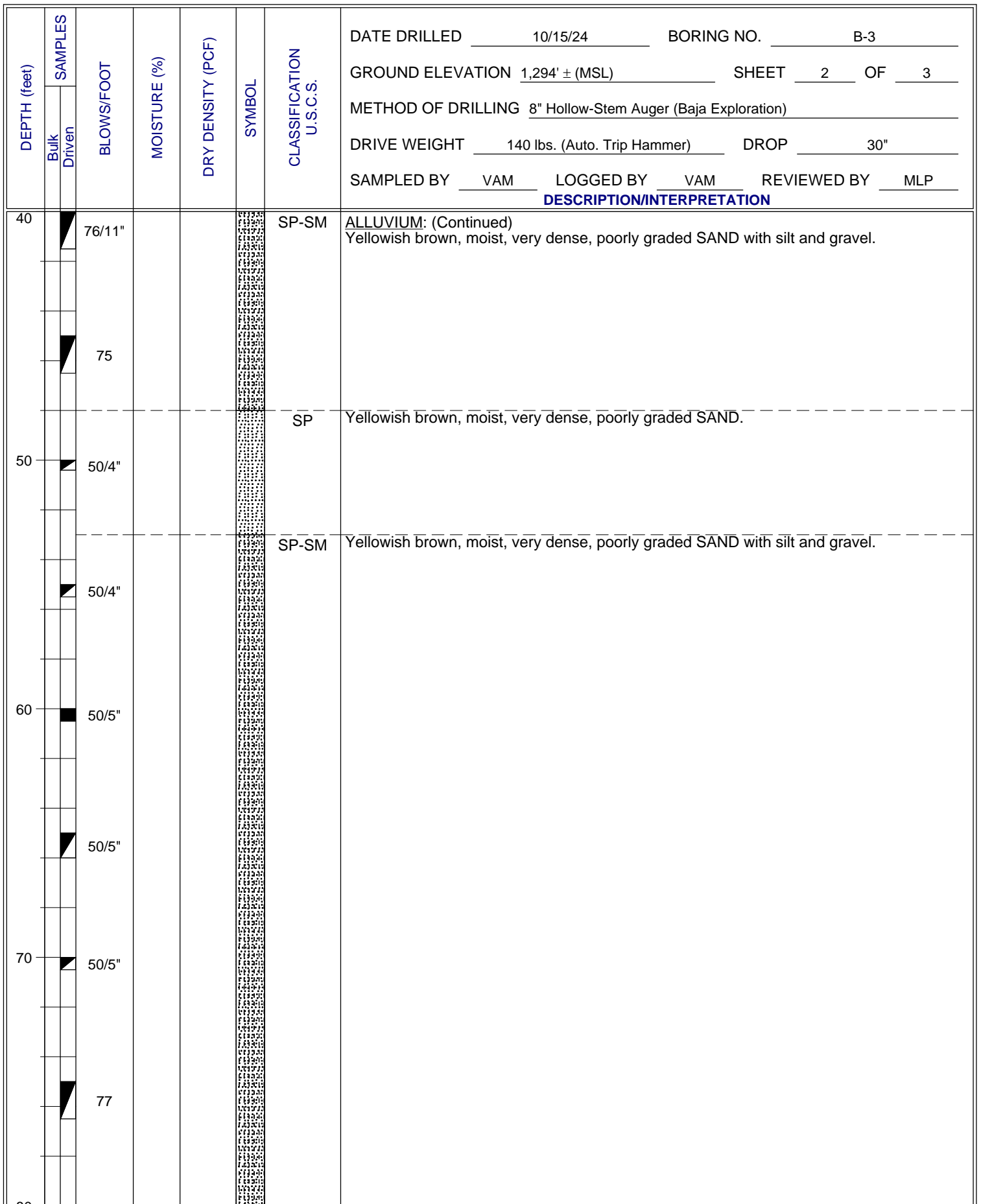


FIGURE A- 4

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>10/15/24</u> BORING NO. <u>B-3</u> GROUND ELEVATION <u>1,294' ± (MSL)</u> SHEET <u>3</u> OF <u>3</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>VAM</u> LOGGED BY <u>VAM</u> REVIEWED BY <u>MLP</u>		
	Bulk	Driven						DESCRIPTION/INTERPRETATION		
80			50/4"				SP-SM	<p><u>ALLUVIUM: (Continued)</u> Yellowish brown, moist, very dense, poorly graded SAND with silt and gravel. Total Depth = 80.3 feet. Groundwater not encountered during drilling. Backfilled with cement-bentonite grout and patched with rapid-set concrete on 10/15/24.</p> <p><u>Notes:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>		
90										
100										
110										
120										

FIGURE A- 5

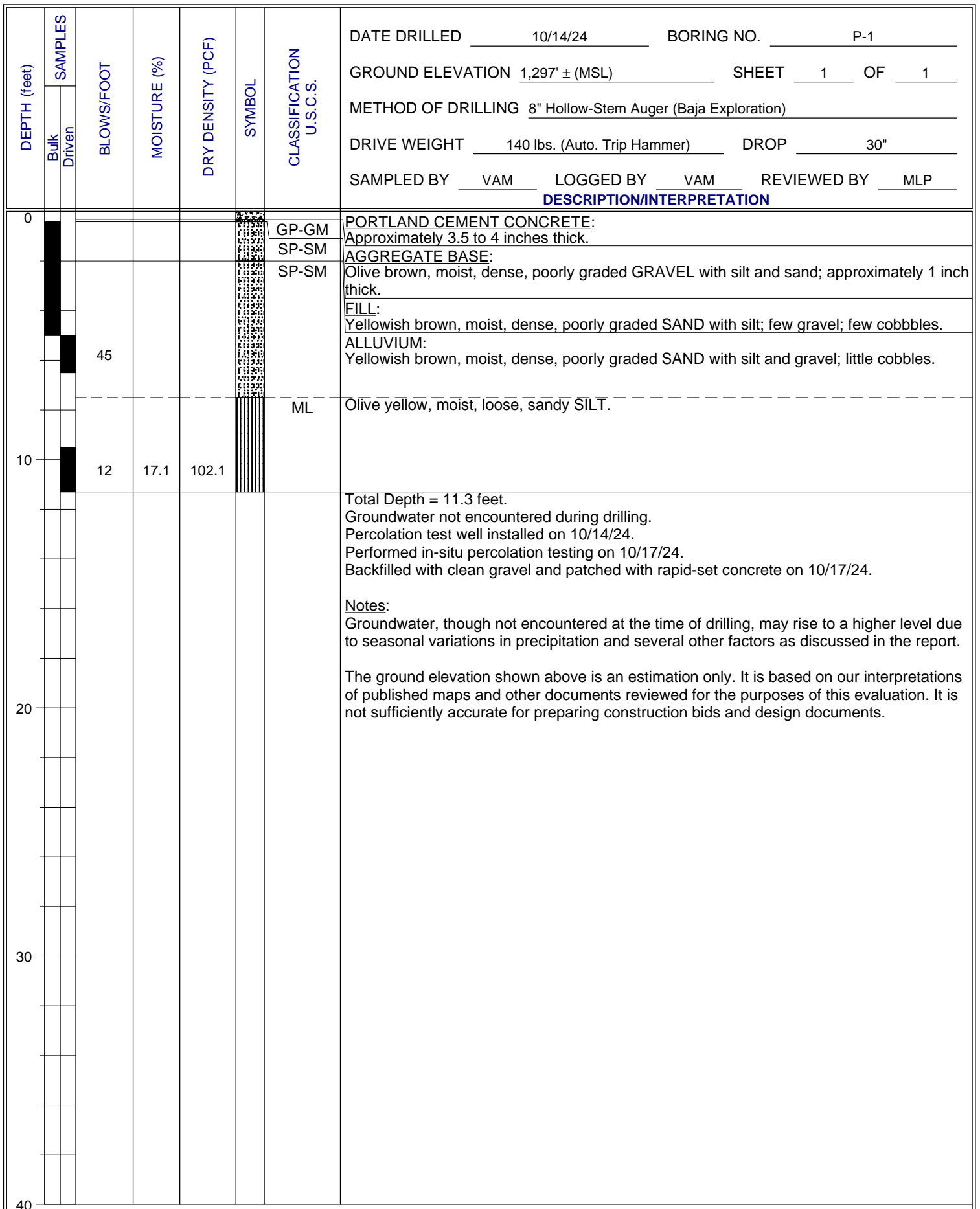


FIGURE A- 6

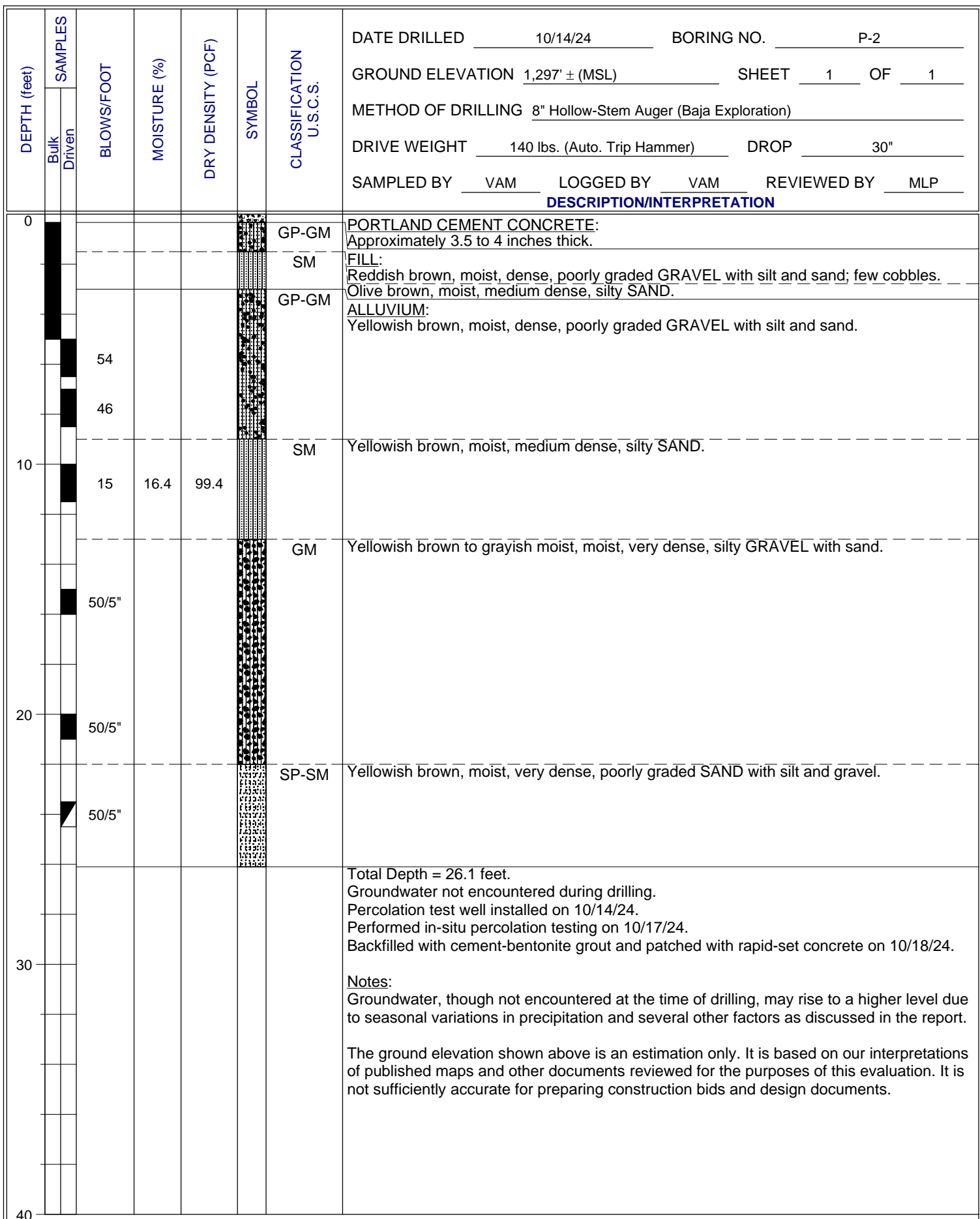


FIGURE A- 7

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>10/15/24</u> BORING NO. <u>P-3A</u> GROUND ELEVATION <u>1,294' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>VAM</u> LOGGED BY <u>VAM</u> REVIEWED BY <u>MLP</u>		
	Bulk	Driven						DESCRIPTION/INTERPRETATION		
0							SP-SM	<p>PORTLAND CEMENT CONCRETE: Approximately 6 inches thick.</p> <p>FILL: Brown, moist, medium dense, poorly graded SAND with silt and gravel; concrete debris. @ 1.4': Flat concrete surface encountered, abandoned boring and moved approximately 9 feet west (P-3B). Total Depth = 1.4 feet (Refusal). Groundwater not encountered during drilling. Backfilled with on-site soil and patched with rapid-set concrete on 10/15/24.</p> <p><u>Notes:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>		
10										
20										
30										
40										

FIGURE A- 8

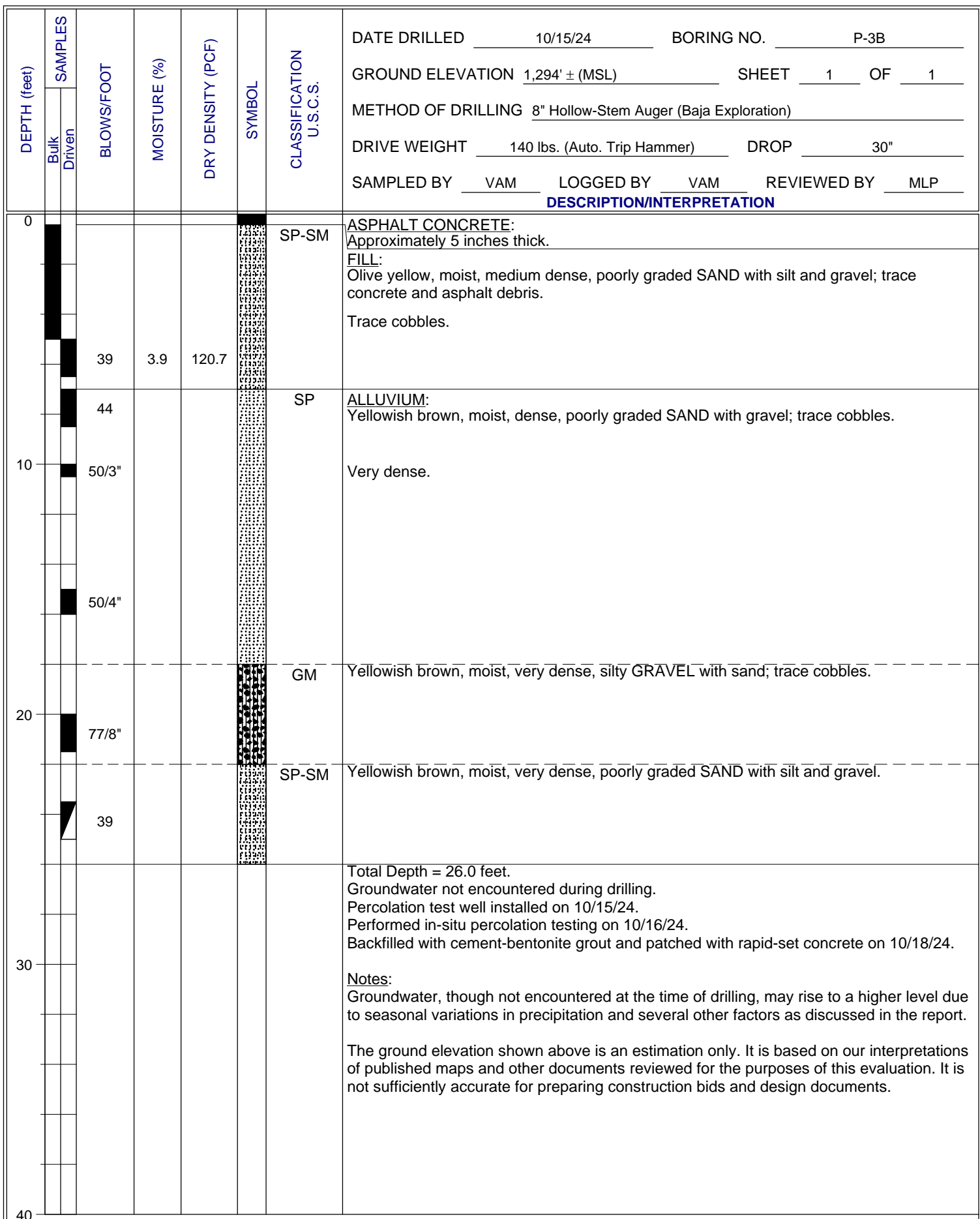


FIGURE A-9

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>10/15/24</u> BORING NO. <u>P-4A</u> GROUND ELEVATION <u>1,294' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>VAM</u> LOGGED BY <u>VAM</u> REVIEWED BY <u>MLP</u>		
	Bulk	Driven						DESCRIPTION/INTERPRETATION		
0							SP-SM	<p>PORTLAND CEMENT CONCRETE: Approximately 6 inches thick.</p> <p>FILL: Brown, moist, medium dense, poorly graded SAND with silt and gravel; concrete debris. @ 2': Flat concrete surface encountered, abandoned boring and moved approximately 9 feet west (P-4B). Total Depth = 2.0 feet (Refusal). Groundwater not encountered during drilling. Backfilled with on-site soil and patched with rapid-set concrete on 10/15/24.</p> <p>Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>		
10										
20										
30										
40										

FIGURE A- 10

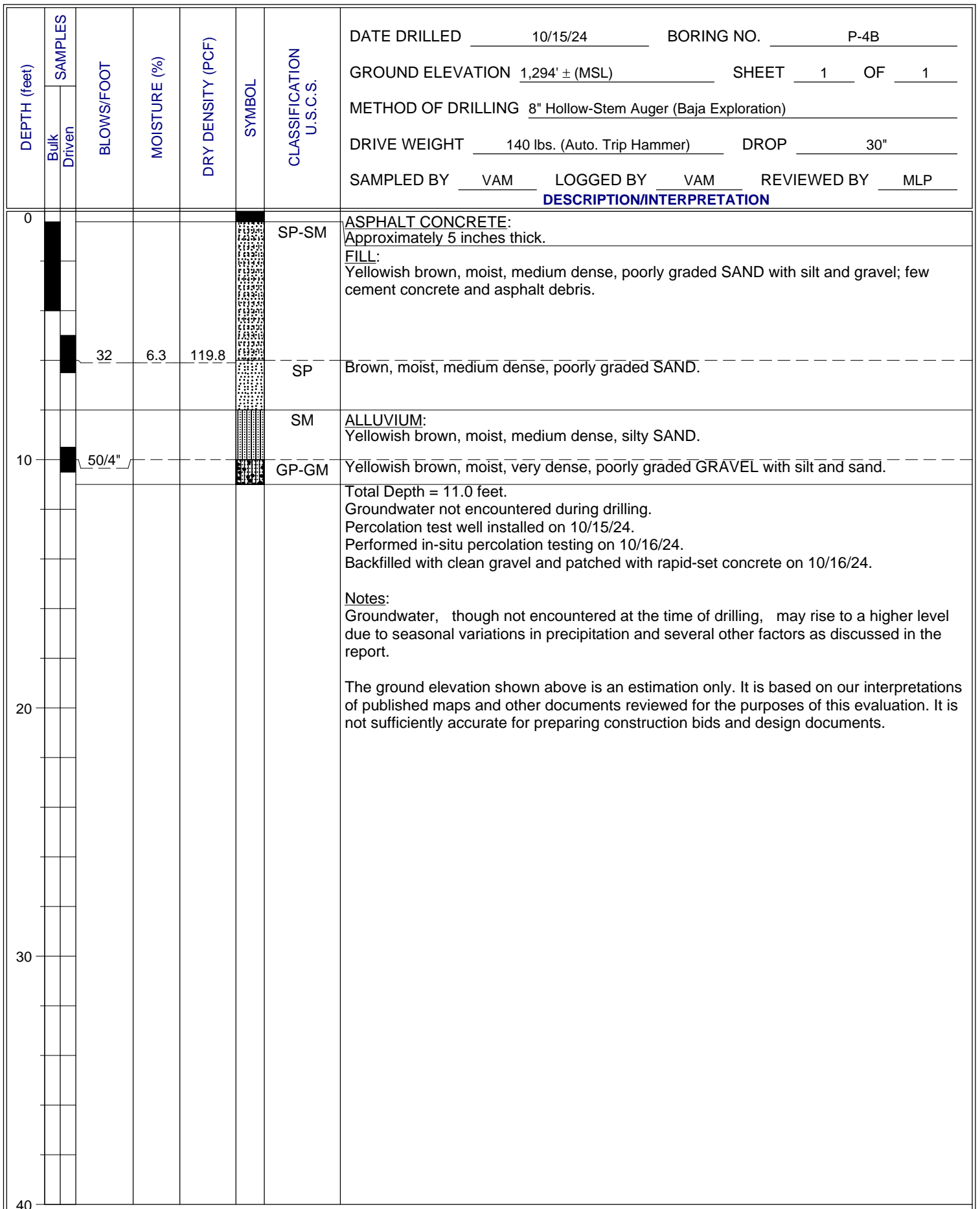


FIGURE A- 11



APPENDIX B

Laboratory Testing

APPENDIX B

LABORATORY TESTING

Classification

Soils were visually and texturally classified in adherence to the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory borings in Appendix A.

In-Place Moisture and Density Tests

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory borings were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory borings in Appendix A.

200 Wash

An evaluation of the percentage of particles finer than the No. 200 sieve on selected soil samples was performed in general accordance with ASTM D 1140. The results of the tests are presented on Figures B-1 and B-2.

Proctor Density Test

The maximum dry density and optimum moisture content of a selected representative soil sample was evaluated using the Modified Proctor method in general accordance with ASTM D 1557. The results of the test are summarized on Figure B-3.

Direct Shear Test

A direct shear test was performed on a remolded sample in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the potential fill material derived from the site soils. The sample was inundated during shearing to represent adverse field conditions. The results are presented on Figure B-4.

Consolidation Test

A consolidation test was performed on a selected relatively undisturbed soil sample in general accordance with ASTM D 2435. The sample was inundated during testing to represent adverse field conditions. The percent of consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The results of the test are summarized on Figure B-5.

R-Value

The resistance value, or R-value, for site soils was evaluated in general accordance with CT 301. Samples were prepared and evaluated for exudation pressure and expansion pressure. The equilibrium R-value is reported as the lesser or more conservative of the two calculated results. The test results are summarized on Figure B-6.

Soil Corrosivity Tests

Soil pH and resistivity tests were performed on representative samples in general accordance with CT 643. The soluble sulfate and chloride content of the selected samples were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are summarized on Figure B-7.

SAMPLE LOCATION	SAMPLE DEPTH (ft)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
B-1	5.0-6.5	POORLY GRADED SAND WITH SILT & GRAVEL	65	5	SP-SM
B-1	7.0-8.5	SILTY SAND WITH GRAVEL	84	41	SM
B-2	0.5-5.0	SILTY SAND WITH GRAVEL	67	18	SM
B-2	10.0-11.5	SILTY SAND WITH GRAVEL	65	16	SM
B-3	5.0-6.5	POORLY GRADED GRAVEL WITH SILT & SAND	52	6	GP-GM
B-3	10.0-11.5	SILTY SAND	100	25	SM
P-1	9.5-11.3	SANDY SILT	100	50	ML
P-2	5.0-6.5	POORLY GRADED GRAVEL WITH SILT & SAND	51	5	GP-GM
P-2	23.5-25.0	POORLY GRADED SAND WITH SILT & GRAVEL	65	9	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

FIGURE B-1

SAMPLE LOCATION	SAMPLE DEPTH (ft)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
P-3B	0.5-5.0	POORLY GRADED SAND WITH SILT & GRAVEL	68	11	SP-SM
P-3B	7.0-8.5	POORLY GRADED SAND WITH GRAVEL	68	4	SP
P-3B	23.5-25.0	POORLY GRADED SAND WITH SILT & GRAVEL	82	11	SP-SM
P-4B	0.5-5.0	POORLY GRADED SAND WITH SILT & GRAVEL	72	12	SP-SM

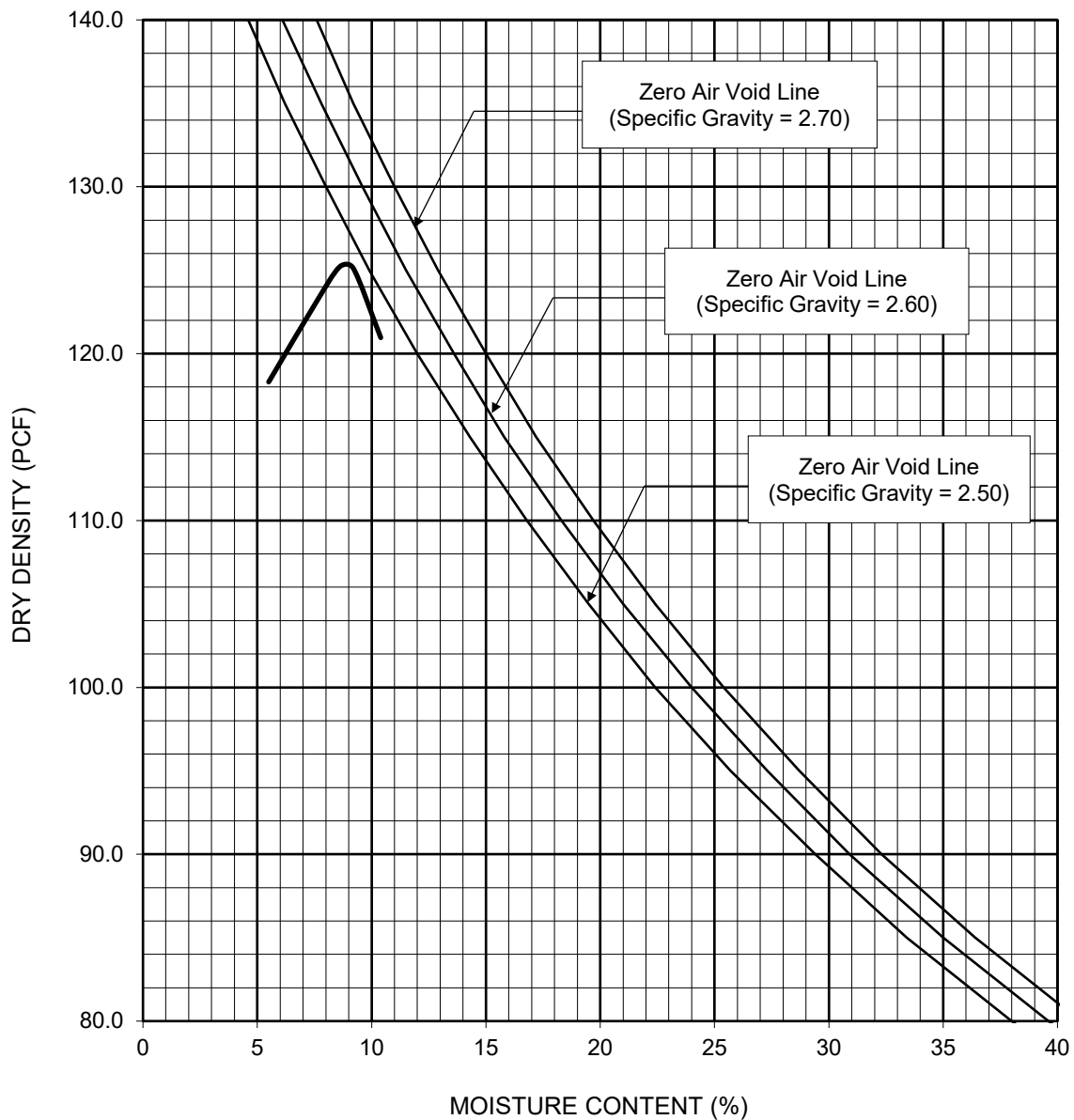
PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

FIGURE B-2

NO. 200 SIEVE ANALYSIS TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

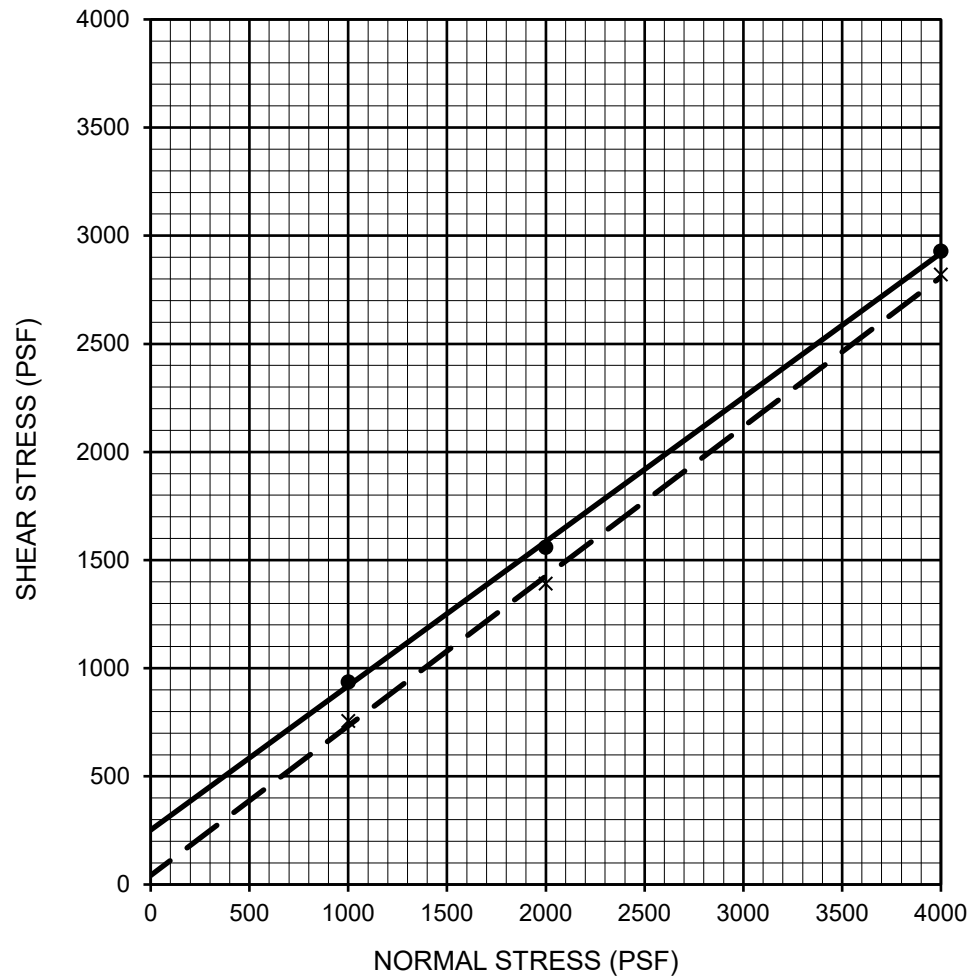
212823001 | 3/25



Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (percent)
P-3B	0.5-5.0	Olive Yellow Poorly Graded SAND with Silt & Gravel	125.2	8.6
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718)			128	8

PERFORMED IN GENERAL ACCORDANCE WITH ☒ ASTM D 1557 ☐ ASTM D 698 METHOD ☐ A ☐ B ☒ C

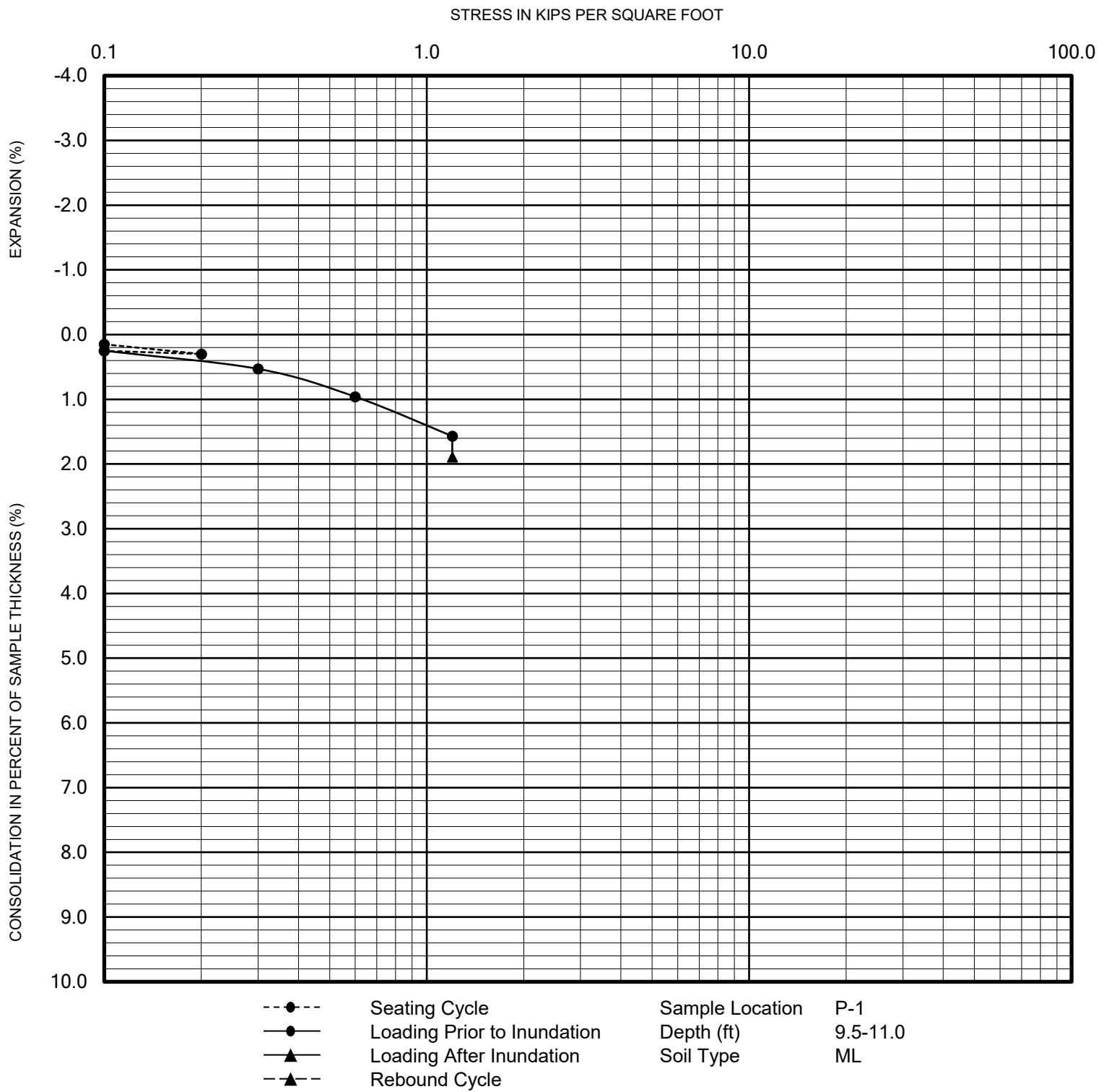
FIGURE B-3



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
POORLY GRADED SAND WITH SILT & GRAVEL	—●—	P-3B	0.5-5.0	Peak	252	34	SP-SM
POORLY GRADED SAND WITH SILT & GRAVEL	- - X - -	P-3B	0.5-5.0	Ultimate	42	35	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080 ON A SAMPLE REMOLDED TO 90% RELATIVE COMPACTION

FIGURE B-4



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435

FIGURE B-5



CONSOLIDATION TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

SAMPLE LOCATION	SAMPLE DEPTH (ft)	SOIL TYPE	R-VALUE
B-2	0.5-5.0	SM	75
P-4B	0.5-5.0	SP-SM	80

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844/CT 301

FIGURE B-6

R-VALUE TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

SAMPLE LOCATION	SAMPLE DEPTH (ft)	pH ¹	RESISTIVITY ¹ (ohm-cm)	SULFATE CONTENT ²		CHLORIDE CONTENT ³ (ppm)
				(ppm)	(%)	
B-3	0.5-5.0	6.1	7,831	10	0.001	10
P-1	0.5-5.0	6.4	15,988	10	0.001	20

¹ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643

² PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417

³ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

FIGURE B-7

CORROSIVITY TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

212823001 | 3/25



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APPENDIX IV

CITY OF FONTANA LANDSCAPE SPECIFICATION

MANUAL FOR CITY MAINTAINED

STREETSCAPES, CFD'S AND PARKS

CITY OF FONTANA

ENGINEERING DEPARTMENT

STANDARD LANDSCAPE

SPECIFICATION MANUAL

FOR CITY MAINTAINED

STREETSCAPES, CFD's, AND PARKS

MAY 2022

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PART 1 – 1**1.01 RELATED DOCUMENTS**

- A. *Review the General Conditions, Standards Specifications and Special Provisions which contain information and requirements that apply to this section.*

1.02 WORK INCLUDED

- A. *The Contractor shall supply all material, pipe, pipe fittings, automatic valves, wiring, and all labor to install a fully **Reclaimed Water** automatic sprinkler system. Restore any existing landscaping that may be disturbed during the installation.*

1.03 RELATED SECTIONS

- A. *Lawns & Grasses - Section 02930*
- B. *Trees, Shrubs, Vines and Groundcover - Section 02950*
- C. *Landscape Maintenance - Section 02970*
- D. *Electrical - Section 16000*

1.04 QUALITY ASSURANCE AND REQUIREMENTS

- A. *Permits and Fees: The Contractor shall obtain and pay for any and all permits and all inspections as required.*
- B. *Manufacturer's Directions: Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnishes directions covering points not shown in the drawings and specifications.*
- C. *Ordinances and Regulations: All local, municipal and state laws, and 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. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations or requirements of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard of larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.*

D. Applicable Standards: *General Conditions, Special Provisions, City of Fontana's Landscape Ordinance No. 1734, and Landscape construction standards Section 5000.*

E. Superintendent:

1. *A superintendent satisfactory to Agency's Authorized Representative who understands and SPEAKS ENGLISH FLUENTLY shall be present on the site at all times during progress of the work.*
2. *The Superintendent shall not be changed except with the consent of the Agency's Authorized Representative.*
3. *The Superintendent shall be authorized to represent the Contractor.*

F. Explanation of Drawings:

1. *Due to the scale of drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishings such fittings, etc., as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting and architectural features.*
2. *All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.*
3. *The irrigation system as shown on the drawings shall not be installed when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect and City's Authorized Representative. In the event this notification is not performed, the irrigation Contractor is responsible for any revision necessary.*
4. *No materials are to be purchased or installed as noted in legend on the drawing when it is obvious there is an error or discrepancy. In addition, failure to obtain prior material approval, risks rejection by the Agency's Authorized Representative. By failing to bring material discrepancies to the attention of the Agency's Authorized Representative or by failure to comply with materials submittals, the Contractor is responsible for any revisions necessary.*
5. *Work of this Section which is associated with the work of other trades shall be coordinated as necessary.*

6. *It is the intent of the drawings and specifications to provide an irrigation system with head to head coverage. The contractor is responsible for any misinterpretation of the drawings prior to or during construction. Should any discrepancy arise as to the interpretation of the drawings or specifications, the final decisions in the matter will rest with the Agency's Authorized Representative.*
- G. Underwriters Laboratories: *Electrical wiring, controls, motors, and devices shall be U.L. listed, and so labeled.*

1.05 SUBMITTALS

A. Material List:

1. *The Contractor shall furnish the articles, equipment, materials, or processes specified by name in the drawings and specifications. No substitution will be allowed without prior written acceptance by the Agency's Authorized Representative.*
2. *Complete material list shall be submitted prior to performing any work. Material list shall include the manufacturer, model number and description of all materials and equipment to be used.*
3. *Equipment or materials installed or furnished without prior approval of the Agency's Authorized Representative may be rejected and the Contractor is required to remove such materials from the site at his own expense.*
4. *Approval of any item, alternate or substitute indicates only that the product or products apparently meet the requirements of the drawings and specifications on the basis of the information or samples submitted.*
5. *Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.*
6. *If equipment is as specified, no manufacturer descriptive catalogs are necessary in submittal.*

B. Record Drawings:

1. *The Contractor shall provide and keep up to date and complete "record" set of red line drawings which shall be corrected daily and show every change from the original drawings and specifications and the exact "asbuilt" locations, sizes, and kinds of equipment. Prints for these purposes shall be the contractor's responsibility. This set of drawings shall be kept on the site and shall be used only as a record set.*

2. *The drawings shall also serve as work progress sheets and shall be the basis for measurement and payment for work completed. These drawings shall be available at all times for site reviews and shall be kept in a location designated by the Agency's Authorized Representative.*
3. *The Contractor shall make neat and legible notations on the As-built's progress sheets daily as the work proceeds, showing the work as actually installed. For example, should a piece of equipment be installed in a location that does not match the plan, the Contractor must indicate that equipment has been relocated in a graphic manner so as to match the original symbols as indicated in the irrigation legend. The relocated equipment and dimensions will then be transferred to the original record drawings at the proper time.*
4. *Before the date of the final site review, the Contractor shall transfer the Asbuilt's set of red line drawings to the Agency's or developers Authorized Representative who will deliver them to the Landscape Architect of record. The Landscape Architect shall transfer all information from the As-built's set of prints to a sepia Mylar or similar Mylar material. All work shall be in water-proof India ink and applied to the Mylar by a technical pen made expressly for use on Mylar material. Such pen shall be similar to those manufactured by Rapidograph, Kueffel & Esser, or Faber Castell. The dimensions shall be made so as to be easily readable even on the final controller chart (see Section 1.05C). **The original Mylar "record" plan shall be submitted to the Agency's Authorized Representative for approval prior to the making of controller charts.***

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. *Handling of P.V.C. Pipe and Fittings: The Contractor is cautioned to exercise care in handling, loading, unloading, and storing of P.V.C. pipe and fittings. All P.V.C. pipe shall be transported in a vehicle which allows the length of pipe to lie flat so as not to subject it to undue bending or concentrated external load at any point. Any section of pipe that has been dented or damaged will be discarded and, if installed, shall be replaced with new piping.*
- B. *When pipe is stored outdoors, it shall be covered to protect it from sunlight.*

1.07 SUBSTITUTIONS

- A. *If the Irrigation Contractor wishes to substitute any equipment or materials for those equipment or materials listed on the Irrigation drawings and specifications, he may do so by providing the following information to the Agency's Authorized Representative for approval:*

1. *Provide a statement indicating the reason for making the substitution. Use a separate sheet of paper for each item to be substituted.*
 2. *Provide descriptive catalog literature, performance charts and flow charts for each item to be substituted.*
 3. *Provide the amount of cost savings if the substituted item is approved.*
 4. *Approval of any item as a substitution or alternate is for design only, based on information or samples provided by the Contractor.*
 5. *Contractor shall be responsible for the total performance of such substitution to equal or surpass the original in every respect.*
 6. *If the substitution proves to be unsatisfactory in the opinion of the Agency's Authorized Representative, Contractor shall remove such work and replace it with originally specified item (including installation) as part of the work of this section.*
- B. *The Agency's Authorized Representative shall have the sole responsibility for accepting or rejecting any substituted item as an approved equal to equipment and materials listed on the irrigation drawings and specifications.*

1.10 CONNECTIONS TO UTILITIES

1. *Source of Water and Power Supply:* *Verify and be familiar with the location, size and detail of stub-outs provided as the source of water and electrical supply to the sprinkler system, as shown on the plans. Source of water supply and point of connection shall be new water meters or stubouts at approximate locations as shown on plans. (Unless otherwise noted).*
2. *Appropriately sized gate valves that match the size of the irrigation system will be provided by the contractor to the appropriate water company at time of meter install.*
3. *Utilities Service Charges:* *The contractor is responsible for all utilities service charges related to the work during the course of construction and construction maintenance periods until the project has been accepted by the Agency. Payment for the utilities service charges shall be considered as included in the prices paid for various items of work and no additional compensation will be made therefore.*
4. *Existing Utilities and Conditions:* *Prior to any excavation, call Dig Alert or USA (800-422-4133) to locate all cables, conduits, sewer septic tanks, and other utilities that are commonly encountered underground, and take proper precautions not to damage or disturb such improvements. If a*

conflict exists between the construction plan location of facilities and existing facilities promptly notify the Agency, who will arrange for relocations. Proceed in the same manner if rock layer or any other conditions encountered underground make changes advisable.

5. *Subsurface Condition:* *Where investigation of subsurface conditions has been made by a qualified Geotechnical and Environmental Sciences consultant in areas in which local materials may be obtained, the Contractor may request the use of such information, but will be directly responsible for its verification and accuracy.*

1.11 CONSTRUCTION OBSERVATION

1. *Notification and Access: At all times permit the Agency or its authorized agents to visit and observe the work or any part thereof. Maintain proper facilities and provide safe access for such observations to all parts of the work. Where the specifications require work to be tested, it shall not be covered up until tested or approved by the Agency and governing agencies. The Contractor shall be solely responsible for notifying the Agency's Authorized Representative forty-eight (48) hours notice minimum required, where and when such work is in readiness for approval, it shall, if so ordered, be uncovered at the Contractor's expense.*
2. *Observations required:*
 - a. *Preconstruction meeting.*
 - b. *Layout of control equipment and heads (All concrete headers to be installed prior to head layout).*
 - c. *Monitor grading to insure proper drainage prior to sod and plant installation.*
 - d. *Main line pressure test, sleeves and trench depth check. Mainline pressure test-150 PSI for 3 hours (prior to valve installation)*
 - e. *Lateral trench depth check, lateral lines and head assemblies.*
 - f. *Controller pedestal install and layout (Building and Safety inspects the actual meter pedestal)*
 - g. *Irrigation Controller unit install operation and certification.*
 - h. *Coverage test and prefinal observation. (The Agency's Authorized Representative and a City of Fontana Operation & Maintenance Inspector must be present. The Agency's authorized representative*

who will provide in writing the approval to proceed with the planting operation.)

- i. Finish grade should be 1 ½ "below all surrounding hardscapes.*
- j. All heads should be 1 ½ "above the finish grade.*
- k. Any heads in swales need to be removed.*
- l. No fixed risers in any traffic areas, they are only allowed against buildings and walls.*
- m. Inspect the installation of the sod to insure that there are no gaps between the pieces of sod.*
- n. Inspect plant material before it is installed into the ground, trees, shrubs, etc.*
- o. Check plant material and sod areas for any issues with settling dirt, missing or dead plants, and missing mulch.*
- p. When hydro seeding finish grade should be 1" below all hardscapes.*
- q. Inspect for root barriers along sidewalks.*
- r. Check root-ball location on all trees, the root ball should be at ground level.*
- s. Trees are required to have 4 ties each interlocking each other and every tree in the turf area must have an arbor guard. Also make sure trees are tied as the specifications state on the plans with two stakes at a 45° Angle toward the prevailing wind direction.*
- t. Inspect for concrete mow curbs, mow curbs shall be placed between all grass, planter areas, mulch, decomposed granite, and anywhere landscape material transitions or abuts a differing material, unless otherwise noted.*
- u. All boxes should be set to surrounding grade to allow for easy maintenance and the box and valves need to be tagged properly.*
- v. Gravel needs to be in all irrigation boxes.*
- w. Inspect backflow cages and make sure that they have a secure lock box installed and a backflow certification has been completed.*

- x. *Final observation.*
 - 1. *Make sure the whole job site is rid of any hazards that may pose a risk to the public.*
 - 2. *Developer/contractor to perform a head to head coverage test on the turf and in all irrigation areas in the planters on final walk thru with the Engineering Public works inspector and a Landscape Technician from the Public Works Department.*

1.12 COMPLETION

- A. *In judging the work, no allowance for deviation from the original plans and specifications will be made unless previously approved by the Agency.*
- B. *When any item appears on the plans and not in the specifications, or in the specifications and not on the plan, it shall be considered in both.*
- C. *The Agency or its authorized representative shall have the final authority on all items of the project.*

1.14 SERVICE BY THE CONTRACTOR

- A. *The Contractor shall service the system at the Agency's request during the guarantee period and shall be paid for work performed which is not covered by the guarantee. If requested by the Agency, the Contractor shall furnish the Agency with a schedule of service fees.*

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: *Use only new materials of brands and types noted on drawings, specified herein, or approved equals.*

2.02 PIPES AND FITTINGS

- A. ***Reclaimed Purple Pipe Shall be Used for All Applications to Make A Complete Reclaimed Water system***
- B. Pressure Main Line Piping and Fittings: *Pipe sizes two (2) inches or larger shall be P.V.C. Class 315 solvent weld type.*
- C. Pressure Main Line Piping and Fittings: *Pipe sizes smaller than two (2) inches shall be Scheduled 40 P.V.C.*

- D. Sleeves or conduit lines: Shall be installed under all paving (asphalt concrete or concrete); shall be P.V.C. Schedule 40; shall be two times diameter of the pipe enclosed; shall be installed under paving a minimum 24 inches depth; shall have separate sleeves for control wire, pressure mainline and non-pressure lateral line. Control wire sleeve size shall be as required to allow ample room for any future wire installation. (Twice the diameter of the wires to be sleeved, 1" diameter minimum sized sleeve). **Main line shall have a tracing wire for future locating and a plastic box at finish grade housing the tracing wire.**
- E. All pipe fittings shall conform to specific requirements as follows:
1. P.V.C. (Solvent Weld)
 - a. Reclaimed Purple Pipe: Manufactured from virgin polyvinyl chloride compound in accordance with ASTM D 1784 or ASTM D 2241, cell classification 12454B, hydrostatic design stress rating not less than two thousand (2,000) p.s.i.
 - b. Fittings (solvent weld or thread): Standard weight, Schedule 40, side gated, injected molded P.V.C. complying with ASTM D 1784, cell classification 13454B, including threads when required.
 2. P.V.C. nipples shall be scheduled 80 with molded threads.
 3. All P.V.C. pipe must bear the following markings:
 - a. Manufacturer's name
 - b. Nominal pipe size
 - c. Schedule or class
 - d. Pressure rating in A.S.T. (not required on drip tubing)
 - e. NSF (National Sanitation Foundation) approval (not required on drip tubing)
 - f. Date of extrusion
 4. Brass Pipe & Fittings:
 - a. Brass pipe shall be eighty-five (85) percent red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe.
 - b. Fittings shall be medium brass, screwed 125-pound class.
 5. Solvent cement and primer for P.V.C. solvent-weld pipe and fittings shall be of type and installation method prescribed by the manufacturer.

6. *Where called for on drawings, pipe shall be bell end, conforming to ASTM D-2672. Install concrete thrust blocks as recommended in Johns-Manville installation guide no. TR-624, where conditions dictate.*

2.03 ELECTRIC (HIGH VOLTAGE)/ METER ENCLOSURE

- A. *All high voltage electrical service required for automatic controller and other equipment noted on drawing for irrigation system will be provided by Contractor.*
- B. *Enclosure and irrigation controller to be purchased from the approved contractor shown on the plans or the Construction specifications Provide approved type enclosure for meter, similar to that manufactured by V.I.P. Strong Box as specified on drawing. Enclosure shall be of adequate size to house automatic controller specified on drawing. Enclosure shall be stainless steel, minimum twelve (12) gauge in thickness. Exterior covers to be minimum fourteen (14) gauge steel and shall have padlocking provisions. All factory installed components shall be U.L. listed. All factory installed conductors shall be copper, size and type conform to NEC and U.L. requirements. Enclosure shall be furnished with a detachable subbase with one-half (2) inch diameter bolts. Mounting bolts shall consist of one (1) zinc chromate primer and two (2) coats baked enamel paint.*
- C. *Electrical equipment installed outside building shall be NEMA 4 type.*
- D. *Pump starter. Provide flow switch of type as noted on drawing and connect to time delay switch and magnetic starter.*
- E. *All connections between electrical services and equipment shall be in rigid PVC or galvanized electrical conduit, with conduit and wiring size as required.*

2.04 ELECTRICAL (LOW VOLTAGE)

- A. *Connections between controller and remote-control valves shall be made with direct burial A WG-UF, 600-volt wire, insulation thickness three-sixty-fourths (3/64) inch, utilizing low density high molecular weight polyethylene insulation.*
- B. *Splices, where permitted, shall be waterproofed using Rain Bird, Pen-Tite Connectors or fusible heat shrinking tubing, and housed in a box. Boxes for other irrigation use may be utilized for this purpose.*
- C. *Wire sizing shall be a minimum of #14 "UF" 600-volt underground wiring, unless a shielded cable is used in which case #18 wire may be used. Common wire to be white in color, and all others a different color.*

Electrical control wire shall be AEF 14 AWG Type UP 600 volt (U.L.) direct burial. The wire shall be bundled, taped every ten (10) linear feet, placed adjacent to the main line. An eighteen (18") inch expansion loop will be provided for every change of direction greater than 45°.

The common wire shall be white, and the valve control wires shall be black and marked with numbered tags at both ends to identify the valve zones and controller.

The control wire shall be installed at a depth of 18" minimum below finish grade and sidewalk and sleeved 24" minimum below hard surfaces (i.e. driveways, parking lots, and 36" for streets) and backfilled with grey sand. At each electric control valve an expansion coil of twenty-four (24") inches minimum per wire shall be provided. The coil can be achieved by coiling (winding) the wire around a piece of 3/4 PVC pipe. At the controller pedestal, each control wire shall be twenty-four (24") inches longer than the required connection. The installed wire shall be neatly organized with the excess wire looped and secured to the bottom of the controller cabinet. The control wire shall be sleeved separately in SCH 40 PVC pipe sized to the number of wires to be sleeved (minimum 1" inch) under all hard surfaces.

When valve control wiring from two (2) different controllers is located within the same trench, the second controllers wiring shall be as follows:

Common Wire: White with a colored strip

Pilot Wire: Red with tags at each end identifying the controller with valve number and controller I.D.

Additional controller wiring in the same trench from a third, fourth, or more controllers shall be different in color for the pilot wires and the common wire shall be white with a different colored strip. The pilot wires shall be tagged identifying the valve and controller.

***4 Extra control pilot wires** will be installed at each controller to the terminal end. The extra wire(s) shall be looped a minimum of 48" up into each valve box. The extra wires will be identified as extra and numbered with tags at each valve box.*

All valve control wiring shall be continuous runs. Splicing of wire is unacceptable and will be rejected, unless otherwise approved by the City Landscape Inspector.

2.05 GATE VALVES

- A. *Three (3) inches and smaller (unless otherwise noted on Drawings): ASTM B-62 brass body, 150-pound saturated steam rated; with screwed joints; non-rising stem; screwed bonnet, solid disc. Provide with hand wheel.*
- B. *Four (4) inches and larger (unless otherwise noted on Drawings): ASTM A126 Class B, iron body 150-pound w.o.g. with flanged joints, non-rising stem, bolted bonnet, and double disc. Provide with hand wheel.*
- C. *Gate valves shall be NIBCO or Hammond brands or approved equal. **2.06 QUICK***

COUPLING VALVES

- A. *Brass body, 150-pound class, with three-fourths (3/4) inch female threads opening at base, permitting operation with a special connecting device (coupler) designed for this purpose. [Rain Bird #33DNP or equal].*
 - 1. *Coupler threads: lug type*
 - 2. *Hinge cover: Provide with rubber-like vinyl cover.*
- B. *Quick coupler(s) shall be installed within a ten (10) inch round lockable plastic valve box placed a maximum of 150 lineal feet apart.*
- C. *Quick coupler(s) shall be supported with a SCH 40 PVC pipe stake or equal of adequate length. The quick coupler shall be attached to the metal stake with two (2) stainless steel hose clamps.*
- D. *The quick coupler shall be attached to the main line via a triple swing assembly.*

2.07 BACKFLOW PREVENTION UNITS

- A. *Backflow preventer design to operate on a "reduced pressure" principle; equipped with gate valves and field test cock.*
- B. *Wye strainers in backflow prevention units shall be 125# class cast brass with forty (40) mesh Monel screen, unless otherwise noted on drawing.*
- C. *The backflow unit shall be housed in a protective housing as noted on drawing or equal as approved by the City.*
- D. *Backflow device shall be Per City Std Plan Number 5007*

Wilkins 375XL lead free Plastic Backflow Preventer

Wilkins 500XL Pressure Regulator Low Range for pressures from 0 PSI to 75 PSI lead free

Wilkins 600XL Pressure Regulator High Range for pressures from 75 PSI to 120 PSI lead free

Install EZ-Flo fertilizing system EZ0XX-HC install directly in the irrigation mainline after the backflow preventer. SIZED PER STD 5007.

2.08 AUTOMATIC CONTROLLER

- A. *Refer to City Std Plan No. 5005 for contact information, assembly model numbers and other details regarding irrigation controllers.*

2.09 REMOTE CONTROL VALVES

- A. *Valve type: spring-loaded, pack less diaphragm activated, normally closed type with brass body, equipped with flow control and pressure regulation. Electric valves shall be Rain Bird with pressure regulator capabilities or approved equal.*
- B. *Valve solenoid: 24-volt a.c. 4.5 watt maximum, 500 mili-amp maximum surge, corrosion-proof, stainless steel construction, epoxy encapsulated to form a single integral unit.*
- C. *Provide bleeder valve to permit operation in the field without power at the controller.*
- D. *Valves shall be installed a minimum of six (6) feet from all fixed objects and twentyfour (24) inches apart. [One (1) valve per box; valve boxes shall be installed a minimum of twelve (24) inches apart].*
- E. *Valves shall not be installed in a manifold configuration unless otherwise noted on approved plans.*
- G. *Valves for planted annual color beds shall be on a separate valve*
- F. *FLOMEC Flow sensors that detect flow conditions created by system damage or malfunction are required for all on non-residential landscapes, residential landscapes of 5000 sq. ft. or larger, and CFD's and must be connected to the controller. See Std Dwg# 5010 for details*
- H. *To greatly reduce any water loss due to a leaking station valve. Rain bird, master shut-off valves are required to be installed at the irrigation supply point which controls water flow into the irrigation system and must be connected to the controller. See Std Dwg# 5010 for details*

2.10 SMALL LAWN SPRINKLER HEADS – RAIN BIRD 1800

- A. *Sprinklers shall be similar in all respects to type noted in legend on drawing.*
- B. *Nozzle shall rise a minimum of 6 inches.*
- C. *All sprinkler bodies or nozzles shall be equipped with a built-in check valve for eliminating low head drainage.*
- D. *The sprinkler heads shall be attached to the lateral lines via a triple swing assembly.*

2.11 SMALL SHRUBBERY SPRINKLER HEADS – RAIN BIRD 1800

- A. *Sprinklers shall be similar in all respects to type noted on drawing.*

2.12 ROTARY SPRINKLER HEADS Rain Bird Falcon 5000

- A. *Type: gear driven, with pop-up sprinkler heads equipped with built-in check valves.*
- B. *Part circle heads shall have variable arc setting.*
- C. *Rotary sprinkler heads shall be attached to the lateral lines via a triple swing assembly.*

2.13 VALVE BOXES

- A. *Carson Brand Valve boxes shall be fabricated from a durable plastic material resistant to weather, sunlight and chemical action of soils with **Purple** covers.*
- B. *Remote control valve and flow sensor boxes shall be **Purple** rectangular lockable plastic boxes (12" x 18") AMETEK or approved equal, with hinged snap covers.*
- C. *Gate valve boxes shall be **Purple** ten (10) inch round lockable plastic boxes with exterior as required to properly protect valve, AMETEK or approved equal.*
- D. *Refer to City Std Plan No. 5047 for valve box installation*

2.14 TREE IRRIGATORS (DRIP/BUBBLERS)

- A. *Provide assemblies as indicated on drawings, including vents.*

2.15 PUMPS (All Pumps to be Variable Speed)

- A. *Provide pump with capacity and total dynamic head as noted on drawing.*
- B. *Booster package shall be mounted on a common steel base with all interconnecting piping and wiring completed prior to shipment.*
- C. *Booster station shall be complete with a flange, suction and discharges. Bronze fitted close coupled centrifugal pump with HP, voltage, and cycle as noted on drawing. Unit to be completed with a Simplex UL listed control panel in NEMA 3 weather proof enclosure with magnetic starter. Fusible disconnect switch, HOA selector switch, control transformer, and relays as required.*
- D. *Booster pump station shall be completely enclosed in a 14 gauge enclosure, of a size to fit pump, fittings, and control panel as shown in detail. If not stainless steel the unit will be painted with two coats of Rust-o-leum, HUNTER green color. Mechanical hinges shall be installed for support of lid.*
- E. *Pumps shall be controlled by the following:*

1. *Pressure switch with minimum run timer mounted inside electrical panel with two contact points Mercoird DP Series.*
 2. *Flow switch.*
- F. *The pump shall be equipped with the following additional controls:*
1. *Low suction pressure shut down.*
 2. *High discharge pressure shut down.*
- G. *Retain a factory-trained representative to check installation and perform start-up services, including adjustment of all equipment.*

2.16 RAIN BIRD XF SERIES DRIP IRRIGATION

- A. *Provide all labor, materials, supplies, equipment, tools, and transportation, and perform all operations in connection with and reasonably incidental to the complete installation of the XF SERIES drip irrigation system that is applicable to the application, as shown on the drawings, the installation details, and as specified within the manufactures requirements and specifications for the applicable applications for the type of drip system chosen.*

PART 3 - EXECUTION

3.01 SITE CONDITIONS

- A. *All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions and receive Agency's Authorized Representative's approval prior to proceeding with work under this section.*
- B. *USA/Dig Alert (1-800-422-4133) shall be contacted, and all utility lines marked prior to excavating. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities which are caused by his operations or neglect. Check existing utilities drawings for existing utility locations.*
- C. *Coordinate installation of sprinkler irrigation materials including pipe, so there will be No interference with utilities or other construction or difficulty in planting trees, shrubs, and ground covers.*
- D. *The Contractor shall carefully check all grades to satisfy themselves that they may safely proceed before starting work on the sprinkler irrigation system.*

E. *Discrepancies:*

1. *In the event of discrepancy, immediately notify the Agency's Authorized Representative.*
2. *Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.*

3.02 PREPARATION

A. *Water Supply:*

1. *The Contractor will provide new meters and is responsible for obtaining all permits and the installation of the meters.*
2. *Sprinkler irrigation system shall be connected to water supply points of connection as indicated on the drawings.*
3. *Connections shall be made at approximate locations as shown on drawings. Contractor is responsible for minor changes (plus or minus 20 feet) caused by actual site conditions.*

B. *Observation Schedule:*

1. *Contractor shall be responsible for notifying the Agency's Authorized Representative in advance for the following observation meetings, according to the time indicated:*
 - a. *Pre-Construction Meeting - five (5) days.*
 - b. *Pressure supply line installation, sleeves and testing - seventy-two (72) hours.*
 - c. *Control wire installation and sleeves - seventy-two (72) hours.*
 - d. *Lateral line, sleeves and sprinkler installation - seventy-two (72) hours.*
 - g. *Final site review - five (5) days.*
2. *When observations have been conducted by other than the Agency's Authorized Representative, show evidence in writing and photos of when and by whom these observations were made.*
3. *At all times maintain a current and updated set of plans on the job site. No site observations will commence without record drawings. In the event the Contractor calls for a site visit without preparing the system for said visit, he shall be responsible for reimbursing the Agency's Authorized Representative at his current billing rates per hour, portal to portal, (plus transportation costs) for inconvenience. No further site visits will be scheduled until this charge has been paid and received.*

C. Physical Layout:

1. *All piping or equipment shown diagrammatically on drawings outside planting areas shall be installed inside planting area whenever possible and to exact dimensions as noted in construction details.*

3.03 INSTALLATION

A. General:

1. *All plastic pipe and fittings shall be installed in complete accord with manufacturer instructions for same.*
2. *If gasket type pipe and/or any pipe is larger than two and one half (2-1/2) inches is used, provide concrete thrust blocks at each change of direction and at terminal points of all rubber gasket piping. Block in accord with pipe manufacturer's instructions.*
3. *Line Clearance: All lines shall have a minimum clearance of six (6) inches from each other and from lines of other trades. Parallel lines shall not be installed directly over one another.*

B. Trenching:

1. *Depth of trenches shall be sufficient to provide a minimum cover above the top of the pipe as follows:*
 - a. *Fourteen (14) inches over non-pressure rotor pop-up lines (minimum).*
 - b. *Twelve (12) inches over non-pressure lateral lines (minimum).*
 - c. *Eighteen (18) inches over potable sprinkler mainline.*
 - d. *Twenty-four (24) inches cover minimum over pipe serving a drinking fountain or pressure sprinkler mainline three (3) inches and larger.*
 - e. *Where pipe and/or control wiring crosses under paving, it shall be sleeved separately twenty-four (24) inches below sub grade. **All crossings shall have trace wires and 3" Letters IX for irrigation crossing etched on the curb as well as an 8" round box with the tracing wire coiled in the box. Location to be approved by the City inspector.***
 - f. *Surplus earth remaining after backfilling shall be disposed of on/off the premises as directed by the Agency.*

- g. Eighteen (18) inches cover over control wires (minimum).*
- 2. Trench bottom shall be flat to ensure piping is supported continuously on an even grade with 3" sand bedding.*
- 3. Where lines occur under paved areas, consider dimension to be below the subgrade.*
- 4. Excavate trenches to required depths. Follow approved layout for each system.*

C. Backfilling:

- 1. Buried pipe in trenches shall be center loaded only until all required tests are performed. Trenches shall be carefully backfilled with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, or other approved materials, free from large clods of earth or stones. Backfill shall be mechanically compacted in landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill will conform to adjacent grades without dips, sunken areas, humps or other surface irregularities.*
- 2. A fine granular material backfill will be initially placed on all lines. No foreign matter larger than one half (2) inch in size will be permitted in the initial 6" of backfill measured from the top of the pipe. Two (2) inch rock screening of backfill material is acceptable.*
- 3. Flooding of trenches will be permitted only with approval of the Agency's Authorized Representative.*
- 4. If settlement occurs and subsequent adjustments in pipe, valves, sprinkler heads, lawn or planting areas, or other construction are necessary, the Contractor shall make all required adjustments without cost to the Agency.*

D. Trenching and Backfill Under Paving:

- 1. Trenches located under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with sand (a layer three (3) inches below the pipe and six (6) inches above the pipe), and compacted in layers to (95) percent compaction using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in a firm unyielding condition. All trenches shall be left flush with the adjoining grade. The Sprinkler Irrigation Contractor shall set in place sleeves, cap and pressure test all piping under paving prior to paving work.*
- 2. Piping under existing walks is generally done by jacking, boring or hydraulic driving. Any cutting or breaking of sidewalks and/or concrete necessary shall be performed by the Contractor, and paving replaced in kind as a part*

of the contract cost. Permission to cut or break sidewalks and/or concrete shall be obtained from the Agency's Authorized Representative. No hydraulic driving will be permitted under asphaltic concrete paving.

- 3. Coordinate installation of sleeves for piping and wires under paved areas with General Contractor.*
- 4. The installing contractor will install sleeves for future installation of water lines and wires unless otherwise noted.*

E. Assemblies:

- 1. Routing of sprinkler irrigation lines as indicated on the drawings is diagrammatic. Install lines (and various assemblies) in such a manner as to conform to the details per plans.*
- 2. Install NO multiple assemblies in plastic lines. Provide each assembly with its own outlet.*
- 3. Install all assemblies specified herein in accordance with respective detail. In absence of detail drawings or specification pertaining to specific items required to complete work, perform such work in accordance with best standard practice, with prior approval from Agency's Authorized Representative.*
- 4. P.V.C. pipe and fittings shall be thoroughly cleaned of dirt, dust and moisture before installation. Installation and solvent welding methods shall be as recommended by the pipe and fitting manufacturer.*
- 5. On P.V.C. to metal connections, the Contractor shall work the metal connections first. Teflon tape or approved equal shall be used on all threaded P.V.C. to P.V.C., and on all threaded P.V.C. to metal joints. Light wrench pressure is all that is required. Where threaded P.V.C. connections are required, use the threaded P.V.C. adapters into which the pipe may be welded.*
- 6. Quick coupling valves: Unless otherwise indicated, locate valves within twelve (12) inches of hardscape.*
- 7. Install backflow assemblies in shrub areas at minimum height permitted by local codes, unless otherwise approved.*
- 8. All major equipment shall be verified for exact location with the Agency's Authorized Representative.*

F. Automatic Controller:

1. *Install as per manufacturer's instructions. Remote control valves shall be connected to controller in numerical sequence as shown on drawings.*
2. *Controller shall be mounted inside the electrical pedestal.*

G. *Flushing System:*

1. *After all new sprinkler pipe lines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened, and full head of water used to flush out the system.*
2. *Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Agency's Authorized Representative.*

H. *Sprinkler Heads:*

1. *Install the sprinkler heads as designated on the drawings and in accordance with their respective detail.*
2. *Spacing of heads shall not exceed the maximum indicated on the drawings. In no case shall the spacing exceed the maximum recommended by the manufacturer.*
3. *The Contractor is responsible for the placement of heads to achieve head to head coverage.*

I. *Valve Boxes:*

1. *All buried valves and equipment shall be installed with a proper box.*
2. *Fill area under box with a minimum of three (3) cubic feet of three-fourths (3/4) inch gravel before box is installed.*
3. *Identification tags shall be attached to each remote-control valve, showing number that corresponds with controller sequence. Tags shall be manufactured of polyurethane Behr Desopaid, purple in color with black letters two and three-fourths (2-3/4) inches by two and one-fourth (2-1/4) inches.*
4. *Brand valve box covers in four (4) inch high numbers that corresponds to sequencing shown on drawings.*
5. *Refer to City Std Plan No. 5047 for valve box installation*

J. *Electrical Supply:*

1. *220-volt electrical service for pump shall be provided for by Contractor.*

2. *Low voltage wiring shall be placed in the same trench and along side of main lines unless otherwise approved.*
3. *When more than one wire is placed in a trench, tape wires together at a maximum ten (10) feet on center.*
4. *Provide an eighteen (18) inch expansion loop at each directional change, and a twenty-four (24) inch coil at each connection.*
5. *Use a continuous wire between controller and remote-control valves. Except as otherwise approved, do not splice at any point. All approved splices shall be enclosed in an acceptable box.*
6. *Each controller shall be provided with separate ground wire.*

K. *Control Wires:*

1. *All electrical equipment and wiring shall comply with local and state codes and be installed by those skilled and licensed in the trade. Unless the governing code specifies otherwise, low voltage control wire may be installed by the sprinkler irrigation Contractor.*
2. *Connecting and splicing of wire at the valves shall be made using Pen-Tite Connectors, Scotch-Lok, or approved equal. No other splices will be allowed.*
3. *Tape all control wire to the side of all mains at ten (10) foot intervals.*

3.04 FIELD QUALITY CONTROL

A. *Adjustment of the System:*

1. *The Contractor shall adjust all sprinkler heads and valves for optimum performance and to prevent as much as possible any overspray onto walks and roadways. No spray is permitted on buildings.*
2. *If it is determined that adjustments in the irrigation equipment will provide proper and more adequate coverage, the Contractor shall make such adjustments prior to planting. Adjustments may include changes in nozzle sizes, trajectory of spray or degrees of arc, as required.*
3. *All sprinkler heads shall be set perpendicular to finished grades unless otherwise designated on the plans and at height and distance from walks, buildings, etc., as noted.*

B. *The Contractor is responsible for protecting all existing landscaping. Any existing landscaping removed shall be properly replaced, including any sod.*

C. *Testing of Irrigation System:*

1. *Test all pressure lines under hydrostatic pressure at one hundred fifty (150) pounds per square inch or fifty (50) pounds per square inch more than the normal static pressure (whichever is greater) and prove watertight. Note: This test must be performed prior to paving and must hold pressure on a pressure gauge for **three (3) hours**.*
2. *Testing of pressure main lines occur prior to installation of electrical control valves, quick couplers or any other equipment that might prevent a proper test from being performed.*
3. *All piping under paved main lines shall be tested under hydrostatic pressure of one hundred fifty (150) pounds per square inch or fifty (50) pounds per square inch more than normal static pressure (whichever is greater) and proved watertight. Note: This test must be performed prior to paving and must hold pressure on a pressure gauge for **three (3) hours**.*
4. *Sustain pressure in lines for not less than three (3) hours. If leaks develop, replace joints and repeat test until entire system is proved watertight.*
5. *All hydrostatic tests shall be made only in the presence of the Agency's Authorized Representative, or other duly authorized representative of the Agency. No pipe shall be completely backfilled until it has been inspected, tested and approved in writing.*
6. *Furnish necessary pressure force pump and all other test equipment.*
7. *When the sprinkler irrigation system is completed, perform a coverage test in the presence of the Agency's Authorized Representative, to determine if the water coverage for planting areas is complete and adequate. Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Agency's Authorized Representative. This test shall be accomplished and passed before any ground cover of turf is planted.*
8. *Upon completion of each phase of work, entire system shall be tested and adjusted to meet site requirements.*
9. *Low voltage wiring under paving shall be tested for continuity, prior to paving when over fifty (50) feet.*
10. *No planting of trees, shrubs, ground cover or turf shall be installed prior to approval of the irrigation coverage test by the Agency's Authorized Representative.*

3.05 MAINTENANCE

- A. *The entire sprinkler irrigation system shall be under fully automatic operation for a period of seven days prior to any planting.*
- B. *The Agency's Authorized Representative reserves the right to waive or shorten the operation period.*
- C. *After the maintenance period, the Contractor shall demonstrate in the presence of the Agency's Authorized Representative the system is in perfect operating order.*

3.06 CLEAN-UP

- A. *Clean-up shall be performed as each portion of the work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be washed down, and any damage sustained to the work of others shall be repaired and work of others shall be repaired, and work returned to its original condition.*

3.07 OPERATING INSTRUCTIONS

- A. *The Contractor shall be required to train Agency's maintenance personnel in proper operation of all major equipment. Provide written evidence of the person or persons so trained to the Agency's Authorized Representative.*

3.08 EXISTING TREES

- A. *When it is necessary to excavate adjacent to existing trees, use all possible care to avoid injury to tree trunk, branches and tree roots. Excavation in areas where two (2) inch and larger roots occur shall be done by hand. All roots two (2) inches and larger in diameter shall be tunneled under and shall be heavily wrapped with burlap, to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots smaller than two (2) inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts. Roots one (1) inch and larger in diameter shall be painted with two (2) coats of Tree Seal, or approved equivalent. Trenches adjacent to tree should be backfilled within twenty-four (24) hours. Where this is not possible, the side of the trench adjacent to the tree shall be kept shaded with burlap or canvas.*

END OF IRRIGATION SYSTEM SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Related Requirement: Review the General Conditions, Standard Specifications, Special Provisions, and the City of Fontana Park Design Standards which contain information and requirements that apply to this Section.

a. Refer to the City Of Fontana Park Design Standards Manual. Please contact City of Fontana's Public Works Department's Landscape Division for the current up to date information as it pertains to your project.

Public Works Department Contact Info: Luis Villalobos at 909-350-6776 or lvillalobos@fontana.org

B. Work Included: Provide site and street furnishings complete, as shown, and as specified.

C. Related Work in Other Sections:

1.02 QUALITY ASSURANCE

A. Applicable Standards: Any reference to the "Standard Specifications" or "ASTM" shall mean the current or latest editions as described below:

1. "Standard Specifications" - "Standard Specifications for Public Works Construction": 2015 Edition; Southern California Chapter, American Public Works Association and Southern California Districts Associated General Contractors of California.

2. "ASTM" - American Society for Testing and Materials

B. Compatibility With Adjacent Materials: Verify that all site furnishings are compatible with adjacent site improvements by others, and that their installation shall not adversely affect either the site furnishings of existing or proposed site improvements.

1.03 SUBMITTALS

A. Samples and Product Data: Submit samples or manufacturer's current literature for the following items:

1. Color and finish for each type of furnishing.

2. Installation instructions and recommendations for general maintenance.

- B. Test Data: Copies of all applicable laboratory test data and reports.
- C. Shop Drawings: All site furnishings being installed or fabricated by Contractor.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Labeling: Furnish all materials in manufacturer's unopened, original containers, bearing original labels showing quantity, description and name of manufacturer.
- B. Delivery: Deliver and unload at the site on pallets and bound in such a manner that no damage occurs to the product.
- C. Storage: Store products in a manner which will preclude all damages. Damaged materials will be rejected. Remove all damaged materials from the job site immediately and replace at no cost to the Agency.
- D. Handling: Furnish suitable equipment to locate all site furnishing materials carefully and efficiently. Lift materials using lifting inserts provided by manufacturer where applicable.

PART 2 - PRODUCTS

2.01 PREFABRICATED MATERIALS

- A. Refer to the City of Fontana Park Design Standards Manual. Please contact City of Fontana's Public Works Department's Landscape Division for the current up to date information as it pertains to your project.

Public Works Department Contact Info: Luis Villalobos at 909-350-6776
Lvillalobos@fontana.org

PART 3 - EXECUTION

3.01 GENERAL

- A. Acceptance: Do not install site and street furnishings prior to acceptance by Agency's Authorized Representative of area to receive such materials.
- B. Locations: Install as directed and as shown on the Drawings.
- C. Special Precautions: Guard against staining or damaging of existing pavements and plantings where site furnishings are to be installed.

3.02 CONCRETE PADS AND FOOTINGS

- A. Layout: Accurately layout all pads and footings as called for in the Drawings.
- B. Installation: Excavation form as required and fill for pads and footings as specified

3.03 CLEAN-UP

- A. Keep all areas of work clean, neat and orderly at all times.
- B. Clean up and remove all debris from the entire work area to satisfaction of Agency's Authorized Representative prior to Final Acceptance.

END OF SITE AND STREET FURNISHINGS SECTION

PART 1 – GENERAL**1.01 DESCRIPTION**

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this Section.
- B. Work Included: Provide all products and execute all labor to achieve soil preparation, complete as shown and as specified.
- C. Related Work in Other Sections: Irrigation System - Section 02810
Lawns and Grasses - Section 02930
Trees, Shrubs, and Ground Covers - Section 02950
Landscape Maintenance - Section 02970

1.02 QUALITY ASSURANCE

- A. Applicable Standards: General Conditions, Special Provisions,
- B. Provide certificates of inspection required by law for transportation with invoice. File copies of certificates with Agency's Authorized Representative after acceptance of material. Inspection by governmental officials at point of origin does not preclude rejection of materials at project site.

1.03 SUBMITTALS**SOILS MANAGEMENT PLAN REQUIREMENTS:**

1. IN ORDER TO REDUCE RUNOFF AND ENCOURAGE HEALTHY PLANT GROWTH, A SOIL MANAGEMENT REPORT SHALL BE COMPLETED BY THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, AS FOLLOWS:
 - A. SUBMIT SOIL SAMPLES TO A LABORATORY FOR ANALYSIS AND RECOMMENDATIONS.
 - B. SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS.

2. *THE SOIL ANALYSIS SHALL INCLUDE:*

- A. *SOIL TEXTURE*
- B. *INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE*
- C. *PH*
- D. *TOTAL SOLUBLE SALTS*
- E. *SODIUM*
- F. *PERCENT ORGANIC MATTER*
- G. *AND RECOMMENDATIONS.*

3. *IN PROJECTS WITH MULTIPLE LANDSCAPE INSTALLATIONS (I.E. PRODUCTION HOME DEVELOPMENTS) A SOIL SAMPLING RATE OF 1 IN 7 LOTS OR APPROXIMATELY 15% WILL SATISFY THIS REQUIREMENT. LARGE LANDSCAPE PROJECTS SHALL SAMPLE AT A RATE EQUIVALENT TO 1 IN 7 LOTS.*

4. *THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, SHALL COMPLY WITH ONE OF THE FOLLOWING:*

- A. *IF SIGNIFICANT MASS GRADING IS NOT PLANNED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE CITY AS PART OF THE LANDSCAPE DOCUMENTATION PACKAGE*
- B. *OR IF SIGNIFICANT MASS GRADING IS PLANNED, THE SOIL MANAGEMENT REPORT SHALL BE MADE AVAILABLE TO THE CITY INSPECTOR DESIGNATED BY THE CITY ENGINEER, AND TO THE LANDSCAPE CONTRACTOR PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL, AND SUBMITTED WITH THE CERTIFICATE OF COMPLETION*

5. *Samples and Product Data: Prior to delivery to site, submit samples and manufacturer's literature to the Agency Authorized Representative for the following items:*

- 1. *Organic Amendments: One (1) pint for each type*
- 2. *Topsoil: One-half (2) pound*
- 3. *Soil Mixes: One-half (2) pound for each type*
- 4. *Sand: One-half (2) pound*
- 5. *Chemical Additives: One (1) pint for each type*

B. *Test Data: Submit all laboratory test data for all materials.*

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Labeling: Furnish standard products in unopened manufacturer's standard containers bearing original labels showing quantity, analysis and name of manufacturer.
- B. Storage: Store products with protection from weather or other conditions which would damage or impair the effectiveness of the product.

1.05 ANALYSES OF SAMPLES AND TESTS

- A. Sampling: Agency's Authorized Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Furnish samples upon request by Agency's Authorized Representative.
- B. Rejected Materials: Remove rejected materials immediately from the site at Contractor's expense.
- C. Testing: Pay cost of testing of materials not meeting specifications.

1.06 PRE-PLANT REVIEW

- A. Acceptance: Work will be accepted by the Agency's Authorized Representative upon satisfactory completion of all soil preparation work.
- B. Notification: Notify Agency's Authorized Representative forty-eight (48) hours in advance for review of soil preparation prior to proceeding with planting operations.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. General Qualifications: Soil Preparation
 - 1. Prior to planting **compacted** soil SHALL be transformed to a friable condition
 - 2. In addition to the required soil amendments Install Compost at a minimum rate of four cubic yards per 1,000 square feet of permeable area SHALL be incorporated to a depth of 6 inches into soil

3. Composition: Use only fertile, friable, well-drained soil, of uniform quality, free of stones over 1 in. diameter, sticks, oils, chemicals, plaster, concrete and other deleterious materials, as a planting medium for the project and as per the Public Works Inspectors direction.
4. Testing:
 - a. Parasites: Test all soils which have been previously used for agriculture forenmatodes. It shall be acceptable if the parasites nematode population is less than two hundred (200) per five (5) cubic centimeters of soil. Do not artificially dry soil prior to testing.
 - b. Herbicide: Perform a radish/ryegrass growth trial if herbicide contamination is suspected. Consult with Agency's Authorized Representative prior to testing.
- B. Existing Soil to be Amended: Inspect existing soil and do all work necessary to bring it to standards specified under "General Qualifications" above. Amend as specified herein.

2.02 ORGANIC AMENDMENTS

- A. Nitrogen-Treated Sawdust: Derived from redwood, fir, or cedar sawdust.

1. Physical Properties:

<u>Percent Passing</u>	<u>Sieve Size</u>
95-100	6.35 mm (1/4")
80-100	2.38 mm (#8, * mesh) 0-30
	500 microns (#35, 32 mesh)

2. Chemical Properties:

Nitrogen Content (dry weight basis):

Wood of Redwood - 0.4-0.6%

Wood of Fir/Cedar - 0.56-0.84% Iron

Content (dry weight basis):

Minimum 0.08% iron as metallic

Soluble Salts: Maximum 3.5 milliohms/am twenty-five (25) degrees Celsius as determined by saturation extract method. Ash (dry weight basis): 0.6.0%

3. Wettability:

- a. *The air-dry product shall, when applied to a cup or smaller beaker of water at seventy (70) degrees Fahrenheit in the amount of 1 teaspoon, become completely wet in a period not exceeding two (2) minutes.*
- b. *Guarantee all wetting agents added to accomplish this to be nonphytotoxic at rate used.*

2.03 COMMERCIAL FERTILIZERS

- A. Pre-Plant Fertilizer: *Mixed by a commercial fertilizer supplier and consisting of the following percent by weight:*

<i>Six (6) Percent</i>	<i>Nitrogen</i>
<i>Twenty (20) Percent</i>	<i>Phosphorus</i>
<i>Twenty (20) Percent</i>	<i>Potash</i>

2.04 CHEMICAL ADDITIVES

- A. Ground Limestone: *Agricultural limestone containing not less than eighty-five (85) percent of total carbonates, ground to such fineness that fifty (50) percent will pass #100 sieve and ninety (90) percent will pass #20 sieve.*
- B. Dolomite Line: *Agricultural grade mineral soil conditioner containing thirty-five (35) percent minimum magnesium carbonate and forty-nine (49) percent minimum calcium carbonate, one hundred (100) percent passing \$65 sieve. "Kaiser Dolomite 65 AG" as manufactured by Kaiser, Inc., Mineral Products Department, or equal.*
- C. Gypsum: *Agricultural grade product containing eighty (80) percent minimum calcium sulfate.*
- D. Iron Sulfate: *(Ferric or Ferrous): Supplied by a commercial fertilizer supplier, containing twenty (20) percent to thirty (30) percent iron and thirty-five (35) percent to forty (40) percent sulphur.*
- E. Sulfate of Potash: *Agricultural grade containing (50) percent to fifty-three percent of water-soluble potash.*
- F. Single Superphosphate: *Commercial product containing approximately twenty (20) percent to twenty-five (25) percent available phosphoric acid*

- G. Ammonium Sulfate: Commercial product containing approximately twenty-one (21) percent ammonia.
- H. Ammonium Nitrate: Commercial product containing approximately thirty-four (34) percent ammonia.
- I. Calcium Nitrate: Agricultural grade containing fifteen and one-half (15-1/2) percent nitrogen.
- J. Urea Formaldehyde: Granular commercial product containing thirty-eight (38) percent nitrogen.
- K. I.B.D.U. (iso Butyldiene Diurea): Commercial product containing thirty-one (31) percent nitrogen.
- L. Soil Sulfur: Agricultural grade sulfur containing a minimum of ninety-six (96) percent sulfur.
- M. Iron Sequestrene: Geigy Iron Sequestrene 330 Fe.

2.05 WATER

- A. Clean, fresh and potable, furnished and paid for by the **contractor** until Final City Acceptance. Applications must be filled out with the subsequent water company within the project area.

PART 3 - EXECUTION

3.01 SOIL PREPARATION A.

General:

- 1. Moisture Content: Do not work soil when moisture content is so dry that dust will form in air that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content of tilling and planting.
- B. Preparation of Existing Soil:
 - 1. Verification of Existing Grades: Verify that grades are within plus or minus one tenth of one foot of the required finished grades. Report all variations immediately to the Agency's Authorized Representative.
 - 2. Prior to planting **compacted** soil SHALL be transformed to a friable condition

3. **Install Compost at a minimum rate of four cubic yards per 1,000 square feet of permeable area SHALL be incorporated to a depth of 6 inches into soil**
4. **Cultivation:** Rip or cultivate all planting areas to a depth of six (6) inches immediately prior to amending existing soil, except for slope areas 2:1 or greater.
5. **Cleaning of Debris:** After installing trees, shrubs and finish grading, but prior to the installation of the turf clear areas of stones $\frac{3}{4}$ " inches diameter and larger from the surface. Also, remove all weeds, debris and other extraneous materials prior to amending existing soil.
6. **Trees to Remain:** Hand cultivate within the drip line of existing trees to remain. Depth of cultivation shall not exceed two (2) inches. Cultivate immediately prior to amending existing soil.
7. All rocks and debris generated in the preparation of soil shall be disposed of in a legal manor by the contractor at the contractor's expense.

3.02 SOIL CONDITIONING

- A. **Amending of Existing Soil (all areas less than 2:1 slopes):**
 1. Prior to planting **compacted** soil SHALL be transformed to a friable condition
 2. **Install on all projects Compost at a minimum rate of four cubic yards per 1,000 square feet of permeable area SHALL be incorporated to a depth of 6 inches into soil**
 3. **Areas to Receive Hydro seeding:** Delete pre-plant fertilizer.
 4. **Incorporation of Amendments:** Incorporate thoroughly within top six (6) inches of soil layer and bring amended soil to finish grades and elevation shown on drawings. Do not work soils under muddy conditions.
- B. **Backfill Mix for On-Grade Plant Pits:**
 1. **Composition:**

Sixty (60) percent Native Soil excavated from plant pit

Forty (40) percent Nitrogen-treated sawdust

One (1) lb. 12-12-12 cubic yard of mix

Two (2) lbs. Iron Sulfate per cubic yard of mix

One (1) lb. Urea Formaldehyde per cubic yard of mix

2. Intent: The above amendments and quantities are approximate and are for bidding purposes only. Following on site topsoil analysis for agricultural suitability (paid for by Contractor) by an approved Soils and Plant Laboratory, composition of amendments may change. Contract price will be adjusted accordingly.

3.03 DRAINAGE OF PLANTING AREAS

A. Surface Drainage: All planting areas shall have positive drainage towards drains and/or street curbs. Contractor shall verify that no standing water will occur. B. Detrimental Drainage, Soils, and Obstructions:

1. Notification: Submit in writing all soils or drainage conditions considered detrimental to growth of plant materials. State condition and proposal and cost estimate for correcting condition.
2. Correction: Submit for acceptance a written proposal and cost estimate for the correction before proceeding with work.

3.04 CLEAN-UP

- A. Keep all areas of work, clean, neat and orderly at all times.
- B. Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance to the satisfaction of the Agency's Authorized Representative.

END OF SOIL PREPERATION SECTION

PART 1 - GENERAL**1.01 DESCRIPTION**

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this Section.
- B. Work Included: Provide lawns, complete as shown on drawings and as specified.
- C. Turf in parkways must be irrigated by subsurface drip or technology that produces no overspray or runoff
- D. No turf where slope is greater than 25% (1 to 4-foot change)
- E. Related Work in Other Sections: Irrigation System - Section 02810
Soil Preparation - Section 02920
Trees, Shrubs, and Ground Covers - Section 02950
Landscape Maintenance - Section 02970

1.02 QUALITY ASSURANCE

- A. Certificates of Inspection: Provide as required by law for transportation of each shipment of seed along with invoice. Submit copies of certificates after acceptance of material. Inspection by Federal or State Governments at place of growth does not preclude rejection at proper site.
- B. Applicable Standards: Apply standards for seed and sod as described in the following:
 - 1. General Conditions, Special Provisions, Exhibit "A" and Appendix 1.
 - 2. Hortus III - Latest edition, Bailey Hortorium, Cornell University.

1.03 SUBMITTALS

- A. Samples and Product Data: Submit samples and manufacturer's literature for the following items:
 - 1. Seed Mix (es): One half (2) pound for each type.
 - 2. Mulch: One half (2) pound
 - 3. Soil Stabilizer: One half (2) pound
 - 4. Mulch and Soil Stabilizer: One half (2) pound
- B. Test Data: Submit all laboratory test data for all materials.
 - 1. Seed Varieties: Guaranteed statement of composition, mixture and percentage of purity and germination of each variety.

1.04 WORK SCHEDULE

- A. Proceed with the work as rapidly as the site becomes available, consistent with normal seasonal limitations for planting work.

1.05 SELECTION AND ORDERING OF PLANT MATERIAL

- A. Documentation: Submit documentation within fifteen (15) days after award of contract that all seed has been ordered.
- B. Unavailable Materials: If proof is submitted that any seed specified is not obtainable, a proposal will be considered for use of the nearest equivalent variety with corresponding adjustment Contract price. Substantiate such proof in writing no later than fifteen (15) days after award of contract.
- C. Special Conditions: The above provisions shall not relieve contractor of the responsibility for obtaining specified seed in advance if special growing conditions or other arrangements must be made in order to supply specified materials.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Seed:
 - 1. Delivery: Furnish standard seed in unopened manufacturer's standard containers bearing original certification labels showing quantity, analysis and name of manufacturer.
 - 2. Storage: Store seed with protection from weather or other conditions which would damage or impair the effectiveness of the project.
- B. Mulch: Store with protection from weather or other conditions which would damage or impair the effectiveness of the product.

1.07 ANALYSES OF SAMPLES AND TESTS

- A. Samples: Agency's Authorized Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time.
- B. Rejected Materials: Remove rejected materials immediately from the site at Contractor's expense. Pay cost of testing of materials not meeting specifications.

1.08 MAINTENANCE PERIOD AND FINAL ACCEPTANCE

- A. See Section 02970 - Landscape Maintenance.

PART 2 - PRODUCTS

2.01 LAWN SEED

- A. Composition: Fresh, clean, certified, new crop seed of the following varieties mixed in the proportions as shown:

<u>Marathon II</u>	or	<u>Triple Crown Dwarf</u>
Marathon	52%	Empress Dwarf 34% or equal
Mustang	22%	Pixie Dwarf 33% or equal
Rebel 11%		Pixie Dwarf 33% or equal Olympic
15%		El Dorado Dwarf 33% or equal

Or equal approved by Agency's Authorized Representative.
- B. Weed Seed: Do not exceed twenty-five one hundredths percent (0.25%).

2.02 ORGANIC AMENDMENTS:

- A. See Section 02920 - Soil Preparation

2.03 TOP-DRESS FERTILIZER

- A. Complete fertilizer, fifty (50) percent of the nitrogen to be derived from natural organic sources or urea-form. Available phosphoric acid shall be from superphosphate, bone or tankage. Potash shall be derived from muriate of potash containing sixty (60) percent potash:

Sixteen (16) percent Nitrogen

Six (6) percent Phosphorus

Eight (8) percent Potash

2.04 HYDROSEED MULCH

A. General:

1. Composition: *Green-colored, fibrous, virgin wood cellulose mulch containing no growth or germination-inhibiting factors.*
2. Dispersion in Slurry: *Mulch shall be manufactured in such manner that after addition to and agitation in slurry tanks with fertilizer, seed, water and other approved additives, fibers in the material will become uniformly suspended to form a homogeneous slurry.*
3. Absorption Capacity: *When hydraulically sprayed on the ground, the material will form a blotter-like ground cover impregnated uniformly with seed which will allow the absorption of moisture and allow rainfall to percolate to the underlying soil.*

B. Specifications:

1. Weight: *Weight Specifications of this material from suppliers, and for all applications, shall refer only to air dry weight of the fiber material. Absolute air-dry weight is based on the normal standards of the Technical Association of the Pulp and Paper Industry for wood cellulose and is considered equivalent to ten (10) percent moisture.*
2. Labeling: *Each package of the cellulose fiber shall be marked by the manufacturer to show the air-dry weight content.*

2.05 SOIL STABILIZER

- A. Composition: *Totally organic substance, supplied in power form and at least 90% of which is ninety-two (92) percent pure muciloid derived from ground plantago ovata-insularis husks. Stabilizer shall be water-soluble, non- toxic hydrophilic and shall not inhibit germination.*
- B. Product: *"Ecology Controls M-binder" as distributed by Stover Company, Los Angeles, CA, or equal approved by Agency's Authorized Representative.*

2.06 HYDRAULIC EQUIPMENT FOR HYDROSEEDING

- A. Mixer: *Use a commercial type hydro-seeder for the application of slurry. Equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix slurry.*

- B. Distribution Lines: Large enough to prevent stoppage and to provide even distribution of the slurry over the ground.
- C. Pump Capacity: One hundred fifty (150) psi at the nozzle.
- D. Slurry Tank: Minimum capacity of one thousand (1,000) gallons shall be mounted on a traveling unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded so as to provide uniform distribution without waste.

2.07 WATER

- A. Potable water is furnished by the Contractor. Transport as required.

2.08 HYDROSEEDING MIX PER ACRE

- A. Lawn Areas: Marathon II, Triple Crown Dwarf or equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Areas to Receive Hydro seeding: All turf areas.

3.02 SOIL PREPARATION

- A. Refer to Soil Preparation - Section 02920/

3.03 HYDROSEEDDED LAWN

- A. Turf Area Preparation: Culti-pak or roll all hydro seeded turf areas prior to hydro seeding so as to settle soil. Re-grade low areas and re-roll.
- B: Weed Abatement Prior to Hydro seeding Lawn: Begin watering immediately to activate fertilizer and chemicals.
 - 1. Water all areas thoroughly and uniformly. Continue watering at the frequency and duration necessary to germinate all residual weed seeds, and as directed by the Agency's Authorized Representative.
 - 2. Unless otherwise directed, maintain watering for not less than three (3) weeks.

3. *If perennial weed appear, apply approved contact herbicide over affected areas. Apply in accord with manufacturer's instructions.*
4. *If annual weeds appear, apply approved contact herbicide over affected areas. Apply in accord with manufacturer's instructions.*
5. *Do not water affected areas for a period of four (4) days minimum, following application of contact herbicides.*
6. *Follow manufacturer's instructions relating to time required for chemicals to effectively destroy weed growth.*
7. *Resume watering and continue for a period of three (3) weeks.*
 - a. *A shorter watering period may be permitted by the Agency's Authorized Representative, as determined by project conditions.*
8. *Discontinue watering for one (1) day prior to second application of herbicide spraying.*
 - a. *Reapply straight contact weed killer in accord with manufacturer's instructions.*
 - b. *Do not water treated areas for a period of four (4) days minimum following application of herbicide.*
9. *Remove all desiccated weeds from the slopes to the finish grade.*
10. *Water planting areas thoroughly and continuously for three (3) consecutive days. Saturate upper soil layers.*
11. *Allow soil surface to dry for one (1) day immediately prior to hydro seeding.*
 - a. *Exercise care not to allow the soil surface to become over-saturated with water prior to hydro seeding; do not permit soil to become bone dry.*
 - b. *The top quarter (1/4) inch of soil surface shall show evidence of residual moisture at time of hydro seeding.*
 - c. *Preparation: Do all slurry preparation at the job site.*

C: *Water:* Add water to tank when the engine is at half throttle. When the water level has reached the height of the agitator shaft, establish good recirculation and add seed.

D: *Seed:* Do not allow seed to remain more than thirty (30) minutes in slurry.

E: *Fertilizer:* Add fertilizer, followed by the mulch. The mulch shall only be added to the mixture after the seed, and when the tank is at least one third (1/3) filled with water.

F: Mixing: Open the engine throttle to full speed when the tank is half-filled with water. Add all the mulch by the time the tank is two-thirds (2/3) to three-fourths (3/4) full. Commence spraying immediately when the tank is full.

G: Application:

- 1. General: Apply specified slurry mix in a sweeping rate. Keep hydro seeding within designated areas and keep from contact with other plant materials.*
- 2. Unused Mix: Do not use slurry mixture which has not been applied within four (4) hours of mixing. Promptly remove from the site.*
- 3. Protection: After application, do not operate any equipment over the hydro seeded areas.*
- 4. Reseeding: Reseed all areas and parts of areas which fail to show a uniform stand of lawn until areas are covered with a satisfactory stand of lawn.*

3.04 CLEAN-UP

- A. General: Keep all areas of work clean, neat and orderly at all times. Keep all paved areas clean during planting operations.*
- B. Overspray: Immediately after application, thoroughly wash off any plant materials, planting areas, or paved areas not intended to receive slurry mix.*
- C. Debris: Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance.*

END OF LAWNS AND GRASSES SECTION

PART 1 - GENERAL**1.01 DESCRIPTION**

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, City Of Fontana Online Tree Policy Manual, which contain information and requirements that apply to this section.
- B. Work Included: Provide planting of trees, shrubs, and ground covers, complete as shown and specified.
- C. Related Work in Other Sections: Irrigation System - Section 02810
Soil Preparation - Section 02920
Lawns and Grasses - Section 02930
Landscape Maintenance - Section 02970

1.02 QUALITY ASSURANCE

- A. Certificates:
 - 1. Provide certificates of inspection required by law for transportation of each shipment of plants along with invoice.
 - 2. File copies of certificates after acceptance of material. Inspection by Federal or State Government at place of growth does not preclude rejection of plants at project site.
- B. Applicable Standards: Apply standards for plant materials as described in the following:
 - 1. General Conditions, Special Provisions, Exhibit "A" and Appendix 1.
 - 2. "American Standard for Nursery Stock", latest edition, American Association of Nurseryman, Inc.
 - 3. Hortus III - Latest edition, Bailey Hortorium, Cornell University.

1.03 SUBMITTALS

- A. Samples and Product Data: Prior to delivery to site, submit samples and manufacturer's current literature for the following items:
 - 1. Tree and Shrub Planting Fertilizer: Four (4) tablets each.
 - 2. Mulch: One (1) pint
- B. Test Data: Submit all laboratory test data for all materials.
 - 1. Mulch: One (1) pint

1.04 WORK SCHEDULE

- A. Proceed with the work as rapidly as the site becomes available, consistent with normal seasonal limitations for planting work.

1.05 SELECTION, TAGGING AND ORDERING OF PLANT MATERIAL

- A. Documentation: Submit documentation within fifteen (15) days after award of Contract that all plant materials have been ordered. Arrange procedure for review of plant materials at time of submission.
- B. Review: Submit a written list and request for review of tagged plant materials and quantity at place of growth at least ten (10) working days prior to shipment to site. Agency's Authorized Representative reserves the right to refuse review at this time, if, in his judgment, a sufficient quantity of plants is not available.
- C. Transportation: Contractor shall provide transportation for review of plant materials from Agency's Authorized Representative's Office to the nursery. The Agency's Authorized Representative will review the tagged plants at place of growth and upon delivery for conformity to specifications.
- D. Distant Material: Submit photographs with a person adjacent to plants for preliminary review. Such review shall not impair the right of review and rejection during the progress of the work.
- E. Unavailable Material: If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size of variety with corresponding adjustment of contract price. Substantiate such proof in writing no later than fifteen (15) days after award of contract.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Labeling: Furnish standard products in manufacturer's standard containers bearing original labels legibly showing quantity, analysis, genus/species and name of manufacturer/grower.
- B. Storage: Store products with protection from weather or other conditions which would damage or impair the effectiveness of the product. Protect metal containers from sun during summer months with temperatures above eighty (80) degrees Fahrenheit.
- C. Handling: Do not lift or handle container plants by tops, stems or trunks at any time. Do not bind or handle plants with wire or rope at any time.
- D. Anti-Desiccant: At Contractor's option, spray all evergreen or deciduous plant material in full leaf immediately before transporting with anti-desiccant. Apply an adequate film over trunks, branches, twigs and foliage.

1.07 ANALYSES OF SAMPLES AND TESTS

- A. Sampling: Agency's Authorized Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Furnish samples upon request.
- B. Rejected Materials: Remove rejected materials immediately from the site at Contractor's expense. Pay cost of testing of materials not meeting specifications.

PART 2 - PRODUCTS

2.01 PLANT MATERIALS

- A. General:
 - 1. Growing Conditions: Plants shall be nursery-grown in accordance with good horticultural practices under climatic conditions similar to those or project for at least two years unless otherwise specifically authorized by the Agency's Authorized Representative.
 - 2. Appearance: All plants shall be symmetrical, tightly knit, so trained or factored in development and appearance as to be superior in form, number of branches, compactness and symmetry.
 - 3. Vigor: Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pest, eggs, or larvae. They shall have healthy, well-developed root systems.

Plants shall be free from physical damage or adverse conditions which would prevent thriving growth.

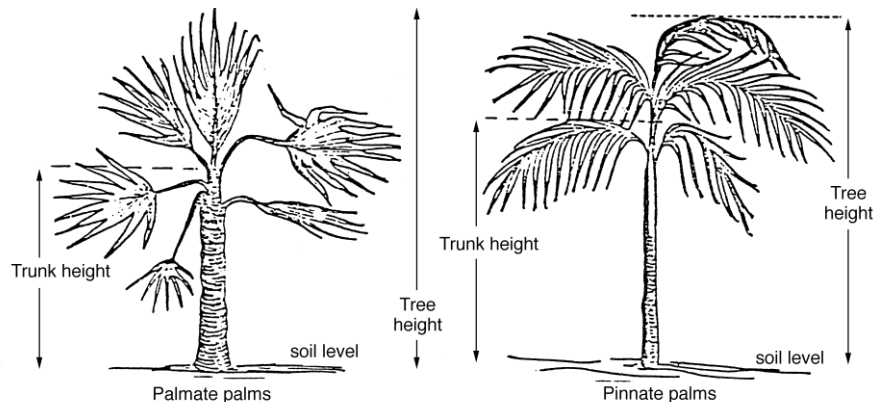
4. *Container Stock:* *Verify that all container stock has been in the containers in which they were delivered for at least six (6) months, but not over two (2) years. Samples must prove to be free of kindled, circling or girdling roots and with no evidence of a pot-bound condition. Do not install container plants that have cracked or broken balls of earth when taken from container.*

B. Measurements:

1. *General:* *Measure plants when branches are in their normal upright position. Height and spread dimensions specified refer to main body of plant and not branch tip to tip. Take caliper measurement at a point on the trunk six (6) inches above natural ground line for trees up to four (4) inches in caliper and at a point twelve (12) inches above the natural ground line for trees over four (4) inches in caliper.*

2. *Palm Tree Measurements*

- a. *In size grading palm trees, the specified height of the trunk itself shall take precedence. Trunk height is measured from the ground line, which should be at or near the top of the root zone, to the base of the heart leaf.*



2. *Size Range:* *If a range of size is given, do not use plant materials less than the minimum size. The measurements specified are the minimum size acceptable and are the measurements after pruning, where pruning is required. Plants that meet the measurements specified, but do not possess a normal balance between height and spread shall be rejected by the Agency's Authorized Representative.*
3. *Substitutions:* *Plants shall be true to species and variety and shall conform to measurements specified except that plants larger than specified may be used if accepted by Agency's Authorized Representative. Use of such plants*

shall not increase contract price. If larger plants are accepted, increase the ball of earth in proportion to the size of the plant.

- C. Pruning: Do not prune plants before delivery. For pruning after installation, see Section 02970 - Landscape Maintenance.
- D. Condition: Trees which have multiple leaders, unless specified, or damaged or crooked leaders, will be rejected. Trees with abrasions of the bark, sunscalds, disfiguring knots, or fresh cuts of limbs over three-quarters (3/4) inches which have not completely calloused, will be rejected by the Agency's Authorized Representative.

2.02 BACKFILL MIX FOR PLANT PITS

- A. See Section 02920 - Soil Preparation.

2.03 COMMERCIAL FERTILIZERS

- A. Top-dress Fertilizer: Complete fertilizer, fifty (50) percent of the nitrogen to be derived from natural organic sources or urea-form. Available phosphoric acid shall be from super phosphate, bone or tankage. Potash shall be derived from muriate of potash containing sixty (60) percent potash:

Sixteen (16) percent Nitrogen

Six (6) percent Phosphorus

Eight (8) percent Potash
- B. Tree and Shrub Planting Fertilizer: "Agriform" twenty-one (21) gram tablets with 20-10-5 (N-P-K) Formula as manufactured by Sierra Chemical Co., Milpitas, California, (408) 263-8080, or equal approved by Agency's Authorized Representative.

2.04 STAKING MATERIALS

- A. Tree Stakes: Lodge pole Pine two (2) inch diameter; ten (10) feet long) with ten (10) inches. Tapered driving point and chamfered top, treated with copper naphthanate or pentachlorophenol to heartwood, green color, as manufactured by C & E Lumber Company, Pomona, CA. Tel. (909) 626-3591, or equal approved by Agency's Authorized Representative.
- B. Ties: Wonder tree-tie or other tie as accepted by Agency's Authorized Representative.

2.05 GUYING MATERIALS

- A. Dead Men: Cedar or redwood, with one (1) three-quarter (3/4) inch x four (4) inch galvanized eyebolt centered and secured on its side; screw-type galvanized steel ground anchor, or Universal ground anchors, as manufactured by Laconia Malleable Iron Company, Laconia, New Hampshire.
- B. Hardware:
 - 1. Guying Cable: 1 x 19 Air cord, size as specified.
 - 2. Turnbuckles: Galvanized or dip-painted and weld less.
 - 3. Cable Clamps: Galvanized or copper, size as required.
 - 4. Plastic Guy Covers: One half (2) inch diameter x four (4) to five (5) foot long white PVC SCH. 40 piping.

2.06 ROOT BARRIERS

- A. Barriers to deflect tree roots downward shall be installed when the tree is planted within five (5) feet of City improvements (i.e. sidewalks, curb & gutter, storm drain structures, wall structures...).
- B. Root barriers shall be Deep Root Corp. or equal.

2.07 WATER

- A. Clean, fresh and potable, furnish and paid for by the contractor until Final City acceptance.
- B. Transport required.

2.08 ANTI-DESICCANT

- A. Anti-desiccants for retarding excessive loss of plant moisture and inhibiting wilt shall be spray able, water insoluble vinyl-vinylidene complex which will produce a moisture retarding barrier not removable by rain.
- B. Wilt-proof Formula NCF as manufactured by Nursery Specialty Products, Greenwich, CN. or equal approved by Agency's Authorized Representative.

PART 3 - EXECUTION

3.01 PREPLANT REVIEW

- A. General: Do not commence planting work prior to acceptance by Agency's Authorized Representative of soil preparation.

- B. Finish Grades: Finish grades for all planting areas shall have been established in another section. Verify that all grades are within one (1) inch plus or minus of required finish grade, and that all soil amendments have been installed as specified under Section on Soil Preparation.
- C. Notification: Submit written notification of all conditions inconsistent with specifications for soil preparation and mixing as described in Section 02920 - Soil Preparation.

3.02 DRAINAGE OF PLANTING AREAS

- A. Surface Drainage: Maintain positive surface drainage of planted areas as established under Section 300-11 Finish and Rough Grading.
- B. Discrepancies: Submit in writing, all discrepancies in the Drawings or Specifications, obstructions on the site, or prior work done by others, which Contractor feels precludes maintaining proper drainage; include description of all work required for correction or relief of said discrepancies. C. Detrimental Drainage, Soils and Obstructions:
 - 1. Notification: Supply written notification of all conditions detrimental to growth of plant material. State condition and submit proposal and cost estimate for correcting condition.
 - 2. Testing: Test drainage of five (5) plant beds and pits identified in field by Agency's Authorized Representative by filling with water twice in succession. Notify Agency's Authorized Representative of conditions where retention of water in planting beds occurs for more than twenty-four (24) hours.
 - 3. Correction: Submit for acceptance a written proposal and cost estimate for the correction before proceeding with work.

3.03 LAYOUT AND EXCAVATION OF PLANTING AREAS

- A. Layout and Staking: Lay out plants at locations shown on Drawings. Stake each tree location with lath, color coded for each species. Outline shrub and ground cover beds with lime. Agency's Authorized Representative will check location of plants in the field and shall adjust to exact position before planting begins. Agency's Authorized Representative reserves the right to refuse review at this time, if in his opinion, a sufficient quantity of plants is not available.

- B. Plant Pits: Excavate container-grown tree, shrub, and vine pits to the following dimensions:

	<u>Width</u>	<u>Depth</u>
Boxed Trees		Two (2) times box width One Times Box Height
Container Trees	Two (2) times diameter	One Times Container Height
Container Shrubs	Two (2) times diameter	One Times Container Height

3.04 PLANTING OPERATIONS

- A. General:

1. Protect plants at all times from sun or drying winds.
2. Keep plants that cannot be planted immediately upon delivery in the shade, well-protected and well-watered.

- B. Handling of Plant Materials:

1. Remove container stock carefully after containers have been cut on two sides with accepted cutter. Do not use spade to cut containers.

- C. Installation:

1. Positioning: After removing plant from container, scarify side of root ball to prevent root-bound condition and position plant in planting pit.
2. Backfilling: Use backfill mix to backfill plant pits. Set each plant plumb and brace rigidly in position until planting soil has been tamped solidly around the ball and roots. When plant pits have been backfilled approximately two-thirds (2/3) full, water thoroughly and saturate root ball, before installing remainder of the backfill mix to top of pit, eliminating all air pockets.
3. Staking and/or Guying: Stake or guy as outlined in Section 3.05 below.
4. Fertilizer Tablets: Place evenly distributed in plant pits when backfilled two-thirds (2/3) to finish grade according to the following schedule.

Fifteen (15) gallon can - Three (3) tablets

- D. Adjustment: Adjust plants to that after full settlement has occurred, the natural grade at the base of the plants is one (1) inch above the adjacent planting finish grade.
- E. Watering Basin: Form saucer with four (4) inches high berm centered around tree and shrub pits twelve (12) inches wider than ball diameter. Do not form saucer around trees in lawn areas.
- F. Watering: Water all plants immediately after planting.
- G. Labels: Remove all nursery-type plant labels from plants.

3.05 STAKING AND GUYING

- A. General:
 - 1. Trees shall be able to stand upright without support, and shall return to the vertical after their tops have been deflected horizontally and released. Stake or guy trees which do not meet this qualification. All plant materials shall remain plumb and straight for all given conditions from installation through the guarantee period.
 - 2. Use either staking or guying method per planting details and planting legend.
- B. Staking:
 - 1. Locate stakes in a line with trunk of tree, perpendicular to prevailing wind, and as close to the main trunk is practical, avoiding root injury. Drive stakes at least thirty (30) inches into firm ground.
 - 2. Remove tree from nursery-supplied stake and tie to new stakes using four (4) accepted tree ties. Find proper height for point of tree ties and attach as follows:
 - a. Hold trunk in one hand, pull top to one side and release. Height at which trunk will just return to upright is Base Height. Attach tree ties to trunk approximately twenty-four (24) inches above Base Height.
 - b. Nail tree ties to stakes using two (2) galvanized roofing nails at each end of tie.

C. Guying:

1. *Guy trees at points of branching with guys spaced equally around and outside perimeter of ball. Cover guys with rubber hose at points of contact with bark. Position guys at crotches and fasten to a dead man.*
2. *Install 2 x 3' or 4' or 5' SCH. 40 P.V.C. pipe or approved white coated wire.*
3. Guys: *Provide one turnbuckle for each guy. Use two (2) cable clamps at each cable connection.*

3.07 PRUNING

- A. See Section 02970 - Landscape Maintenance

3.08 GROUND COVER PLANTING

- A. Planting: *Plant ground cover plants at optimum depth for proper growth. Avoid air pockets. Equally space triangularly, at distances called for in the Drawings.*
- B. Fertilizers: *Apply top-dress fertilizer at the rate of five (5) pounds per one thousand (1,000) square feet.*
- C. Watering: *Water bed thoroughly after fertilizer application. Wash all fertilizer from leaves of plant materials.*

3.09 CLEAN-UP

- A. *Keep all areas of work clean, neat and orderly at all times.*
- B. *The contractor is responsible for all spoils created by the tree pits, including any haul off required to ensure the site is graded per plans.*
- C. *Clean up and remove all deleterious materials and debris from the entire work area prior to Final Acceptance.*

END OF TREES, SHRUBS, AND GROUND COVERS SECTION

PART 1 - GENERAL**1.01 DESCRIPTION**

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions, which contain information and requirements that apply to this Section.
- B. Work Included: Provide Landscape Maintenance, complete as specified.
- C. Related Work in Other Sections: Irrigation System - Section 02810
Soil Preparation - Section 02920
Lawns and Grasses - Section 02930
Trees, Shrubs, and Ground Covers - Section 02950

1.02 QUALITY ASSURANCE

- A. Applicable Standards: Apply as described in the following:
 - 1. General Conditions, Special Provisions
 - 2. Guide for Fertilizing Shade and Ornamental Trees.
 - 3. Pruning Standards for Shade Trees.
- B. Requirements of Regulatory Agencies:
 - 1. Perform all work in accordance with all applicable laws, codes and regulations required by authorities having jurisdiction over such work.
 - 2. Provide for all inspections and permits required by Federal, State, or local authorities in furnishing, transporting, and installing of all agricultural chemicals.
 - 3. The County Agricultural Commissioner's Office must by law, be given a monthly record of all herbicides, insecticides and disease control chemicals used.
- C. Work Force:
 - 1. Experience: The landscape maintenance firm shall have a full time foreman assigned to the job for the duration of the contract. He shall have a minimum of four (4) years experience in landscape maintenance

supervision, with experience or training in turf management, entomology, pest control, soils, fertilizers and plant identification. HE MUST SPEAK ENGLISH FLUENTLY.

2. *Labor Force: The landscape maintenance firm's labor force shall be thoroughly familiar and trained in the work to be accomplished and perform the task in a competent, efficient manner acceptable to the Agency.*
3. *Supervision: The foreman shall directly employ and supervise the work force at all times. Notify Agency of all changes in supervision.*
4. *Contractors employees shall wear nice clean company uniforms with proper safety equipment and provide all necessary traffic control to complete the maintenance.*

1.03 SUBMITTALS

- A. *Submit to Agency's Authorized Representative for approval, two (2) copies each of the following items:*
 1. *Schedule of maintenance operations and monthly status report including list of all equipment and materials proposed for the job.*
 2. *Written application recommendation by a licensed agricultural pest control advisor for all weed, pest and disease controls restricted by the Director of Agriculture proposed for this work.*
 3. *All licenses and insurances required by the City of Fontana, the State or Federal government pertaining to this work.*
 4. *Monthly record of all herbicides, insecticides and disease control chemicals used for the project.*

1.04 PROJECT CONDITIONS

- A. *Site Visit: At beginning of maintenance period, visit and walk the site with the Agency's representative to clarify scope of work and understand existing project/site conditions.*
- B. *Documentation of Conditions: Document general condition of existing trees, shrubs, ground covers and lawn, recording all plant materials which are damaged or dying, if any.*
- C. *Irrigation System: Document general condition of existing irrigation system, making sure that faulty electrical controllers, broken or inoperable sprinkler heads (or emitters) are reported.*

1.05 SCHEDULING

- A. *Perform all maintenance during hours mutually agreed upon between Agency and Contractor.*
- B. *Work force shall be present at the project site at least once a week and as often as necessary to perform specified maintenance in accordance with the approved maintenance schedule.*

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. *Fertilizers:*

Sierra Chemical Company

1001 Yosemite Drive

Milpitas, California 95035

(408) 263-8080

B. *Herbicides:*

Chevron Chemical Company

575 Market Street

San Francisco, California 94105

(415) 894-0880

Rhone-Poulenc Chemical Company

Agro Chemical Division

P.O. Box 125

Monmouth Junction, New Jersey 08852

(201) 297-0100

Ciba-Geigy Corporation

Agricultural Division

P.O. Box 1830

Greensboro, North Carolina 27419

(919) 292-7100

Elanco Products Company

740 S. Alabama Street

Indianapolis, Indiana 46285

(317) 261-3638

The Dow Chemical Company

P.O. Box 1706

Midland, Missouri 48640

(517) 636-0236

3M Company-Agri Chemicals Project

3M Center, Building 223-6SE

St. Paul, Minnesota 55144

(317) 261-3000

2.02 MATERIALS

- A. General: All materials and equipment, unless otherwise indicated, shall be provided by the Contractor.
- B. Water: Clean, potable and fresh, furnished and paid for by the Contractor.
- C. Fertilizers:
 - 1. Tightly compressed, slow-release and long-lasting complete fertilizer tablets bearing manufacturer's label of guaranteed analysis of chemicals present.
 - 2. Balanced, once-a-season application controlled-released fertilizers with a blend of coated pills which supply controlled-release nitrogen, phosphorus and potassium, and phosphorus.

- D. Herbicides, Insecticides, and Fungicides:
1. Obtain best quality materials with original manufacturer's containers, properly labeled with guaranteed analysis.
 2. Use non-staining materials.
- E. Lawn Seed for Reseeding: Match existing lawn mix.
- F. Replacement Tree Guys, Stakes, Ties and Wires: Match existing materials on the site.

PART 3 - EXECUTION

3.01 GENERAL

- A. Duration: Continuously maintain each plant and each portion of ground cover area after installation, during progress of work, and for a **Minimum** period of ninety (90) days after completion of all planting work until Final Acceptance by the Agency's Authorized Representative.
- B. Protection:
1. Protect all planting areas from damage of all kinds from beginning of work until Final Acceptance by the Agency's Authorized Representative.
 2. Replacement plants shall be of a size, condition and variety acceptable to Agency's Authorized Representative.

3.02 TREES AND SHRUBS

- A. Watering Basins:
1. Maintain all watering basins around plants so that enough water can be applied to establish moisture through major root zones.
 2. In rainy season, open basins to allow surface drainage away from the root crown where excess water may accumulate. Restore watering basins at end of rainy season.
 3. For supplement hand watering of watering basins, use a water wand to break the water force. Do not permit crown roots to become exposed to air through dislodging of soil and mulch.

B. Resetting: *Reset plants to proper grades or upright position.*

C. Weed Control:

1. *All areas between plants, including watering basins shall be weed free.*
2. *Use only recommended and legally approved herbicides to control weed growth.*
3. *Avoid frequent soil cultivation that destroys shallow roots and breaks the seal of pre-emergent herbicides.*

D. Pruning:

1. *Prune trees to select and develop permanent scaffold branches that are smaller in diameter than the trunk or branch to which they are attached, and which have vertical spacing of eighteen (18) inches to forty-eight (48) inches and radial orientation so as not to overlay one another.*
2. *Prune trees to eliminate diseased or damaged growth, and narrow Vshaped branched forks that lack strength. Reduce toppling and wind damage by thinning out crowns.*
3. *Prune trees to maintain growth within space limitations, maintaining a natural appearance and balancing crown with roots.*
4. *No stripping of lower branches ("raising up") of young trees will be permitted.*
5. *Retain lower branches in a "tipped back" or pinched condition to promote caliper trunk growth (tapered trunk). Do not cut back to fewer than six buds or leaves on such branches. Only cut lower branches flush with the trunk after the tree is able to stand erect without staking or other support.*
6. *Thin out and shape evergreen trees when necessary to prevent wind and storm damage. Do primary pruning of deciduous trees during the dormant season. Do not permit any pruning of trees prone to excessive "bleeding" during growth season.*
7. *Prune damaged trees or those that constitute health or safety hazards at anytime of year as required.*
8. *Make all cuts clean and close to the trunk, without cutting into the branch collar. "Stubbing" will not be permitted. Cut smaller branches flush with trunk or lateral branch. Make larger cuts (one (1) inch in diameter or*

larger) parallel to shoulder rings, with the top edge of the cut at the trunk or lateral branch.

9. *Branches too heavy to handle shall be pre-cut in three stages to prevent splitting or peeling of bark. Make the first two (2) cuts eighteen (18) inches or more from the trunk to remove the branch. Make the third cut at the trunk to remove the resulting stub.*
10. *Do not prune or clip shrubs into balled or boxed forms unless specifically called for by design.*

E. Staking and Guying of Trees:

1. *Inspect stakes and guys at least one month to check for rubbing that causes bark wounds.*
2. *Conform to the recommended procedures of staking and guying as outlined in the University of California Publications AXT-311, "Staking Landscape Trees".*

3.03 GROUND COVERS

A. Watering:

1. *Check for moisture penetration throughout the root zone at least two (2) times a month.*
2. *Water as frequently as necessary to maintain healthy growth of ground covers.*

B. Weed Control:

1. *Control weeds, preferably with pre-emergent herbicides and with selective systemic herbicides.*
2. *Minimize hoeing of weeds in order to avoid plant damage.*

3.04 LAWNS

A. Watering:

1. *Water lawns at such frequency as weather conditions require, to replenish soil moisture to six (6) inches below root zone.*
2. *Provide a total of one and one-half (1-1/2) inches of water weekly during hot summer weather, in five (5) applications per week.*
3. *Water at night if irrigation system is electrically controlled. Otherwise watering shall be done during early mornings.*

B. Weed Control For Weed Free Lawns:

- 1. Control broad leaf weeds with selective herbicides.*
- 2. In areas where crabgrass has infested the lawn, apply a selective postemergent herbicide as soon as possible and prior to flowering.*
- 3. Apply pre-emergent herbicides such as Dacthal, Balan, or Betasan prior to crabgrass germination.*
- 4. Do not irrigate for forty-eight (48) hours after application of all herbicide sprays.*
- 5. Coordinate application of herbicides with thatch control and reseeding schedule as described below.*
- 6. Weeds are defined as any plant that is not on the approved plant pallet list or within the hydro seeding mix.*
- 7. All herbicides shall be applied by a licensed applicator per the manufacturer's instructions.*

C. Mowing and Edging:

- 1. **Contractors shall mow lawns and trim edges on a weekly basis, and provide a mowing and maintenance schedule to the inspector prior to the 90 day maintenance period beginning.***

D. Reseeding of Lawn Areas: Match existing seed mix of adjacent areas.

E. Top Dress Fertilizer:

- 1. See Section 02930 - Lawns and Grasses for type of fertilizer to be used.*
- 2. Contractor shall apply top dress fertilizer to all lawn areas in two (2) complete and separate applications during the 90-day Maintenance Period unless otherwise recommended by the fertilizer manufacturer or a certified horticulturist employed by the contractor.*
- 3. The first application shall take place no later than the end of the second week of the ninety (90) day period. The second application shall occur just prior to the end of the ninety (90) day Maintenance Period and Final Acceptance.*

3.05 INSECTS, PESTS, AND DISEASE CONTROL

- A. Inspection: *Inspect all plant materials for signs of stress, damage and potential trouble from the following:*
 - 1. *Presence of insects, moles, gophers, ground squirrels, snails and slugs in planting areas.*
 - 2. *Discolored or blotching leaves or needles.*
 - 3. *Unusually light green or yellowish green color inconsistent with normal green color of leaves.*
- B. Personnel: *Perform spraying for insect, pest and disease control only by qualified, trained personnel.*
- C. Application: *Spray with extreme care to avoid all hazards to any person or pet in the area or adjacent areas.*

3.06 IRRIGATION SYSTEM

- A. General:
 - 1. *Repair without charge to Agency all damages to system caused by Contractor's operations or vandalism. Perform all repairs within one (1) watering period.*
 - 2. *Report promptly to Agency all accidental damage not resulting from Contractor's negligence or operations.*
 - 3. *Do not run the irrigation system during rainy periods. Set and program automatic controllers for seasonal water requirements.*
- B. Cleaning and Monitoring the System:
 - 1. *Continually monitor the irrigation systems to verify that they are functioning properly as designed. Make program adjustments required by changing field conditions.*
 - 2. *Clean pump filter and strainer as often as necessary to keep the irrigation systems free of sand and other debris.*
 - 3. *Prevent spraying on windows, building walls, by balancing the throttle control on the remote-control valves and the adjustment screws on the sprinkler heads. Do not allow water to atomize and drift.*
- C. Air Blow-Out:
 - 1. *Set automatic control stations to two and one half (2-1/2) minutes timing.*

2. *Attach hose from portable air compressor to one (1) inch air inlet installed on main line at backflow preventer.*
3. *Operate compressor at one hundred (100) cubic feet per second at 60-80 PSI.*
- D. *Manual Drain Valves: Open manual drain valves located at low points on the main line to drain completely after air blow-out has been completed.*
- E. *Backflow Preventer: Rotate backflow unit at unions and open pet cocks and drain. Reverse operation and tighten unions to resume irrigation.*

3.07 THE NINETY (90) DAY MAINTENANCE PERIOD

- A. *Preliminary Review: As soon as all plantings are completed per Contract Documents, hold a preliminary review to determine the condition of the work.*
 - A1. *Schedule a meeting with the Engineering Public Works Inspector and the Public Works Maintenance Division to inspect all tree and plant depths prior to starting the 90 day Maintenance Period.*
- B. *Date of Review: Submit a written request to the Agency's Authorized Representative at least five (5) working days prior to anticipated date of review.*
- C. *Beginning of the **Minimum** Ninety (90) Day Maintenance Period: The date on which the Agency's Authorized Representative issues a letter of Preliminary Acceptance to the Contractor. By this date, all plant materials shall be planted and all areas requiring hydro seeded lawns shall be completed.*

3.08 PRE-FINAL AND FINAL ACCEPTANCE

- A. *Conditions for Pre-Final Acceptance of Work at End of Maintenance Period:*
 1. *Each plant shall be alive and thriving, showing signs of growth and no signs of stress, disease, or any other.*
 2. *All plants not meeting these conditions shall be replaced and a Ninety (90) Day Maintenance Period commenced for such plants.*
 3. *Lawn areas shall be 100% weed free unless otherwise approved by the Agency's Authorized Representative.*
 4. *Lawn areas shall have 100% germination and establishment of turf.*

B. Corrective Work:

1. *Work requiring corrective action or replacement is the judgment of the Agency's Authorized Representative and shall be performed within ten (10) calendar days after the Pre-Final Review.*
2. *Perform corrective work and materials replacement in accordance with the Drawings and Specifications and shall be made by the Contractor at no cost to the Agency.*
3. *After corrective work is completed, the Contractor shall again request a Pre-Final Review for Pre-Final Acceptance as outlined above.*
4. *Continue maintenance of all landscaped areas until such time as all corrective measures have been completed and accepted by the Agency's Authorized Representative.*

END OF LANDSCAPE MAINTENANCE SECTION

PART 1 - GENERAL**1.01 DESCRIPTION**

- A. Related Requirements: Review the General Conditions, Standard Specifications and Special Provisions which contain information and requirements that apply to this Section.
- B. Work Included: Provide all electrical work for a complete and operable system as shown on the drawings and as specified in this section including, but not limited to the following:
1. Site investigations prior to bidding to establish existing conditions.
 2. Temporary power and lighting facilities for construction.
 3. Electrical underground service at 120/240-volt, single phase, three (3) wire service.
 4. Service metering and distribution system for lighting power connections to one hundred-twenty (120) volt irrigation controller.
 5. Lighting fixtures, mounting hardware, poles, foundations and pull boxes.
 6. Provide wire, **anti-theft** pull boxes and conduit extensions as required.
 7. Adjustment and test of the electrical work.
 8. Guarantee.
- C. Related Work in other Sections:
- Irrigation - Section 02810 (1.10 Connections to Utilities)

1.02 QUALITY ASSURANCE

- A. All products and equipment herein specified or indicated on the drawings shall be new with UL label and in accordance with the National Electrical Code, state and local codes.
- B. Applicable Standards:
1. General Conditions, Special Provisions,

1.03 SITE VISITATIONS

- A. Prior to the submission of the bid, the contractor shall visit the site and make a thorough examination of the existing conditions and thereby include allowances for this work in this bid.

1.04 PERMITS AND LICENSES

- A. *Contractor shall pay for and obtain all necessary permits, inspections, insurance and licenses required for the Electrical work.*

1.05 COORDINATION

- A. *Contractor to coordinate the electrical work with other trades. Review drawings and specifications of all equipment requiring electrical connections prior to installation of the electrical system. Verify space, ventilation and clearances required to install electrical equipment.*

1.06 SUBMITTALS

- A. *Product data sheets for meter pedestal, meter, panel board, lighting fixtures poles, wiring devices, and material list. Make all submittals at one time in booklet form.*
- B. *Record Drawings:*
 - 1. *Installation Record:* *During the course of installation, carefully show in red line on a print of the electrical system drawings all changes made to the electrical system during installation.*
 - 2. *Dimension Standards:* *Dimension from easily identifiable permanent features (buildings, monuments, sidewalks, pavements, etc.) points of connection, wiring routing, conduit locations, all stub-up locations and other related equipment as directed by the Agency's Authorized Representative.*
 - 3. *Deliverables:* *Upon completion of the electrical system installation, submit two (2) sets of redlined record data prints to the Agency's Authorized Representative for approval prior to transferring information onto the signed original Mylar's.*
 - 4. *Submittal of Record Set:* *Upon completion of the electrical system installation, and as a condition of its acceptance, deliver to the Agency's Authorized Representative, in Record Drawings referred to above. The delivery of the Record Drawings shall not relieve the Contractor of the responsibility of furnishing required information that may have been omitted.*

1.07 SUBSTITUTIONS

- A. *Where manufacturer's name and catalog number are called out, the phrase "or approved equal" can be assumed except the burden of proving equality is on the bidder.*

1.08 GUARANTEE

- A. *All electrical work and equipment shall be guaranteed for one year from the date of acceptance on contractor's letterhead and turned over to the Agency at the completion and final acceptance of the job.*

PART 2 – PRODUCTS

2.01 UNDERGROUND SERVICE PEDESTAL

- A. *Meter pedestal "MP" shall be NEMA 3R 120/240-volt, single phase, three (3) wire with one hundred (100) amp, two-pole main circuit breaker rated forty-two thousand (42,000) AIC. The service shall be a free-standing pre-wired pedestal assembly. Pedestal shall have underground pull section meter (without test blocks) and main disconnect. Pedestal shall comply with the requirements of the serving utility. Install black on white micarta nameplates on all sections, switches and spaces. Provide rodent screens. Pedestal shall be Meyers or approved equal, model numbers are indicated on the drawings. Bolt to concrete pad.*

2.02 SWITCHES

- A. *Switches shall be quick-make, quick-break type QMB rated six hundred (600) volts with frame size, number of poles and fuses as shown.*

2.03 CIRCUIT BREAKERS

- A. *Circuit breakers shall be bolt-on molded case type with thermal magnetic trips. Provide with rated voltage, frame size, number of poles and trip setting as shown. NEMA interrupting capacity shall be 42,000 AIC at 120/240 volts unless otherwise noted on plans.*

2.04 PANELBOARDS

- A. *Panel boards shall be surface mounted in pedestal, with bolt-on circuit breakers type NQOB, with hinged lockable doors and typewritten directories. All multi-pole breakers shall be single handle common type. Use "SWD" circuit breakers for lighting circuits controlled from panels. Manufacturer shall be G.E., Square D, Westinghouse or Challenger.*

2.05 WIRE

- A. *Conduit shall be six hundred (600) volt insulation type THWN/THHN copper.*

2.06 CONDUIT

- A. *Conduit shall be rigid steel galvanized for exposed or in damp locations. Conduit underground shall be PVC schedule 40 with ground wire, minimum twenty-four (24) inches below grade unless noted otherwise.*

2.07 CONDUCTORS

- A. *Conductors shall be six hundred (600) volt insulation, type THHN/THWN copper.*

2.08 SPLICES

- A. *Splices on conductor's #8 or smaller shall be Skotch-lok spring connectors and for larger size cables use solder less connectors.*
- B. *Splices below grade shall be epoxy encapsulated "3M" or approved equal.*

2.09 AREA LIGHTING

- A. ***Refer to the City Of Fontana Park Design Standards Manual. Please contact City of Fontana's Public Works Department's Landscape Division for the current up to date information as it pertains to your project.***

Public Works Department Contact Info: Luis Villalobos at 909-350-6776 or by email at Lvillalobos@fontana.org

- C. *Refer to drawing for concrete pole base.*

PART 3 - EXECUTION

3.01 EXCAVATION

- A. Obstructions: The contractor's attention is directed to the existence of pipe and other underground improvements which may or may not be shown on plans. All reasonable precautions shall be taken to preserve and protect any such improvements whether shown improvements in order to prosecute the work, they shall be removed, maintained in operation, and permanently replaced by the contractor at his expense.
- B. Trenching: Trenches shall be excavated to the lines and grades established by the engineer. Bottom of trenches graded and prepared to provide a firm and uniform bearing throughout the entire length of conduit runs.
 - 1. Trench Bottoms: Made more stable by wetting and tramping where fills are required and brought to a uniform grade.
 - 2. Minimum Trench Depth: Sufficient to provide a minimum cover twentyfour (24) inches above topmost portions of conduits.

3.02 CONDUIT AND WIRING

- A. All conduit and wiring shall be installed underground in accordance with applicable regulations and the electrical drawings. Conduit runs are shown diagrammatically. Exact routing and location of the equipment to be determined in the field by the Agency's representative. Provide one thousand-two hundred (1,200) lb. test pull cord in each empty conduit and cap both ends.

3.03 EXTERIOR EQUIPMENT

- A. All equipment and wiring to be weatherproof, including rodent screens.

3.04 GROUNDING

- A. All metallic conduits supports and enclosures shall be grounded in compliance with the National Electrical Code.

3.05 ELECTRICAL SERVICE FACILITIES

- A. Electrical service and metering facilities shall be installed in compliance with all requirements of the Southern California Edison Company.

3.06 TESTING

- A. *All new circuits shall be tested for short and open circuit to ground with a megger; resistance to ground shall be in compliance with the requirements of the National Electrical Code.*
- B. *All lighting fixtures with adjustable aiming shall be verified at night in the presence of the Agency's Authorized Representative to comply with the manufacturer's aiming diagram to the satisfaction of the Agency's Authorized Representative.*
- C. *Fontana Police Department requires a minimum of one (1) foot candle for all areas within parking lots, walkways, and structures.*

END OF ELECTRICAL SECTION

A. PRE-FINAL AND FINAL ACCEPTANCE**1. Conditions for Pre-Final Acceptance of Work at End of Maintenance Period:**

- a. *Each plant shall be alive and thriving, showing signs of growth and no signs of stress, disease, or any other.*
- b. *All plants not meeting these conditions shall be replaced and a Ninety (90) Day Maintenance Period commenced for such plants.*
- c. *Lawn areas shall be 100% weed free unless otherwise approved by the Agency's Authorized Representative.*
- d. *Lawn areas shall have 100% germination and establishment of turf.*

2. Corrective Work:

- a. *Work requiring corrective action or replacement is the judgment of the Agency's Authorized Representative and shall be performed within ten (10) calendar days after the Pre-Final Review.*
- b. *Perform corrective work and materials replacement in accordance with the Drawings and Specifications and shall be made by the Contractor at no cost to the Agency.*
- c. *After corrective work is completed, the Contractor shall again request a Pre-Final Review for Pre-Final Acceptance as outlined above.*
- d. *Continue maintenance of all landscaped areas until such time as all corrective measures have been completed and accepted by the Agency's Authorized Representative.*

3. Final Observation Prior to Acceptance:

- a. *The Contractor shall operate each system in its entirety for the Agency's Authorized Representative at time of final observation. Any items deemed not acceptable, or not in compliance with these specifications and drawings, shall be reworked to the complete satisfaction of the Agency's Authorized Representative. **If the City will be maintaining the project projects will only be taken over on the 1st or the 15th of the month.***
- b. *The Contractor shall show evidence to the Agency's Authorized Representative that the Agency has received all accessories, charts, record drawings, and equipment as required before final observation can occur.*

4. *Final Acceptance:* *Final approval and acceptance of the work will be given when the following conditions, as determined by the Agency's Authorized Representative have been met:*
- a. *At completion of the ninety (90) day maintenance period, and when one hundred (100) percent germination and plant establishment is obtained.*
 - b. *All planting areas shall be weed free unless otherwise approved by the Agency's Authorized Representative.*
 - c. *After final inspection and acceptance by the Agency's Authorized Representative.*
 - d. *The Agency's Authorized Representative reserves the option to extend the maintenance period beyond (90) days specified, if they determined that further maintenance is necessary to provide the one hundred (100) percent establishment required by the Contract Documents.*
 - e. *Approval and acceptance for operation and maintenance will be given in writing by the Agency's Authorized Representative.*
 - f. *Final acceptance is done through a City Council meeting at the next available meeting once all items are complete to the satisfaction of the Public Works Inspector assigned to the project.*

5. *Record Drawings*

- a. *Before the date of the final site review, the Contractor shall transfer the Asbuilt's set of red line drawings to the Agency's or developers Authorized Representative who will deliver them to the Landscape Architect of record. The Landscape Architect shall transfer all information from the As-built's set of prints to a sepia Mylar or similar Mylar material. All work shall be in waterproof India ink and applied to the Mylar by a technical pen made expressly for use on Mylar material. Such pen shall be similar to those manufactured by Rapidograph, Kueffel & Esser, or Faber Castell. Or make all the corrections electronically and submit them by email. The dimensions shall be made so as to be easily readable even on the final controller chart (see Section 1.05C). **The original Mylar "record" plan and a digital copy shall be submitted to the Agency's Authorized Representative for approval prior to the making of controller charts.***

6. *Controller Charts*

- a. ***Record drawing shall be approved by the Agency's Authorized Representative before controller charts are prepared.***

- b. *Provide one (1) laminated hard copy and one (1) PDF version of the controller chart for each controller supplied once redlines are approved.*
- c. *The chart shall show the area controlled by the automatic controller and shall be the maximum size which the controller door will allow.*
- d. *The chart is to be a reduced drawing of the actual record drawing, of a maximum size that will fit inside the controller housing. Double sided charts at a larger scale maybe required for readability if the single sided drawing is not legible.*
- e. *The chart shall be a black-line print and a different color shall be used to indicate the area of coverage for each station, using pastel or transparent colors. Designate all crossings and sleeves on the chart. The Contractor shall dimension from two permanent points of reference, building corners, sidewalk, or road intersections, etc., the location of the following items:*
 - 1. *Connection to existing water lines.*
 - 2. *Connection to existing electrical power.*
 - 3. *Gate valves.*
 - 4. *Routing and/or directional turns of sprinkler pressure lines (dimension maximum one hundred (100) feet along routing).*
 - 5. *Sprinkler control valves.*
 - 6. *Routing of control wiring.*
 - 7. *Quick coupling valves.*
 - 8. *Other related equipment as directed by the Agency's Authorized Representative.*
 - 9. *Show all domestic lines*
- 7. *When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each being a minimum twenty (20) mils.*
- 8. *These charts shall be completed and approved prior to final acceptance of the irrigation system.*
- 9. *Operation and Maintenance Manuals:*
 - a. *Prepare and deliver to the Agency's Authorized Representative within ten (10) calendar days prior to completion of construction, two hard cover binders, with three rings containing the following information:*

1. *Index sheet stating Contractor's address and telephone number, list of equipment with name and address of local manufacturer's representative.*
2. *Maintenance Manual Catalog and part sheets on every material and equipment installed under this contract.*
3. *Complete operating and maintenance instruction on all major equipment.*
4. *In addition to the above-mentioned maintenance manuals, provide the Agency's maintenance personnel with instructions for major equipment and show evidence in writing to the Agency's Authorized Representative at the conclusion of the project that this service has been rendered.*

10. *Equipment to Be Furnished*

- a. *Supply as part of this contract the following tools:*
 1. *Two (2) keys for each automatic controller including all operations and maintenance manuals.*
 2. *One (1) laminated hard copy and one (1) PDF version of the controller chart for each controller supplied.*
- b. *The above-mentioned equipment shall be turned over to the Agency at the conclusion of the project. Before final acceptance can occur, evidence that the Agency has received material must be shown to the Agency's Authorized Representative.*

11. *GUARANTEE / WARRANTY LETTERS*

- a. *Guarantee/Warranty statements.*
 1. *One (1) for each listed below*
 2. *Irrigation Controller Certification*
 - a. **SHALL** *be provided prior to starting the 90 day Maintenance period from the approved supplier of the irrigation controller.*
 3. *Irrigation*
 - a. *Backflow Certificates*
 1. **SHALL** *be provided for each backflow prior to starting the 90 day Maintenance period from a certified backflow tester*

4. *Plant Material*
5. *Electrical*
6. *Playground Equipment and Surfacing (If applicable)*
7. *Playground and Playground Surfacing Certification (If Applicable)*

- b. *The **GURANTEE STATEMENTS** for the **ABOVE ITEMS** shall be made in accordance with the following forms. The general conditions and supplementary conditions of these specifications shall be filed with the Agency or its representative prior to acceptance of project.*
- c. *A copy of the guarantee forms shall be included in the operations and maintenance manual.*
- d. ***All guarantee forms shall be retyped onto the Contractor's letterhead and contain the following information for each subsequent item. See all letters below.***

12. **TEMPORARY REPAIRS**

- a. *The Agency reserves the right to make temporary repairs as necessary to keep any of the items in operating condition. The exercise of this right by the Agency shall not relieve the Contractor of their responsibilities under the terms of the guarantee as herein specified.*

GUARANTEE FOR IRRIGATION SYSTEM

*We hereby guarantee that the irrigation system we have furnished and installed is free from defects in materials and workmanship including settling of backfill areas below grade, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. The flow sensor and master valve have been installed and are working properly and on the City's frequency. We agree to repair or replace any defect in material or workmanship which may develop during the period of **(1) one** year from the date of acceptance and also to repair or replace any damage resulting from the repairing of such defects at no additional cost to the Agency. We shall make such repairs or replacements within three days, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Agency, we authorized the Agency to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.*

PROJECT: _____

CONTRACTOR: _____ PHONE NO.: _____

ADDRESS: _____ BY: _____ DATE

OF ACCEPTANCE: _____ BY: _____

GUARANTEE FOR LAWNS AND GRASSES

*We hereby guarantee that the Lawns and Grasses we have furnished and installed is free from defects in materials and workmanship including settling of backfill areas below grade, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. We agree to repair or replace any defect in material or workmanship which may develop during the Warranty Time Period: Warrant that all lawns and grasses shall be in a healthy and flourishing condition of active growth **(6) six** months from date of Final Acceptance, and repair or replace any damage resulting from the repairing of such defects at no additional cost to the Agency. Appearance During Warranty: Lawns shall be free of dead or dying patches, and all areas shall show foliage of a normal density, size and color. Delays: All delays in completion of planting operations which extend the planting into more than one planting season shall extend the Warranty Period correspondingly. Coverage: Warrant growth and coverage of hydro seeded planting to the effect that one hundred (100) percent of the area planted shall be covered with specified planting after one growing season with no bare spots. We shall make such repairs or replacements within three days, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Agency, we authorized the Agency to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.*

PROJECT: _____

CONTRACTOR: _____ PHONE NO.: _____

ADDRESS: _____ BY: _____ DATE _____

OF ACCEPTANCE: _____ BY: _____

GUARANTEE FOR ALL PLANTS AND TREE MATERIAL

We hereby guarantee that the PLANT'S AND TREE MATERIAL we have furnished and installed is free from defects in materials and workmanship including settling of backfill areas below grade, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. We agree to repair or replace any defect in material or workmanship which may develop during the Warranty Time Period: Warrant that all trees, planted under this Contract will be healthy and in flourishing condition of active growth **(1) one** year from date of Final Acceptance and also to repair or replace any damage resulting from the repairing of such defects at no additional cost to the Agency. Similarly warrant shrubs, and ground covers for a period of 90 days after Final Acceptance. Delays: All delays in completion of planting operations which extend the Warranty Period correspondingly. Condition of Plants: Plants shall be free of dead or dying branches and branch tips, with all foliage of a normal density, size and color. Replacements: As soon as weather conditions permit, replace, without cost to the Agency, all dead plants and all plants not in a vigorous, thriving condition, as determined by Agency's Authorized Representative during, and at the end of Warranty Period. Plant materials exhibiting conditions which are determined as being unacceptable due to workmanship by the Contractor shall be repaired and/or replaced at no additional cost to the Agency. Closely match replacements to adjacent specimens of the same species. Apply all requirements of this Specification to all replacements. Replacement Quantities: Contractor shall be held responsible for a maximum of two (2) replacements for each tree, shrub, and same area of ground cover planting during warranty period. We shall make such repairs or replacements within three days, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Agency, we authorized the Agency to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT: _____

CONTRACTOR: _____ PHONE NO.: _____

ADDRESS: _____ BY: _____ DATE

OF ACCEPTANCE: _____ BY: _____

GUARANTEE FOR ELECTRICAL SYSTEM

*We hereby guarantee that the Electrical system we have furnished and installed is free from defects in materials and workmanship including settling of backfill areas below grade, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. We agree to repair or replace any defect in material or workmanship which may develop during the period of **(1) one** year from the date of acceptance and also to repair or replace any damage resulting from the repairing of such defects at no additional cost to the Agency. We shall make such repairs or replacements within three days, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Agency, we authorized the Agency to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.*

PROJECT: _____

CONTRACTOR: _____ PHONE NO.: _____

ADDRESS: _____ BY: _____ DATE _____

OF ACCEPTANCE: _____ BY: _____

GUARANTEE FOR PLAYGROUND EQUIPMENT AND PLAYGROUND SURFACING

*We hereby guarantee that the Playground Equipment and Playground Surfacing we have furnished and installed is free from defects in materials and workmanship and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse or neglect excepted. We agree to repair or replace any defect in material or workmanship which may develop during the period of **(1) one** year from the date of acceptance and also to repair or replace any damage resulting from the repairing of such defects at no additional cost to the Agency. We shall make such repairs or replacements within three days, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Agency, we authorized the Agency to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.*

PROJECT: _____

CONTRACTOR: _____ PHONE NO.: _____

ADDRESS: _____ BY: _____ DATE _____

OF ACCEPTANCE: _____ BY: _____

GURANTEE AND PLAYGROUND AND PLAYGROUND SURFACING CERTIFICATION

We hereby guarantee that the PLAYGROUND AND PLAYGROUND SURFACING has been inspected and CERTIFIED by a Certified Playground Safety Inspector. All items have furnished and installed and are free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications. Provide proper documentation and the Summary of Approval from the Inspector with this Guarantee.

PROJECT:

CONTRACTOR: _____ **PHONE NO.:** _____

ADDRESS: _____ **BY:** _____ **DATE**

OF ACCEPTANCE: _____ **BY:** _____

ORDINANCE NO. 1734

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF
FONTANA, CALIFORNIA AMENDING ARTICLE IV OF CHAPTER
28 OF THE FONTANA MUNICIPAL CODE REGARDING
LANDSCAPING AND WATER CONSERVATION**

WHEREAS, the City of Fontana, California (the "City") is a municipal corporation, duly organized under the constitution and laws of the State of California; and

WHEREAS, pursuant to Chapter 28 of the Fontana Municipal Code, the City regulates vegetation and, in particular, Article IV of that Chapter relates to Landscaping and Water Conservation; and

WHEREAS, the State Legislature has found: (1) that the waters of the State are of limited supply and are subject to ever increasing demands; (2) that the continuation of California's economic prosperity is dependent on the availability of adequate supplies of water for future uses; (3) that it is the policy of the State to promote the conservation and efficient use of water and to prevent the waste of this valuable resource; (4) that landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development; (5) that landscape design, installation, maintenance and management can and should be water efficient; and (6) that Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use; and

WHEREAS, the City Council of the City of Fontana concurs with the State Legislature's findings and further finds that the conservation of water is an important goal of the City; and

WHEREAS, the Water Conservation in Landscaping Act of 2006 (AB 1881) required cities and counties to adopt ordinances that required efficiency of water use in new and existing urban irrigated landscapes in California; and

WHEREAS, the requirements of the Water Conservation in Landscaping Act of 2006 were recently amended by the Department of Water Resources and have been codified at California Code of Regulations, Title 23, Division 2, Chapter 2.7, Section 490 et seq.; and

WHEREAS, the City Council of the City of Fontana wishes to implement comprehensive regulations related to water efficient landscaping in order to comply with the Governor's Executive Order B-29-15 and the provisions of the California Code of Regulations adopted in conformity therewith; and

WHEREAS, the City Council, therefore, wishes to amend certain provisions of Article IV of Chapter 28 of the Fontana Municipal Code regarding Landscaping and Water Conservation in order to comply with State of California Model Water Efficient Landscape Ordinance (codified at California Code of Regulations, Title 23, Division 2, Chapter 2.7, Section 490 et seq.) to promote water efficiency measures, to promote water conservation and to protect the public health, safety, and welfare; and

WHEREAS, under California law, if a city does not adopt an ordinance that is at least as restrictive as the Model Water Efficient Landscape Ordinance, the State Model Water Efficient Landscape Ordinance becomes effective in the City; and

WHEREAS, on November 10, 2015 the City Council introduced this Ordinance; and

WHEREAS, all other legal prerequisites to the adoption of this Ordinance have occurred.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF FONTANA, CALIFORNIA DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Incorporation of Recitals. The above recitals are true and correct and are incorporated herein by this reference.

SECTION 2. Article IV of Chapter 28 of the Fontana Municipal Code is hereby amended to read in its entirety as follows:

“ARTICLE IV. – LANDSCAPING AND WATER CONSERVATION

Sec. 28.91. – Purpose.

(a) The City finds that:

- (1) Landscaping enhances the physical appearance of the community, improves the physical performance of new development by contributing to the abatement of heat, glare, erosion and noise, and by promoting natural percolation of water and improving air quality and thereby conserving the value of property and neighborhoods within the City;
- (2) The limited supply of city and state waters are subject to ever increasing demands;
- (3) The economic prosperity of the City and the State depends on adequate supplies of water;
- (4) City and state policy promotes the conservation and efficient use of water and to prevent the waste of this valuable resource;
- (5) Landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development;

- (6) Landscape design, installation, and maintenance can and should be water efficient; and
 - (7) Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.
- (b) Consistent with these findings, the purpose of this Article is to:
- (1) Promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water;
 - (2) Establish a structure for designing, installing, and maintaining, and managing water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;
 - (3) Establish provisions for water management practices and water waste prevention for existing landscapes;
 - (4) Use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount; and
 - (5) Establish, procedures and guidelines for the administration of plan check submittal and the subsequent approval of plans.
- (c) Landscapes that are planned, designed, installed, managed and maintained with the watershed-based approach can improve the City's environmental conditions and provide benefits and realize sustainability goals. Such landscapes will make the urban environment resilient in the face of climatic extremes. Consistent with the legislative findings and purpose of this Article, conditions in the urban setting will be improved by:
- (1) Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and esthetic benefits;
 - (2) Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum-based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas;
 - (3) Conserving water by capturing and reusing rainwater and gray water wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment;
 - (4) Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion; and
 - (5) Protecting existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants. Utilizing integrated pest management with least toxic methods as the first course of action.

Sec. 28-92. - Applicability.

- (a) After December 1, 2015, and consistent with Executive Order No. B-29-15, this Article shall apply to all of the following landscape projects:
 - (1) New development projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building permit, plan check or design review;
 - (2) Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building permit, plan check, or design review;
 - (3) Existing landscapes limited to Sections 28-106 and 28-115; and
 - (4) Cemeteries. Recognizing the special landscape needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 28-98, 28-105 and 28-106 of this Article. Existing cemeteries are limited to Sections 28-106 and 28-115 of this Article.
- (b) Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this Article or conform to the prescriptive measures contained in Section 28-120.
- (c) For projects using treated or untreated gray water or rainwater captured on site, any lot or parcel within the project that has less than 2500 sq. ft. of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated gray water or through stored rainwater captured on site is subject only to Section 28-120 (b) (5).
- (d) This Article does not apply to:
 - (1) Registered local, state or federal historical sites;
 - (2) Ecological restoration projects that do not require a permanent irrigation system;
 - (3) Mined-land reclamation projects that do not require a permanent irrigation system; or
 - (4) Existing plant collections, as part of botanical gardens and arboretums open to the public.

Sec. 28-93. – Definitions.

The terms used in this Article have the meaning set forth below:

- (a) “Applied water” means the portion of water supplied by the irrigation system to the landscape.
- (b) “Automatic irrigation controller” means timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.
- (c) “Backflow prevention device” means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

- (d) "Certificate of Completion" means the document required under Section 28103.
- (e) "Certified irrigation designer" means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's Water Sense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.
- (f) "Certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's Water Sense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.
- (g) "Check valve" or "anti-drain valve" means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.
- (h) "Common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.
- (i) "Compost" means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.
- (j) "Conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.
- (k) "Distribution uniformity" means the measure of the uniformity of irrigation water over a defined area.
- (l) "Drip irrigation" means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
- (m) "Ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- (n) "Effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.
- (o) "Emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.
- (p) "Established landscape" means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.
- (q) "Establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.
- (r) "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 28-98.

- (s) "ET adjustment factor" (ETAF) means a factor of 0.55 for residential areas and 0.45 for nonresidential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing nonrehabilitated landscapes is 0.8.
- (t) "Evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.
- (u) "Flow rate" means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.
- (v) "Flow sensor" means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or sub-meter.
- (w) "Friable" means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.
- (x) "Fuel Modification Plan Guideline" means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.
- (y) "Gray water" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Gray water" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.
- (z) "Hardscapes" means any durable material (pervious and non-pervious).
- (aa) "Hydro zone" means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydro zone may be irrigated or non-irrigated.
- (bb) "Infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).
- (cc) "Invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

- (dd) "Irrigation audit" means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "Water sense" labeled auditing program.
- (ee) "Irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates irrigation system characteristics and management practices. The irrigation efficiency for purposes of this Article is 0.75 for overhead spray devices and 0.81 for drip systems.
- (ff) "Irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.
- (gg) "Irrigation water use analysis" means a review of water use data based on meter readings and billing data.
- (hh) "Landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.
- (ii) "Landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).
- (jj) "Landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- (kk) "Landscape Documentation Package" means the documents required under Section 28-95.
- (ll) "Landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 28-92.
- (mm) "Landscape water meter" means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.
- (nn) "Lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- (oo) "Local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this ordinance,

including but not limited to, approval of a permit and plan check or design review of a project.

- (pp) "Local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.
- (qq) "Low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
- (rr) "Main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.
- (ss) "Master shut-off valve" is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.
- (tt) "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 28-98. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0. $MAWA = (ET_o) (0.62) [(ETAF \times LA) + ((1ETAF) \times SLA)]$.
- (uu) "Median" is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.
- (vv) "Microclimate" means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.
- (ww) "Mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.
- (xx) "Mulch" means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.
- (yy) "New construction" means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.
- (zz) "Non-residential landscape" means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.
- (aaa) "Operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

- (bbb) "Overhead sprinkler irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).
- (ccc) "Overspray" means the irrigation water which is delivered beyond the target area.
- (ddd) "Permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.
- (eee) "Pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.
- (fff) "Plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the publication "Water Use Classification of Landscape Species". Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).
- (ggg) "Project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 28-95 to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.
- (hhh) "Rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.
- (iii) "Record drawing" or "as-builts" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.
- (jjj) "Recreational area" means areas, excluding private single family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf courses tees, fairways, roughs, surrounds and greens.
- (kkk) "Recycled water", "reclaimed water", or "treated sewage effluent water" means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.
- (III) "Reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Section 28121, and is an estimate of the evapotranspiration of a large field of four-to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.
- (mmm) "Regional Water Efficient Landscape Ordinance" means a local Ordinance adopted by two or more local agencies, water suppliers and other

stakeholders for implementing a consistent set of landscape provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.

- (nnn) “Rehabilitated landscape” means any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 2892, and the modified landscape area is equal to or greater than 2,500 square feet.
- (ooo) “Residential landscape” means landscapes surrounding single or multifamily homes.
- (ppp) “Runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
- (qqq) “Soil moisture sensing device” or “soil moisture sensor” means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.
- (rrr) “Soil texture” means the classification of soil based on its percentage of sand, silt, and clay.
- (sss) “Special Landscape Area” (SLA) means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.
- (ttt) “Sprinkler head” means a device which delivers water through a nozzle.
- (uuu) “Static water pressure” means the pipeline or municipal water supply pressure when water is not flowing.
- (vvv) “Station” means an area served by one valve or by a set of valves that operate simultaneously.
- (www) “Swing joint” means an irrigation component that provides a flexible, leakfree connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.
- (xxx) “Sub meter” means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.
- (yyy) “Turf” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.
- (zzz) “Valve” means a device used to control the flow of water in the irrigation system.
- (aaaa) “Water conserving plant species” means a plant species identified as having a very low or low plant factor.
- (bbbb) “Water feature” means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydro zone of the landscape area. Constructed

wetlands used for on-site wastewater treatment or storm water best management practices that are not irrigated and used solely for water treatment or storm water retention are not water features and, therefore, are not subject to the water budget calculation.

(cccc) "watering window" means the time of day irrigation is allowed.

(dddd) "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources in 2014.

Sec. 28-94. – Landscape Documentation Package - Process.

- (a) A copy of the landscape documentation package conforming to this Article shall be submitted to the City's Department of Engineering as part of an application for review and approval of landscaping and irrigation at the time of landscape plan check submittal. No certificate of occupancy or other final City approval shall be issued until the City Engineer or designee reviews and approves the landscape documentation package and confirms that the landscaping and irrigation has been installed in accordance with approved plans.
- (b) The City's Department of Engineering shall review the landscape documentation package submitted by the project applicant at the time of plan submittal for building and safety permits;
- (c) The City's Department of Engineering shall approve or deny the landscape documentation package;
- (d) Arborists' permits. If required by Article III, Sections 28-61 et seq., arborist reports and plans must be submitted to City Engineer or designee. Thereafter, the report and plans shall be reviewed to ensure conformity both with this Article and Article III, Sections 28-61 et seq. The recommendation of the arborist report shall be incorporated into the landscape plans.

Sec. 28-95. – Landscape Documentation Package – Contents.

- (a) The Landscape Documentation Package shall include the following elements:
 - (1) Project information
 - a. Date
 - b. Project applicant, property owner, and/or property owner's representative (address and contact information)
 - c. Project address, assessor's parcel number(s), tract number (lots and phase), and, if available, cross streets
 - d. Vicinity Map
 - e. Site Plan
 - f. Total landscape area (square feet)
 - g. Project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed, industrial, and developer installed front yard, side, and rear per Chapter 30 of this Code)
 - h. Water supply type (e.g., potable, recycled, well) and identify

- the local retail water purveyor if the applicant is not served by a private well
 - i. Checklist of all documents in Landscape Documentation Package
 - j. Applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package".
- (2) Water Efficient Landscape Worksheet
 - a. Water budget calculations
 - 1. Maximum Applied Water Allowance (MAWA)
 - 2. Estimated Total Water Use (ETWU)
- (3) Soil management report
- (4) Landscape design plan
- (5) Irrigation design plan
- (6) Grading design plan, if applicable
- (7) Any other documents required by the City including, but not limited to, the following: hardscape plan; arborist report; preliminary landscape plan; landscape construction plans; and Plan check fees
- (b) Drawing standards. All sheets except the title sheet shall comply with the City's specifications on file with the Department of Engineering

Sec. 28-96. – Enforcement and Penalties.

- (a) For the purposes of ensuring that persons comply with the provisions of this Article, the City Engineer, or designee may, following written notice to subject property owner, initiate enforcement action against such property owner or designee, which enforcement action may include, but not limited to, the following:
 - (1) Revocation of a landscape documentation package;
 - (2) Revocation of an approved conditional use permit;
 - (3) Withholding issuance of a certificate of use and occupancy or building permit; and
 - (4) Issuance of a stop work order.
- (b) In addition to any other remedies available for any violation of this Code, including but not limited to administrative citations, the City may bring and maintain any action permitted by law to restrain, correct, or abate any violation of this Article.

Sec. 28-97. – Appeals.

- (a) Right of appeal. Any action taken by the City Engineer or designee in the administration and/or enforcement of the provisions of this Article may be appealed by an applicant, property owner or designee of any applicable project to the Planning Commission. An appeal stays proceedings until a determination of the appeal has been made. If the Planning Commission

fails to make its decision within the time limit specified in section 28-97(d), the applicant may file an appeal with the City Council requesting a decision by that body. Such an appeal must be made within ten days after the expiration of the time limit specified in section 28-97(d).

- (b) Application for appeal. The notice of appeal shall be in writing and shall be filed with the Department of Engineering upon forms provided by the City. An appeal of any action in the administration and/or enforcement of this Article shall indicate specifically the reasons for appeal.
- (c) Time for filing. Any appeal shall be filed within ten calendar days from the date of notification of a decision from which the appeal is made. Upon the filing of appeal, the department of engineering shall transmit a copy of the appeal to the clerk of the body hearing the appeal and to the Department of Community Development for the processing of such appeal.
- (d) Hearing date and notice. Upon receipt of the notice of appeal, the body hearing the appeal shall set a date for hearing of the matter and give notice of the date, time and place of the hearing to the appellant at least ten days prior to the date of the hearing. Prior to such hearing, the community development department shall transmit to the clerk of the body hearing the appeal a report of the findings and shall present all documents on file at the hearing. The appeal hearing shall be scheduled no sooner than 21 days nor no later than 51 days from the date the appeal application has been deemed to be complete. This time limit may be extended by mutual agreement of the City and the applicant.

Sec. 28-98. – Water Efficient Landscape Worksheet

- (a) A project applicant shall complete the Water Efficient Landscape Worksheet, which contains information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydro zone. Calculations are then made to show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas. The ETAF for a landscape project is based on the plant factors and irrigation methods selected. The Maximum Applied Water Allowance is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and expressed as annual gallons required. The Estimated Total Water Use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA.
 - (1) In calculating the MAWA and ETWU, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Section 28-121.
- (b) Water budget calculations shall adhere to the following requirements:
 - (1) The plant factor used shall be from WUCOLS or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR). The plant factor ranges from 0 to 0.1 for very low water using

- plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
- (2) All water features shall be included in the high water use hydro zone and temporarily irrigated areas shall be included in the low water use hydro zone.
 - (3) All Special Landscape Areas shall be identified, and their water use calculated as shown on the Sample Water Efficient Landscape Worksheet kept on file with the City's Department of Engineering.
 - (4) ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

Sec. 28-99. – Soil Management Report

- (a) In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant, or his/her designee, as follows:
 - (1) Submit soil samples to a laboratory for analysis and recommendations.
 - a. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
 - b. The soil analysis shall include:
 - 1. Soil texture;
 - 2. Infiltration rate determined by laboratory test or soil texture infiltration rate table;
 - 3. PH;
 - 4. Total soluble salts;
 - 5. Sodium;
 - 6. Percent organic matter; and 7. Recommendations.
 - c. In projects with multiple landscape installations (i.e. production home developments) a soil sampling rate of 1 in 7 lots or approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.
 - (2) The project applicant, or his/her designee, shall comply with one of the following:
 - a. If significant mass grading is not planned, the soil analysis report shall be submitted to the City as part of the Landscape Documentation Package; or
 - b. If significant mass grading is planned, the soil analysis report shall be submitted to the City as part of the Certificate of Completion.
 - (3) The soil analysis report shall be made available, in a timely manner, to the City Landscape Inspector or inspector designated by the City Engineer, and to the landscape contractor prior to the installation of any plant material.

- (4) The project applicant, or his/her designee, shall submit to an inspection by a City Landscape Inspector or inspector designated by the City Engineer, verifying implementation of soil management report recommendations. .

Sec. 28-100. – Landscape Design Plan

(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) Plant Material

- a. Any plant may be selected for the landscape providing the ETWU in the landscape area does not exceed the MAWA. Methods to achieve water efficiency shall include one or more of the following:
 1. Protection and preservation of native species and natural vegetation;
 2. Selection of water-conserving plant, tree and turf species, especially local native plants;
 3. Selection of plants based on local climate suitability, disease and pest resistance;
 4. Selection of trees based on applicable local tree ordinances or tree shading guidelines, and size at maturity as appropriate for the planting area; and
 5. Selection of plants from local and regional landscape program plant lists.
 6. Selection of plants from local Fuel Modification Plan Guidelines.
- b. Each hydro zone shall have plant materials with similar water use, with the exception of hydro zones with plants of mixed water use, as specified in Section 28-101 (a)(2)(d).
- c. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. Methods to achieve water efficiency shall include one or more of the following:
 1. Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
 2. Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth and
 3. Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.

- d. Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).
- e. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
- f. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Fire-prone plant materials and highly flammable mulches shall be avoided.
- g. The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.
- h. The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

(2) Water Features

- a. Recirculating water systems shall be used for water features.
- b. Where available, recycled water shall be used as a source for decorative water features.
- c. Surface area of a water feature shall be included in the high water use hydro zone area of the water budget calculation.
- d. Pool and spa covers are highly recommended.

(3) Soil Preparation, Mulch and Amendments

- a. Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.
- b. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 28-99).
- c. For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.
- d. A minimum three-inch (3") layer of mulch shall be applied on all exposed soil surfaces of

planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to 5 % of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.

- e. Stabilizing mulching products shall be used on slopes that meet current engineering standards.
- f. The mulching portion of the seed/mulch slurry in hydroseeded applications shall meet the mulching requirement.
- g. Organic mulch materials made from recycled or postconsumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local ordinances.

- (b) The landscape design plan, at a minimum, shall:
- (1) Delineate and label each hydro zone by number, letter, or other method;
 - (2) Identify each hydro zone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydro zone for the water budget calculation;
 - (3) Identify recreational areas;
 - (4) Identify areas permanently and solely dedicated to edible plants;
 - (5) Identify areas irrigated with recycled water;
 - (6) Identify type of mulch and application depth;
 - (7) Identify soil amendments, type, and quantity;
 - (8) Identify type and surface area of water features;
 - (9) Identify hardscapes (pervious and non-pervious);
 - (10) Identify location, installation details, and 24-hour retention or infiltration capacity of any applicable storm water best management practices that encourage on-site retention and infiltration of storm water. Project applicants shall refer to the local agency or regional Water Quality Control Board for information on any applicable storm water technical requirements. Storm water best management practices are encouraged in the landscape design plan and examples are provided in Section 28-111.
 - (11) Identify any applicable rain harvesting or catchment technologies as discussed in Section 28-111 and their 24-hour retention or infiltration capacity;

- (12) Identify any applicable gray water discharge piping, system components and area(s) of distribution;
- (13) Contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan";
- (14) Bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code); and
- (15) Identify and include any additional items required by the City's Department of Engineering, at its discretion.

Sec. 28-101. – Irrigation Design Plan

(a) This Section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

- (1) System
 - a. Landscape water meters, defined as either a dedicated water service meter or private sub meter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. but not more than 5,000 sqft. (the level at which Water Code 535 applies) and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either:
 - 1. A customer service meter dedicated to landscape use provided by the local water purveyor; or
 - 2. A privately-owned meter or sub meter.
 - b. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing nonvolatile memory shall be required for irrigation scheduling in all irrigation systems.
 - c. If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
 - 1. If the static pressure is above or below the required dynamic pressure of the irrigation system,

pressureregulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.

2. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.
- d. Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
- e. Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.
- f. Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
- g. Flow sensors that detect high flow conditions created by system damage or malfunction are required for all on nonresidential landscapes and residential landscapes of 5000 sq. ft. or larger.
- h. Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
- i. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
- j. Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
- k. The design of the irrigation system shall conform to the hydro zones of the landscape design plan.
- l. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 28-98 regarding the MAWA.

- m. All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 8022014 "Landscape Irrigation Sprinkler and Emitter Standard, All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
- n. It is highly recommended that the project applicant inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
- o. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
- p. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
- q. Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
- r. Swing joints or other riser-protection components are required on all riser's subject to damage that are adjacent to hardscapes or in high traffic areas of turf grass.
- s. Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.
- t. Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
- u. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:
 - 1. The landscape area is adjacent to permeable surfacing and no runoff occurs; or
 - 2. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
 - 3. The irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 28-101 (a) (1) (i). Prevention of overspray and runoff must be confirmed during the irrigation audit.

- v. Slopes greater than 25% shall not be irrigated with an irrigation system with an application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.
- (2) Hydro zone
- a. Each valve shall irrigate a hydro zone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
 - b. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydro zone.
 - c. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.
 - d. Individual hydro zones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:
 - 1. Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
 - 2. The plant factor of the higher water using plant is used for calculations.
 - e. Individual hydro zones that mix high and low water use plants shall not be permitted.
 - f. On the landscape design plan and irrigation design plan, hydro zone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydro zone Information Table (see the Sample Water Efficient Landscape Worksheet kept on file with the City's Department of Engineering, Section A). This table can also assist with the irrigation audit and programming the controller.
- (b) The irrigation design plan, at a minimum, shall contain:
- (1) Location and size of separate water meters for landscape;
 - (2) Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
 - (3) Static water pressure at the point of connection to the public water supply;

- (4) Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
- (5) Recycled water irrigation systems as specified in Section 28-108;
- (6) The following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan";
- (7) The signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code); and
- (8) Any additional information required by the City's Department of Engineering, at its discretion.

Sec. 28-102. – Grading Design Plan

- (a) For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package or as otherwise approved by the City Engineer or designee. A comprehensive grading plan prepared by a civil engineer for other City permits satisfies this requirement.
 - (1) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:
 - a. height of graded slopes;
 - b. drainage patterns;
 - c. pad elevations;
 - d. finish grade; and
 - e. storm water retention improvements, if applicable.
 - (2) To prevent excessive erosion and runoff, it is highly recommended that project applicants:
 - a. grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
 - b. avoid disruption of natural drainage patterns and undisturbed soil; and
 - c. avoid soil compaction in landscape areas.
 - (3) The grading/landscape design plan shall contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan" and shall bear the signature of a licensed professional as authorized by law.

Sec. 28-103. – Certificate of Completion.

- (a) The Certificate of Completion (a sample certificate is kept on file with the City's Department of Engineering) shall include the following six (6) elements:
 - (1) Project information sheet that contains:
 - a. Date;
 - b. Project name;
 - c. Project applicant name, telephone, and mailing address;
 - d. Project address and location; and
 - e. Property owner name, telephone, and mailing address;
 - (2) Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;
 - a. Where there have been significant changes made in the field during construction, these "as-built" or record drawings shall be included with the certification;
 - b. A diagram of the irrigation plan showing hydro zones shall be kept with the irrigation controller for subsequent management purposes.
 - (3) Irrigation scheduling parameters used to set the controller (see Section 28-104);
 - (4) Landscape and irrigation maintenance schedule (see Section 28-105);
 - (5) Irrigation audit report (see Section 28-106); and
 - (6) Soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 28-99).
- (b) The project applicant shall:
 - (1) Submit the signed Certificate of Completion to the City for review;
 - (2) Ensure that copies of the approved Certificate of Completion are submitted to the local water purveyor and property owner or his or her designee.
- (c) The City shall:
 - (1) Receive the signed Certificate of Completion from the project applicant;
 - (2) Approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the City shall provide information to the project applicant regarding reapplication, appeal, or other assistance.

Sec. 28-104. – Irrigation Scheduling.

- (a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:

- (1) Irrigation scheduling shall be regulated by automatic irrigation controllers.
- (2) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. If allowable hours of irrigation differ from the local water purveyor, the stricter of the two shall apply. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
- (3) For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the ETWU. Total annual applied water shall be less than or equal to MAWA. Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.
- (4) Parameters used to set the automatic controller shall be developed and submitted for each of the following:
 - a. The plant establishment period;
 - b. The established landscape; and
 - c. Temporarily irrigated areas.
- (5) Each irrigation schedule shall consider for each station all of the following that apply:
 - a. irrigation interval (days between irrigation);
 - b. irrigation run times (hours or minutes per irrigation event to avoid runoff);
 - c. number of cycle starts required for each irrigation event to avoid runoff;
 - d. amount of applied water scheduled to be applied on a monthly basis;
 - e. application rate setting;
 - f. root depth setting;
 - g. plant type setting;
 - h. soil type;
 - i. slope factor setting;
 - j. shade factor setting; and
 - k. irrigation uniformity or efficiency setting.

Sec. 28-105. – Landscape and Irrigation Maintenance Schedule.

- (a) Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.
- (b) A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas and removing and obstructions to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

- (c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.
- (d) Project applicants are encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

Sec. 28-106. – Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis – New and Rehabilitated Landscapes.

- (a) All landscape irrigation audits shall be conducted by a City landscape irrigation auditor or a third-party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape
- (b) In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.
- (c) For new construction and rehabilitated landscape projects installed after December 1, 2015, as described in Section 28-92:
 - (1) The project applicant shall submit an irrigation audit report with the Certificate of Completion to the City that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming;
 - (2) The local agency shall administer programs that may include, but not limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

Sec. 28-107. – Irrigation Efficiency.

- (a) For the purpose of determining ETWU, average irrigation efficiency is assumed to be 0.75 for overhead spray devices and 0.81 for drip system devices.

Sec. 28-108. – Recycled Water.

- (a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water.
- (b) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.
- (c) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

Sec. 28-109. – Gray water Systems.

- (a) Gray water systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All gray water systems shall conform to the California Plumbing Code (Title 24, Part 5, and Chapter 16) and any applicable local ordinance standards. Refer to Section 28-92 (c) for the applicability of this ordinance to landscape areas less than 2,500 square feet with the ETWU met entirely by gray water.
- (b)

Sec. 28-110. – Backflow Preventer Certification.

- (a) Prior to final acceptance of any City maintained landscape areas by the City, the project proponent shall submit a backflow preventer certificate which has been prepared by a person licensed by the state to perform such certifications. Such certificate shall state that the backflow prevention devices at the project shall prevent backflow of irrigation system water into the public water system.

Sec. 28-111. – Storm water Management and Rainwater Retention.

- (a) Storm water management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. The implementation of storm water best management practices into the landscape and grading design plans to minimize runoff and to increase onsite rainwater retention and infiltration is encouraged.
- (b) Project applicants shall refer to the City's Department of Public Works, Environmental Control Division, or Regional Water Quality Control Board for information on any applicable storm water technical requirements.
- (c) All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to § 28-100 (a) (3).
- (d) It is strongly recommended that landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e. roof and paved areas) from either: the one inch, 24-hour rain event or (2) the 85th percentile, 24-hour rain event, and/or additional capacity as required by any applicable local, regional, state or federal regulation.
- (e) It is recommended that storm water projects incorporate any combination of the following elements to improve on-site storm water and dry weather runoff capture and use:
 - (1) Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas;
 - (2) Minimize the area of impervious surfaces such as paved areas, roof and concrete driveways;
 - (3) Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff;
 - (4) Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse;

- (5) Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems;
- (6) Incorporate infiltration beds, swales, basins and drywells to capture storm water and dry weather runoff and increase percolation into the soil; or
- (7) Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

Sec. 28-112. – Reserved.

Sec. 28-113. – Public Education.

- (a) Publications. Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management and maintenance that save water is encouraged in the community.
 - (1) The City will make available to the public information regarding the use of appropriate principles of design, installation, management, and maintenance of water efficient landscapes to promote the efficient use of water in landscapes. .
- (b) Model Homes. All model homes shall be landscaped and shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.
 - (1) Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydro zones, irrigation equipment, and others that contribute to the overall water efficient theme. Signage shall include information about the site water use as designed per the local ordinance; specify who designed and installed the water efficient landscape; and demonstrate low water use approaches to landscaping such as using native plants, gray water systems, and rainwater catchment systems.
 - (2) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

Sec. 28-114. – Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis – Existing Landscapes.

- (a) This Section shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size.
 - (1) For all landscapes subject to this Section that have a water meter, the City shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the MAWA for existing landscapes. The MAWA for existing landscapes shall be calculated as follows: $MAWA = (0.8) (ET_o) (LA) (0.62)$.

- (2) For all landscapes subject to this Section that do not have a meter, the City shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.
- (b) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

Sec. 28-115. – Water Waste Prevention.

- (a) No water shall be permitted to leave the target landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures.
- (b) Exceptions. It shall not be considered a violation of this Section if:
 - (1) Water leaves the target landscape to adjacent permeable surfacing and no runoff occurs; or
 - (2) Water leaves the target landscape to adjacent non-permeable surfaces in a manner designed and constructed to drain entirely to landscaping.

Sec. 28-116. – Effective Precipitation.

- (a) A local agency may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance:
 - (1) For residential areas: $MAWA = (ET_o - Eppt) (0.62) [(0.55 \times LA) + (0.45 \times SLA)]$
 - (2) For non-residential areas: $MAWA = (ET_o - Eppt) (0.62) [(0.45 \times LA) + (0.55 \times SLA)]$

Sec. 28-117. – Verification of Landscape Installation.

- (a) No certificate of occupancy shall be issued until a city landscape inspector has verified that all irrigation, grading and planting have been completed in accordance with the approved plans and specifications of this article.
- (b) Where project conditions of approval require the landscape architect/landscape designer to perform onsite inspections and final certification of completion, the landscape architect/landscape designer shall be required to perform the inspections and verifications described in subsection (a) of this section. The city landscape inspector shall perform a city final landscape inspection for the purpose of issuance of occupancy, following receipt of the landscape certification and inspection form

completed by the landscape architect/landscape designer. Required inspections by another person other than the actual designer of the project shall require approval by the department of engineering. Under no circumstances may required inspections of the work be carried out by the installer of the work. Certificate of completion forms are available from the department of engineering.

Sec. 28-118. - Special landscape maintenance district requirements.

- (a) With regards to landscape maintenance districts or public landscape, it shall be the responsibility of the developer to incur all energy charges on all water meters and electrical meters until acceptance by council action of all public landscape areas. Landscape maintenance districts require the following items to be turned over to the city as outlined in the format in subsection (b) of this section:
- (b) Land maintenance district acceptance turn-over items shall be required pursuant to the City's specification package on file with the Department of Engineering.

Sec. 28-119. – Fees for Initial Review.

- (a) For purposes of meeting its obligations under this article and chapter, the following fees are deemed necessary to review landscape documentation packages and shall be imposed on the subject applicant, property owner or designee:
 - (1) A landscape documentation package review fee shall be due at the time of the initial project application submission to the department of engineering.
- (b) The City Council by resolution shall establish the amount of the fees described in subsection (a) of this Section in accordance with applicable law.

Sec. 28-120. – Prescriptive Compliance Option.

- (a) This Section contains prescriptive requirements which may be used as a compliance option for this Article.
- (b) Compliance with the following items is mandatory and must be documented on a landscape plan in order to use the prescriptive compliance option:
 - (1) Submit a Landscape Documentation Package which includes the following elements:
 - a. date
 - b. project applicant
 - c. project address (if available, parcel and/or lot number(s))

- d. total landscape area (square feet), including a breakdown of turf and plant material
 - e. project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
 - f. water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well
 - g. contact information for the project applicant and property owner
 - h. applicant signature and date with statement, "I agree to comply with the requirements of Section 28-120 of the Fontana Municipal Code, also known as the prescriptive compliance option of the State Model Water Efficient Landscape Ordinance".
- (2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);
- (3) Plant material shall comply with all of the following;
- a. For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;
 - b. A minimum three-inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
- (4) Turf shall comply with all of the following:
- a. Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;
 - b. Turf shall not be planted on sloped areas which exceed a slope of 1-foot vertical elevation change for every 4 feet of horizontal length;
 - c. Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.
- (5) Irrigation systems shall comply with the following:
- a. Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

- b. Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.
 - c. Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.
 - d. Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.
 - e. All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "Landscape Irrigation Sprinkler and Emitter Standard," All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
 - f. Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
- (6) For non-residential projects with landscape areas of 1,000 sq. ft. or more, a private sub meter(s) to measure landscape water use shall be installed.
- (c) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.

Sec. 28-121. – Reference Evapotranspiration (ET_o).

<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>Jun.</i>	<i>Jul.</i>	<i>Aug.</i>	<i>Sep.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>	<i>Annua l ET_o</i>
<i>2.0</i>	<i>2.7</i>	<i>3.8</i>	<i>4.6</i>	<i>5.7</i>	<i>6.9</i>	<i>7.9</i>	<i>7.4</i>	<i>5.9</i>	<i>4.2</i>	<i>2.6</i>	<i>2.0</i>	<i>55.6</i>

NOTE: In the absence of specific Fontana ET_o rates, the above ET_o rates are set at the level reported for San Bernardino in Appendix A to the State Model Water Efficient Landscape Ordinance. Of the options available, the City of San Bernardino has the most similar climate and is closest geographically to the City of Fontana."

SECTION 3. CEQA. This Ordinance is not a project within the meaning of Section 15378 of the State of California Environmental Quality Act ("CEQA") Guidelines, because it has no potential for resulting in physical change in the environment, directly or indirectly. The City Council further finds, under Title 14 of the California Code of Regulations, Section 15061(b)(3), that this Ordinance is nonetheless exempt from the requirements of CEQA in that the activity is covered by the general rule that CEQA applies only to projects

which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. The City Council, therefore, directs that a Notice of Exemption be filed with the County Clerk of the County of San Bernardino in accordance with CEQA Guidelines.

SECTION 4. Custodian of Records. The documents and materials that constitute the record of proceedings on which this Ordinance is based are located at the City Clerk's office located at 8353 Sierra Avenue, Fontana, CA 92335. The custodian of these records is the City Clerk.

SECTION 5. Severability. If any section, sentence, clause or phrase of this Ordinance or the application thereof to any entity, person or circumstance is held for any reason to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect other provisions or applications of this Ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this Ordinance are severable. The people of the City of Fontana hereby declare that they would have adopted this Ordinance and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION 6. Effective Date. This Ordinance shall become effective thirty (30) days following its adoption.

SECTION 7. Publication. The City Clerk shall certify to the adoption of this Ordinance. Not later than fifteen (15) days following the passage of this Ordinance, the Ordinance, or a summary thereof, along with the names of the City Council members voting for and against the Ordinance, shall be published in a newspaper of general circulation in the City of Fontana.

APPROVED AND ADOPTED 24th day of November, 2015.

APPENDIX V

SECTION E – SPECIAL PROVISIONS FOR THE CONSTRUCTION OF: CITY HALL RENOVATION PROJECT – PHASE II (CITY HALL) STREET IMPROVEMENTS, SIGNING/STRIPING

SECTION E

Special Provisions for the Construction of:

City Hall Renovation Project – Phase II (City Hall)

Street Improvements, Signing/Striping

PROJECT CONFORMITY

Except as specified within these special provisions (Section E), the following will apply to and control this work:

- E Section
- Project Plans
- City Design Standards
- Caltrans Standard Specifications, latest edition including latest revisions.
- Caltrans Standard Plans, latest edition including latest revisions.
- California Manual of Uniform Traffic Control Devices, latest edition including latest revisions.
- 2024 Greenbook Sections 1 through 9

CITY FURNISHED MATERIALS

There are no City furnished materials for this project.

NOTICE REGARDING CONTRACTOR SUPPLIED MATERIALS

Pursuant to Public Contract Code Section 3400(b) the City of Fontana may make a finding that designates certain materials, products, things, or services by specific brand or trade name for statutorily enumerated purposes. As required by Section 3400(b) the City of Fontana has made such findings as further described in the Project Special Provisions. These findings, as well the materials, products, things, or services and their specific brand or trade names that must be used for the Project are found in Section E of these special provisions.

1 GENERAL [Delete]

2 BIDDING [Delete]

3 CONTRACT AWARD AND EXECUTION [Delete]

4 SCOPE OF WORK [Delete]

5 CONTROL OF WORK

5-1.01 GENERAL THROUGH 5-1.43F Reserved [Delete]

5-1.44-5.1.45 RESERVED [Add the following] Contractor shall keep at the work site a copy of the specifications and a full-size copy of the plans to which the Engineer shall have access at all times.

FINAL INSPECTION

Approximately two weeks after project completion and prior to project acceptance, City staff will perform a comprehensive inspection of all street improvements, signing/striping, and traffic signal improvements installed or modified per this contract. The contractor shall complete all work to the satisfaction of the resident engineer.

DIVISION VI STRUCTURES [DELETE]

DIVISION VII DRAINAGE FACILITIES [Delete]

DIVISION VIII MISCELLANEOUS CONSTRUCTION [Delete]

81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

81-2.02A General [Delete]

81-2.02B Wood Posts [Delete]

82 SIGNS AND MARKERS

82-2 SIGN PANELS

82-2.01C Submittals [Substitute the following]

Submit a certificate of compliance for:

1. Aluminum sheeting
2. Retroreflective sheeting
3. Electrocut film
4. Protective overlay film

82-2.02 MATERIALS

82-2.02A General [Substitute the following]

A sign panel must be produced at a fabrication plant.

The sign must be imprinted with the following information:

1. Phrase *Property of the City of Fontana*
2. Sign fabricator's name
3. Month and year of fabrication
4. Type of retroreflective sheeting
5. Sheeting manufacturer's identification and lot number for the retroreflective sheeting

The sign information must:

1. Be imprinted in ¼-inch upper-case letters and numerals on the back, lower right of each sign panel such that it will not be blocked by a signpost or mounting bracket.
2. Be imprinted at the fabrication plant by die-stamping on aluminum panels.
3. Not be painted, screened, inked or engraved.
4. Be imprinted such that it does not damage the face of the sign.

82-2.02C Retroreflective Sheeting, 82-2.02D Process Colors and Film [Substitute the following]
Traffic regulatory, warning and guide signs shall be manufactured with 3M Diamond Grade DG3 series **4000** Type XI retroreflective sheeting and with **3M 1160** series EC film or approved equivalent. Sheeting, film and anti-graffiti film shall be applied as a matched component system (consisting of the same manufacturer's components) at the fabrication plant in accordance with the manufacturer's specifications. Signs shall be provided with a 7-year manufacturer's warranty.

82-2.02E Single Sheet Aluminum Panels [Delete sentences 3-6]

82-2.02F Fiberglass-Reinforced Plastic Panels [Delete]

82-2.02G Laminated Panels [Delete]

82-2.03B Laminated Panels [Delete]

82-3 ROADSIDE SIGNS

82-3.01D Quality Assurance [Delete]

82-3.02B Metal Posts [Substitute the following]

Signposts for all traffic control and informational signs within the road right-of-way shall be steel 2" square pre-punch and hot dipped galvanized inside and outside. The one-piece anchor shall be an "**Anchormate**" anchor (2.5" x 2.5" x 30" galvanized steel).

82-3.02C Wood Posts [Delete]

82-3.02D Laminated Wood Box Posts [Delete]

82-3.02E Sign Panel Fastening and Mounting Hardware [Substitute the following]

Use a 3" by 5/16" course thread stainless steel bolt with a 2" zinc coated fender washer on top and a 3/8" drive rivet with 2" zinc coated fender washer on the bottom. The fender washer shall have a minimum thickness of .075"

Signs 36" or greater shall have a 30" back brace installed. Stop signs that face east and west shall have a 24" back brace installed.

82-3.03 CONSTRUCTION

82-3.03A General [Substitute the following]

The number of posts required for sign installation shall be determined by the area of the sign or the combination of signs to be installed. A single post shall be used where both the length and width are 48" or less. Double posts shall be used where either the length or the width exceeds 48". The anchor shall be driven until only 4" remains above ground level. In concrete, anchors

may be cut to 20". All dirt and concrete shall be removed from the inside top 10" min. of the anchor to allow for installation of the signpost. The post shall be installed a minimum of 10" into the anchor and secured in place with one 3/8" drive rivet and one 3" x 5/16" coarse thread stainless steel bolt. The rivet shall be installed on the side facing traffic and the bolt installed parallel to traffic.

Installation according to these requirements is essential to maintain the break-away characteristics of the post system. The anchor assembly shall not be secured in concrete footings.

All signs being banded to streetlight or traffic signal poles shall have no less than 2 bands (upper and lower).

The banding materials shall be:

- Band strap: Band-it **C206** stainless steel type **201** or approved equal **¾" wide by .030"** thick.
- Buckles: Band-it **C456** ear locked **316** stainless steel **¾"** or approved equal.
- Saddle Bracket: Band-it **D001** or equal. 1 bolt straight leg stainless steel **¾"**.

The band shall be tightened to a point at which it does not break, yet prevents movement by hand of the sign, band, or bracket.

The banding material shall not cover any identification tags on the poles.

All signs (other than parking restriction signs) shall be installed at the same time as any striping and markings.

When the signing and striping plan includes the installation of signage associated with parking restrictions, the signage associated with parking restrictions shall be installed at least one week prior to lane restriping.

If signs are to be placed on devices that are not yet in place at the time that the markings are to be installed, such as signs to be mounted on streetlight-poles that have not yet been installed, those signs shall be installed on a metal post as near to the ultimate location of the sign as feasible, without obstructing the future installation of the device. When the device is installed, the contractor shall remove and salvage the metal post, and re-mount the sign on the device in the ultimate location as shown on the plans.

82-3.03B Sign Panel Installation [Delete]

82-4 SIGN OVERLAYS [Delete]

82-5 MARKERS

82-5.01C Submittals [Delete the Following]

Metal Target Plates

Enamel Coating

82-5.02B Wood Posts [Delete]

82-5.02G Hardware [Substitute the Following]

Use a 3" by 5/16" course thread stainless steel bolt with a 2" zinc coated fender washer on top and a 3/8" drive rivet washer on the bottom.

82-5.02B Highway Post Markers [Delete]

83 RAILINGS AND BARRIERS [Delete]

84 MARKINGS

84-1.03 CONSTRUCTION [Add the following]

Before applying striping, the contractor shall layout and 'cat track' the alignment of the proposed striping. The city requires 48-hour notice to review and approve 'cat tracking.' City inspection staff will be present for 'cat tracking.'

When cat tracking, contractor shall include the following:

Each detail shall be marked clearly where it begins and ends.

Detail numbers and striping thickness shall be called out.

All pavement legends (arrows, words and symbols) shall be included in the layout.

Existing markings not identified as to be removed, replaced or refreshed within 100' of the project limits may be required to be refreshed at the discretion of the inspector or traffic engineer.

84-2.02 MATERIALS

84-2.02A General [Add the following]

Pavement delineation and markings shall be retroreflective and Thermoplastic.

84-2.02F Two-Component Paint [Delete]

84-2.02G Paint [Delete]

84-2.03A CONSTRUCTION General [Add the Following]

When the signing and striping plan includes the installation of signage associated with parking restrictions, the signage shall be installed at least one week prior to lane restriping.

All striping and signs (other than parking restriction signs) shall be applied/installed at the same time.

The contractor shall layout and cat track the alignment of the proposed striping at 15-foot intervals and “spot” the proposed pavement legends as called for on the striping plans. Striping shall vary no more than ½ inch in 50 feet from the specified alignment. Minor variations may be waived by the City Engineer.

The contractor shall not proceed with the installation of any pavement legends and/or striping until the cat tracking and spotting is checked and approved by the City Engineer. The city requires a 48-hour minimum notice to review and approve ‘cat tracking.’

In the event final striping cannot be applied immediately after the removal process, temporary striping (paint only) shall be required. Temporary reflective markers may be utilized if approval is granted by the City engineer. Slurry tabs shall not be used.

The contractor shall maintain all temporary applications prior to the final striping and markings being applied.

84-2.03B(6) Paint [Delete]

84-2.03C (3) (b) Two-Component Painted Traffic Stripes and Pavement Markings [Delete]

84-2.03C (3) (c) Recessed Two-Component Painted Traffic Stripes and Pavement Markings [Delete]

84-2.03C (4) Reserved [Delete]

84-2.03C (5)-84-2.03C (10) Reserved [Delete]

84-3 CONTRAST TREATMENT [Delete]

84-3.01-84-3.10 RESERVED [Delete]

84-4-84-7 RESERVED [Delete]

84-8 RUMBLE STRIPS [Delete]

85 RESERVED [Delete]

86 GENERAL

86-1.01C Submittals

86-1.01C (1) General [Replace with the following]

Within 15 days of Contract execution, Contractor shall submit the City’s project manager a list of all equipment that the contractor proposes to install. Submittals shall include manufactures name, make and model numbers.

Contractor shall submit a schedule of values within 15 days after Contract approval.

Once the submittals have been approved, the contractor shall submit confirmation of the vendor’s acceptance of the orders for the materials as an informational submittal.

Delays in the delivery of equipment that are due to the Contractor not ordering the equipment in a manner to accommodate the progress of the construction schedule, shall not be justification for a Time Extension to the Contract Working Days.

Required Submittals

Signing/Striping

Signs, ground mount	Signs shall conform to city design standard 4003. See section "82-3 ROADSIDE SIGNS."
Signs, overhead	Signs shall conform to city design standard 4102. See section "82-1.02 MATERIALS."
Band strapping, buckles	Band-It
Paint, Thermoplastic pavement marking materials, Glass beads	No manufacturer specified
Raised pavement markers, RPM adhesive	3M series 290 or approved equal. See Section 81-3 "Pavement Markers."

86-1.02C Pull Boxes

86-1.02C (1) General [Substitute the following]

Pull boxes shall conform to City design standard 4106.

Pull box cover markings for traffic signals shall be labeled "SIGNAL AND LIGHTING"

Pull box cover markings for flashing beacon systems shall be labeled "FLASHING BEACON"

Pull box cover markings for an interconnect conduit and cable systems shall be labeled "COMMUNICATIONS."

86-1.02C(3) (Structure Pull Boxes) [Substitute the Following]

Splice Vaults for Interconnect

Splice vaults shall conform to City design standard 4103. Upon written approval of the Engineer, the Contractor may provide an alternate size vault provided it is capable of holding the splice equipment safely and storing sufficient slack fiber optic cable. Covers shall be two-piece and labeled "COMMUNICATIONS."

All splice vaults shall meet ANSI/SCTE Tier 8 loading ratings. Design shall have a minimum loading of 8,000 lbs. and a minimum failure load of 12,000 lbs.

Metallic or non-metallic cable racks shall be installed on the interior of both sides of the splice vaults. The rack shall be capable of supporting a minimum load of 100 pounds per rack arm. Racks shall be supplied in lengths appropriate to the box in which they will be placed. Rack arms shall not be less than 6 inches in length. All metallic cable racks shall be fabricated from ASTM Designation: A36 steel plate and shall be hot dip galvanized after fabrication. Steel plate, hardware and galvanizing shall be in accordance with the requirements of Section 75, "Miscellaneous Metals", of the Standard Specifications.

86-1.02J through 86-1.03 [Delete]

87 ELECTRICAL SYSTEMS

87-1.01C through 87-1.03B [Delete]

87-1.03C Installation of Pull Boxes

87-1.03C(1) General [Add the following]

P48 splice vaults shall be installed per City design standard 4103.

87-1.03C(2)(a) [Add the following]

Pullboxes shall be installed per City Design Standard 4106.

Pullboxes shall have an 8" concrete ribbon installed around them. 6E pullboxes shall have grounding electrodes installed.

87-1.03C(3) through 87-1.03Z [Delete]

SECTION 87-2 THROUGH 87-20 [Delete]

87-21 EXISTING ELECTRICAL SYSTEMS

87-21.01 THROUGH 87-21.03A [Delete]

87-21.03B Maintaining Existing Electrical Systems

87-21.03B(1) General [Substitute the following]

The contractor is responsible for protecting in place all existing traffic signal and traffic signal interconnect facilities during construction. Any traffic signal conduit/cable/pullboxes/detector loops damaged during the course of construction shall be repaired/replaced to the satisfaction of the engineer.

Repairs to a traffic signal (to restore full operation) shall be made within 24 hours. If repairs cannot be made to a signal within 24 hours, the city may perform the repair or replacement and deduct the cost.

Any interconnect conduit/cable/splice vaults damaged during the course of construction shall be repaired/replaced to the satisfaction of the engineer.

If an existing fiber optic cable is damaged, contractor shall install a new cable such that the length of the cable slack is the same as before the damage, measured from an original splice point or termination. All splices shall be made using the fusion method.

Replacement of fiber optic cable shall be made within 72 hours. If repairs cannot be made to a within 72 hours, the city may perform the repair or replacement and deduct the cost.

Any existing pullboxes or P48 splice vaults within the work zone that need to be raised or lowered (as necessary to match the new grade) shall be replaced. If necessary, conduits within pullboxes shall be lowered to the satisfaction of the Engineer.

Any loop detectors or loop detection cable damaged during the course of construction shall be replaced in-kind to the satisfaction of the engineer. Loops and any damaged loop detection cable/conduit shall be replaced within 30 days after repaving.

Contractor is responsible for raising or lowering poles as necessary to match the new grade. After a pole is lowered, any excessive length anchor bolts (over 1 inch) shall be cut down to 1" and cold galvanized.

SECTION 89 THROUGH 99 [Delete]

APPENDIX VI
CEQA IS/MND WITH ADDENDUM AND
REVALIDATION LETTER

CIVIC CENTER RENOVATION PROJECT
Initial Study and Mitigated Negative Declaration (IS/MND)



CEQA Analysis Prepared for:

Christopher Smethurst, Senior Engineer
City of Fontana, Engineering Department
8353 Sierra Avenue
Fontana, CA 92335

Prepared by:



UltraSystems Environmental Inc.
16431 Scientific Way
Irvine, CA 92618-4355
Telephone: 949-788-4900
FAX: 949-788-4901

December 2023
Project No. 7230

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PROJECT INFORMATION SHEET

- 1. Project Title** Civic Center Renovation Project

- 2. CEQA Lead Agency** City of Fontana
Rina Leung, Senior Planner
8353 Sierra Avenue, Fontana, CA 92335
E: rleung@fontanaca.gov | T: (909) 350-6566

- 3. Project Applicant** City of Fontana (Engineering Department)
Christopher Smethurst, Senior Engineer
8353 Sierra Avenue
Fontana, CA 92335
E: csmethurst@fontanaca.gov | T: (909) 350-6649

- 4. Project Location** City Hall: 8353 Sierra Avenue, Fontana, CA 92335
East Annex/Fire Admin.: 17001 Upland Ave.,
Fontana, CA 92335

- 5. Assessor's Parcel Numbers** City Hall: APN 0192-031-23, 0192-031-024
East Annex/Fire Admin.: APN 0192-031-26

- 6. Project Site General Plan Designation(s)** Pubic Facilities (P-PF)

- 7. Project Site Zoning Designation(s)** Form-Based Code (FBC)

- 8. Surrounding Land Uses and Setting** North – Commercial businesses and single- and multi-family homes
South – Library, park, and Pacific Electric Trail
East – Single-family homes
West – Fontana Women's Club and churches (across Sierra Avenue)

- 9. Description of Project** The project proposes to demolish and replace the existing City Hall and Annex buildings, add/remove driveways, and add landscaping. The project will be implemented in two phases, with Phase I involving the Annex Building, and Phase II involving the City Hall component.

Refer to **Section 3.0** of this document for additional information.

10. Selected Agencies whose Approval is Required

None

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code § 21080.3.1? If so, has consultation begun?

For the proposed project, those tribe(s) with a standing request for consultation were contacted by the City of Fontana (the Lead Agency) per Public Resources Code § 21074. Letters were sent by the City to local Native American Tribes asking if they wished to participate in AB 52 consultation concerning the proposed project.

The AB 52 notice period for the Tribes is 30 days in which they have an opportunity to respond to notification of this proposed project.

The City sent letters to six local tribal contacts on November 28, 2023. The Gabrieleno Band of Mission Indians – Kizh Nation and the San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel) responded. The Gabrieleno – Kizh Nation requested consultation, which is currently underway.

12. Other Public Agencies

None

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G	Noise Assessment
H	Trip Generation and VMT Screening Analysis
I	City Ordinance 1906

Acronyms and Abbreviations

Acronym/Abbreviation	Term
°F	Degrees Fahrenheit
AB	Assembly Bill
AB 32	California Global Warming Solutions Act Of 2006
AB 939	California Integrated Waste Management Act
AB 1327	California Solid Waste Reuse And Recycling Access Act Of 1991
ADA	Americans With Disabilities Act
ADT	Average Daily Traffic
AF	Acre-Feet
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
ATP	Active Transportation Plan
BMPs	Best Management Practices
BRE	Biological Resources Evaluation Report
BSA	Biological Study Area
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish & Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geologic Society
CH ₄	methane
CHRIS	California Historic Resources Inventory System
CIWMA	State of California Integrated Waste Management Act
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	Carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
COHA	Cooper's hawk
CRC	California Residential Code
CRHR	California Register of Historic Resources

Acronym/Abbreviation	Term
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel scale
DEIR	Draft Environmental Impact Report
DIF	Development Impact Fees
DMA	drainage management area
DOC	California Department of Conservation
DOSH	California Division of Safety and Health
DPM	Diesel Particulate Matter
DRP	Design Review Project
DTSC	Department of Toxic Substances Control
EG	Electric Generation
EIR	Environmental Impact Report
EMS	Emergency Medical Service
ESA	Endangered Species Act
ESA	Environmental Site Assessment
FAR	floor area ratio
FEMA	Federal Emergency Management agency
FFPD	Fontana Fire Protection District
FHSZ	Fire Hazard Severity Zones
FMMP	Farmland Mapping and Monitoring Program
FPD	Fontana Police Department
FTA	Federal Transit Administration
FUSD	Fontana Unified School District
GHG	greenhouse gas
GPAD	Gallons Per Net Acre Per Day
GPCD	Gallons Per Capita Per Day
GWP	Global Warming Potential
H ₂ S	Hydrogen Sulfide
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HRA	Health Risk Assessment
Hz	hertz
IEUA	Inland Empire Utilities Agency
IPaC	Information, Planning, and Conservation
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
kWh	kilowatt hours
L ₉₀	noise level that is exceeded 90% of the time
L _{eq}	equivalent noise level
LACM	Los Angeles County Natural History Museum
LED	light-emitting diode
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
L _{max}	root mean square maximum noise level

Acronym/Abbreviation	Term
LOS	Level of Service
LRA	Local Responsibility Area
LRP	Legally Responsible Person
LSTs	Localized Significance Thresholds
MBTA	Migratory Bird Treaty Act
MCN	Master Case Number
MLD	Most Likely Descendant
MM(s)	Mitigation Measure(s)
MMRP	Mitigation Monitoring and Reporting Program
MMT	Million Metric Tons
MMTCO _{2e}	Million Metric Tons of CO _{2e}
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer Systems
MWD	Metropolitan Water District of Southern California
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NHPA	National Historic Preservation Act
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	Lead
PM	Particulate Matter
PM _{2.5}	Fine Particulate Matter
PM ₁₀	Respirable Particulate Matter
Porter-Cologne	Porter-Cologne Water Quality Control Act
PPM	Parts Per Million
PPV	Peak Particle Velocity
PRDs	Permit Registration Documents
PRP	Potential Responsible Party
RAFSS	Restorable Riversidean alluvial fan sage scrub
RCRA	Resource Conservation and Recovery Act
REC(s)	Recognized Environmental Condition(s)
REL(s)	Reference Exposure Level(s)
RMS	Root Mean Square

Acronym/Abbreviation	Term
ROG	Reactive Organic Gases
ROW	Right-Of-Way
RP	Regional Plant
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBCIWMP	San Bernardino Countywide Integrated Waste Management Plan
SBCTA	San Bernardino County Transportation Authority
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SDPM	San Diego Pocket Mouse
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SLF	Sacred Lands File
SMARTS	Stormwater Multi-Application and Report Tracking System
SO ₂	sulfur dioxide
SO _x	Sulfur Oxides
SoCalGas	Southern California Gas Company
SOPs	Standard Operating Procedures
SR	State Route
SRA	State Responsibility Area
SRAs	Source Receptor Areas
STIP	Statewide Transportation Improvement Program
SUSMP	Standard Urban Stormwater Mitigation Plan
SWIS	Solid Waste Information System
SWP	California State Water Project
SWRCB	California State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TCRs	Tribal Cultural Resources
TMP	Traffic Management Plan
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VdB	Vibration Decibels
VHFHSZs	Very High Fire Hazard Severity Zones
VTM	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WEAP	Worker Environmental Awareness Program
WQMP	Water Quality Management Plan
WOUS	Water(s) Of The United States

1.0 INTRODUCTION

1.1 PROPOSED PROJECT

The Civic Center Campus is comprised of four buildings and is initiated by the City of Fontana: City Hall, Administration, East Annex (Fire Administration), and the Police Station. The proposed project entails replacing the existing City Hall building located at 8353 Sierra Avenue (APNs 0192-031-23 and 0192-031-24), and the East Annex building located at 17001 Upland Avenue (APN 0192-031-26) in the City of Fontana. The Administration and Police buildings are not subject to any alterations. The demolition of the existing City Hall building (which encompasses an area of 31,500 square feet) and the Annex building (13,500 square feet) is required to facilitate the Civic Center Renovation project as proposed.

1.1.1 PROJECT COMPONENTS

The proposed project would consist of:

Proposed Buildings

The construction of two new buildings:

- Phase I will be the proposed East Annex building, which will be a two-story municipal building with a first-tier parking structure and second-tier office space. The new structure will be constructed in the same location as the existing East Annex building located at 17001 Upland Avenue. Each tier will have a footprint of approximately 30,000 square feet with one vehicle entrance and exit located on Upland Avenue just west of Wheeler Avenue. The building will provide office space for City staff as well as both public and employee parking for the Civic Campus.
- Phase II will be the proposed City Hall building, a two-story municipal building with a first-tier parking structure and second-tier office spaces intended to be the cornerstone of the renovated Civic Campus. The new structure will be constructed in the same location as the existing City Hall building located at 8353 Sierra Avenue. Each level of the proposed structure will have approximately 25,000 to 30,000 square feet, with vehicle entrance(s) and exit(s) to be determined. The building will house City administrative functions, as well as office space for City staff, and both public and employee parking for the Civic Campus.

Parking

- The City Hall building will provide approximately 65 parking spaces to be located on the first floor.
- The Annex Building will provide 56 parking spaces to be located on the first floor.
- The existing surface parking area will be reconfigured to accommodate the new footprints of the two buildings.
- The project may modify some current driveway approaches to work with the proposed parking garages.

Utilities

- The proposed project does not include utility improvements, utilizing existing connections.

- The existing solar panel canopies are to remain in place.

Landscaping

- The project site will also include landscaping improvements along Sierra Avenue and Upland Avenue.

1.1.2 ESTIMATED CONSTRUCTION SCHEDULE

Project construction for Phase I is expected to begin around December 2023 and will last approximately 19 months, ending about June 2025. Dates for Phase II construction, which will follow completion of Phase I, are undetermined at this time. Refer to **Section 3.0** for details.

1.2 LEAD AGENCIES – ENVIRONMENTAL REVIEW IMPLEMENTATION

The City of Fontana is the Lead Agency for the proposed project. Pursuant to the California Environmental Quality Act (CEQA) and its implementing regulations,¹ the Lead Agency has the principal responsibility for implementing and approving a project that may have a significant effect on the environment.

1.3 CEQA OVERVIEW

1.3.1 PURPOSE OF CEQA

All discretionary projects within California are required to undergo environmental review under CEQA. A Project is defined in CEQA Guidelines § 15378 as the whole of the action having the potential to result in a direct physical change or a reasonably foreseeable indirect change to the environment and is any of the following:

- An activity directly undertaken by any public agency including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements.
- An activity undertaken by a person that is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.
- CEQA Guidelines § 15002 lists the basic purposes of CEQA as follows:
- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures (MMs) when the governmental agency finds the changes to be feasible.

¹ Public Resources Code §§ 21000 - 21177 and California Code of Regulations Title 14, Division 6, Chapter 3.

- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.3.2 AUTHORITY TO MITIGATE UNDER CEQA

CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible. Under CEQA Guidelines § 15041 a Lead Agency for a project has the authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the “nexus”² and “rough proportionality”³ standards.

CEQA allows a Lead Agency to approve a project even though the project will cause a significant effect on the environment if the agency makes a fully informed and publicly disclosed decision that there is no feasible way to lessen or avoid the significant effect. In such cases, the Lead Agency must specifically identify expected benefits and other overriding considerations from the project that outweigh the policy of reducing or avoiding significant environmental impacts of the project.

1.4 PURPOSE OF INITIAL STUDY

The CEQA process begins with a public agency determining whether the project is subject to CEQA at all. If the project is exempt, the process does not need to proceed any further. If the project is not exempt, the Lead Agency takes the second step and conducts an Initial Study to determine whether the project may have a significant effect on the environment.

The purposes of an Initial Study as listed in § 15063(c) of the CEQA Guidelines are to:

- Provide the Lead Agency with information necessary to decide if an Environmental Impact Report (EIR), Negative Declaration (ND), or Mitigated Negative Declaration (MND) should be prepared.
- Enable a Lead Agency to modify a project to mitigate adverse impacts before an EIR is prepared, thereby enabling the project to qualify for an ND or MND.
- Assist in the preparation of an EIR, if required, by focusing the EIR on adverse effects determined to be significant, identifying the adverse effects determined not to be significant, explaining the reasons for determining that potentially significant adverse effects would not be significant and identifying whether a program EIR or other process, can be used to analyze adverse environmental effects of the project.
- Facilitate an environmental assessment early during project design.
- Provide documentation in the ND or MND that a project would not have a significant effect on the environment.
- Eliminate unnecessary EIRs.
- Determine if a previously prepared EIR could be used for the Project.

In cases where no potentially significant impacts are identified, the Lead Agency may issue an ND, and no MMs would be needed. Where potentially significant impacts are identified, the Lead Agency may determine that MMs would adequately reduce these impacts to less than significant levels. The Lead Agency would then prepare an MND for the proposed project. If the Lead Agency determines

2 A nexus (i.e., connection) must be established between the mitigation measure and a legitimate governmental interest.

3 The mitigation measure must be “roughly proportional” to the impacts of the Project.

that individual or cumulative effects of the proposed project would cause a significant adverse environmental effect that cannot be mitigated to less than significant levels, then the Lead Agency would require an EIR to further analyze these impacts.

1.5 REVIEW AND COMMENT BY OTHER AGENCIES

Other public agencies are provided with the opportunity to review and comment on the IS/MND. Each of these agencies is described briefly below.

- A Responsible Agency (14 CCR § 15381) is a public agency, other than the Lead Agency, that has discretionary approval power over the Project, such as permit issuance or plan approval authority.
- A Trustee Agency⁴ (14 CCR § 15386) is a state agency having jurisdiction by law over natural resources affected by a project that is held in trust for the people of the State of California.
- Agencies with Jurisdiction by Law (14 CCR § 15366) are any public agencies who have the authority (1) to grant a permit or other entitlement for use; (2) to provide funding for the project in question; or (3) to exercise authority over resources which may be affected by the project. Furthermore, a city or county will have jurisdiction by law with respect to a project when the city or county having primary jurisdiction over the area involved is: (1) the site of the project; (2) the area in which the major environmental effects will occur; and/or (3) the area in which reside those citizens most directly concerned by any such environmental effects.

1.6 IMPACT TERMINOLOGY

The following terminology is used to describe the level of significance of potential impacts:

- A finding of ***no impact*** is appropriate if the analysis concludes that the project would not affect the particular environmental threshold in any way.
- An impact is considered ***less than significant*** if the analysis concludes that the project would cause no substantial adverse change to the environment and requires no mitigation.
- An impact is considered ***less than significant with mitigation incorporated*** if the analysis concludes that the project would cause no substantial adverse change to the environment with the inclusion of environmental commitments, or other enforceable measures, that would be adopted by the lead agency.
- An impact is considered potentially significant if the analysis concludes that the project could have a substantial adverse effect on the environment.

An EIR is required if an impact is identified as ***potentially significant***.

1.7 ORGANIZATION OF INITIAL STUDY

This document is organized to satisfy CEQA Guidelines § 15063(d), and includes the following sections:

- **Section 1.0 - Introduction**, which identifies the purpose and scope of the IS/MND.

⁴ The four Trustee Agencies in California listed in CEQA Guidelines § 15386 are California Department of Fish and Wildlife, State Lands Commission, State Department of Parks and Recreation, and University of California.

- **Section 2.0 - Environmental Setting**, which describes the location, existing site conditions, land uses, zoning designations, topography, and vegetation associated with the project site and surroundings.
- **Section 3.0 - Project Description**, which provides an overview of the project, a description of the proposed development, project phasing during construction, and discretionary actions for project approval.
- **Section 4.0 - Environmental Checklist**, which presents checklist responses for each resource topic to identify and assess impacts associated with the proposed project, and proposes MMs, as needed, to reduce potential environmental impacts to less than significant.
- **Section 5.0 - References**, which includes a list of documents cited in the IS/MND.
- **Section 6.0 - List of Preparers**, which identifies the primary authors and technical experts that prepared the IS/MND.

Technical studies and other documents, which include supporting information or analyses used to prepare the IS/MND, are included in the following appendices:

- Appendix A Project Plans and Drawings
- Appendix B Air Quality and Greenhouse Gas Emissions Assessment
- Appendix C Biological Resources Evaluation
- Appendix D1 Cultural Resources Report
- Appendix D2 Paleontological Resources Records Search
- Appendix E Geotechnical Evaluation
- Appendix F1 Phase I ESA
- Appendix F2 Hazardous Building Material Survey
- Appendix G Noise Assessment
- Appendix H VMT Analysis
- Appendix I City Ordinance 1906

1.8 FINDINGS FROM THE INITIAL STUDY

1.8.1 NO IMPACT OR IMPACTS CONSIDERED LESS THAN SIGNIFICANT.

Based on IS findings, the project would have no impact or a less than significant impact on the following environmental categories listed in Appendix G of the CEQA Guidelines.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation

- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance

1.8.2 IMPACTS CONSIDERED LESS THAN SIGNIFICANT WITH MITIGATION MEASURES

Based on IS findings, the project would have a less than significant impact on the following environmental categories listed in Appendix G of the CEQA Guidelines when proposed Mitigation Measures are implemented.

- Cultural Resources
- Geology and Soils
- Transportation and Traffic
- Tribal Cultural Resources

2.0 ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

The proposed City of Fontana Civic Center Renovation Project is located 8353 Sierra Avenue (APNs 0192-031-23, -24) and 17001 and 17013 Upland Avenue (APN 0192-031-26) in the City of Fontana, California. Refer to **Figure 2.1-1**, which shows the project's location in a regional context. Local surface streets adjacent to the site include Upland Avenue to the north, Emerald Avenue to the east, Seville Avenue to the south, and Sierra Avenue to the west. **Figure 2.1-2** depicts an aerial photo of the Civic Center, including the project site, and the surrounding land.

2.2 PROJECT SETTING

The Civic Center contains the existing Fontana Civic Center comprised of the City Hall, Administration, Annex, and Police buildings and associated surface parking lot; City Hall and the Annex Building comprise the project site. The project proposes to demolish and replace the existing City Hall and Annex buildings, add/remove driveways, and add landscaping. The Administration and Police buildings would remain as they are. See **Figure 2.2-1**, which depicts the topography of the site, and surrounding area. Topography within the project site and surroundings is relatively flat, as shown on **Figure 2.2-1** (Google Earth, 2023). Site photographs are provided in **Figure 2.2-2**.

2.2.1 LAND USE AND ZONING

The land use, zoning, and existing developments of the project site and its immediate vicinity are listed in **Table 2.2-1**. The project site has a General Plan land use designation of Public Facilities (P-PF) and a zoning designation of Form-Based Code (FBC) (City of Fontana, 2023a).

Table 2.2-1
SUMMARY OF EXISTING LAND USE, ZONING AND SPECIFIC PLAN DESIGNATIONS

Location	General Plan Designation	Zoning Designation	Existing Development
Project Site	Public Facilities (P-PF)	Downtown Core - Civic	Fontana Civic Center
North	Downtown Core (WMXU-3)	Downtown Core – Gateway Core and Multi-Family Core	Commercial businesses, and single- and multi-family homes
South	Public Facilities (P-PF) and Recreational Facilities (P-R)	Downtown Core - Civic	Library, park, and Pacific Electric Trail
East	Downtown Core (WMXU-3)	Downtown Core – Neighborhood Core	Single-family homes
West	Public Facilities (P-PF) and Downtown Core (WMXU-3)	Downtown Core - Civic	Fontana's Women's Club and churches (across Sierra Avenue)

Source: City of Fontana, 2023a; Google Earth Pro, 2023

**Figure 2.1-1
REGIONAL LOCATION**



Path: \\gis\GIS\Project\7230_Fontana_CivicCenter\workspace\7230_Fontana_CCC_2.0_Regional_Location_2023_12_14.mxd
Source Layer Credits: Source: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, San Japan, MGI, San China (Hong Kong), San Korea, San (Taiwan), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Los Angeles County, 2021; UltraSystems Environmental, Inc., 2023

December 14, 2023

Scale: 1:633,600



Legend

● Project Location

**Fontana
Civic Center Renovation**

Regional Location

0 5 10 Miles

0 5.5 11 Kilometers

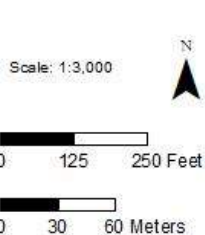


**Figure 2.2-1
PROJECT LOCATION**



Path: \\gis\GIS\Project\230_Fontana_CivicCenter\gis\map\230_Fontana_Civic_Center_Location_Cut_2023_12_14.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Imagery, INCREMENT P, NNCC, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community UltraSystems Environmental, Inc., 2023

December 14, 2023



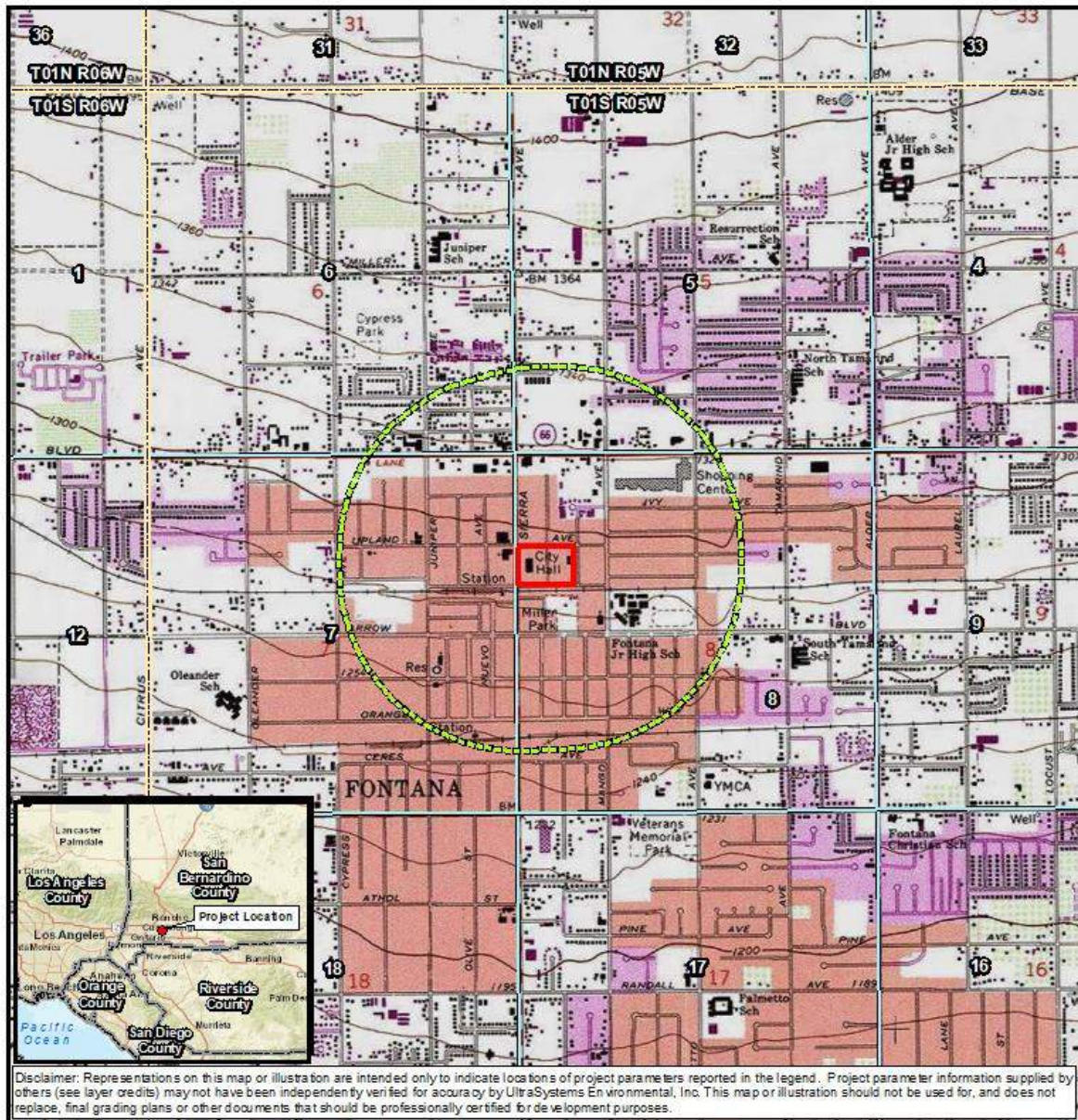
Legend

Project Location

**Fontana
Civic Center Renovation**
Project Location



**Figure 2.2-1
TOPOGRAPHIC MAP**



Path: \\gis\svr\GIS\Projects\7230_Fontana_CivicCenterExpansion_ISMND\MXD\7230_CCE_4_5_Topo_2023_12_14.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community. Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community. Copyright © 2013 National Geographic Society, Inc.; Inland; CA Dept. of Conservation, May 2019; UltraSystems Environmental, Inc., 2023.

December 14, 2023

Scale: 1:24,000



0 1,000 2,000 Feet

0 250 500 Meters

Legend

- Project Location
- Half-Mile Radius
- Township Boundary
- Section Boundary

**Fontana
Civic Center Renovation**

Topographic Map
USGS Quadrangle: Fontana
Township: 1S Range: 5W
Section: 8



Figure 2.2-2
PROJECT SITE PHOTOGRAPHS



PHOTO 1: View of the northern portion of the project site along Upland Avenue.



PHOTO 2: View of the eastern portion of the project site within the project site parking lot.



PHOTO 3: View of the southern portion of the project site along the project site parking lot.



PHOTO 4: View of the western portion of the project site along Sierra Avenue.

2.3 EXISTING CHARACTERISTICS OF THE SITE

2.3.1 CLIMATE AND AIR QUALITY

The City of Fontana is characterized by a semi-arid Mediterranean climate that is the result of its location in the South Coast Air Basin (SCAB). (Stantec, 2018b p. 5.2-1). The SCAB is a 6,600-square-mile area basin that is usually quite moist near the land surface due to the influence of the marine layer. Other factors that influence the area's climate and meteorology are the terrain and altitude. Fontana is positioned approximately 1,700 feet above mean sea level (AMSL) in its northern half and 1,000 feet AMSL in its southern half. Due to the City being in a valley, heavy early morning fog and low stratus clouds are often persistent. Yearly climate patterns are characterized by warm summers, mild winters, low levels of precipitation, and moderate humidity.

Air quality in Fontana generally fluctuates without a consistent seasonal pattern. Neighboring, high-polluting coastal cities largely influence the air quality in the city, and that fact coupled along with the climate trap air pollution in the valley. The SCAB is bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains that trap air pollution at their bases. The SCAB fails to meet national ambient air quality standards for ozone and fine particulate matter, and is classified as a “nonattainment area” for those pollutants (Stantec, 2018b, p. 5.2-10).

2.3.2 GEOLOGY AND SOILS

The City of Fontana generally lies at the northwest margin of the Peninsular Ranges Geomorphic Province of Southern California, which is characterized by northwest-southeast trending faults, folds, and mountain ranges. Much of the Fontana region is underlain by loose soils such as sand and silt (Stantec, 2018b, p. 5.5-1).

Although there are no major active faults within the City boundaries, there are a number of faults that border the Lytle Creek alluvial basin, including the Chino, Cucamonga, San Andreas, and San Jacinto faults (Stantec, 2018b, p. 5.5-3).

Soils in the area are characteristic of the Southern California interior alluvial basins and consist of alluvial deposits and floodplain soils (Stantec, 2018b, p. 5.5-4).

2.3.3 HYDROLOGY

As detailed in the City of Fontana General Plan Update 2015-2035 Draft Environmental Impact Report (Stantec, 2018b, p. 5.8-1), the City is located within the lower Lytle Creek watershed, which drains the eastern portion of the San Gabriel Mountains and forms the northwest portion of the Santa Ana River Watershed. . The lower portion of Lytle Creek flows through the cities of Fontana, Rialto, San Bernardino, and Colton, as well as a portion of unincorporated San Bernardino County. The upper reaches of Lytle Creek are generally perennial; the lower section of Lytle Creek changes into an intermittent stream with a dry wash south of Interstate 15 (Stantec, 2018b, p. 5.8-1).

2.3.4 BIOLOGY

The project site is located in an urbanized area, which provides low habitat value for special-status plant and wildlife species. The existing vegetation is ornamental landscaping. A detailed description of existing biological environmental setting for the project site and the surrounding area is provided

in **Section 4.4** of this Initial Study.

2.3.5 PUBLIC SERVICES

The City is served by a full range of public services and utilities. Fire prevention, fire protection and emergency medical service (EMS) for the City of Fontana are provided by the Fontana Fire Protection Department (FFPD) through a contract with the San Bernardino County Fire Department (Stantec, 2018b, p. 5-12-4). The City of Fontana Police Department (FPD) provides services in the project area (Stantec, 2018b, p. 5-12-1). Library services within the City are provided by the San Bernardino County Library System, which has a total of 32 branch libraries. Within the City of Fontana, there are three libraries, including Fontana Lewis Library and Technology Center, the Summit Branch Library and the Kaiser Branch Library (San Bernardino County, 2023).

2.3.6 UTILITIES

The project site lies within the service area of the Fontana Water Company (FWC). Water supplies consist of imported water from Lytle Creek surface flow, and from wells in the Lytle Basin, Rialto Basin, Chino Basin, and another groundwater basin known as No Man's Land (FWC, 2018).

Regional wastewater treatment services are provided under the Regional Sewer Service Contract in which seven agencies – including the City of Fontana – contract with the Inland Empire Utilities Agency (IEUA) (Stantec, 2018b, p. 5.12-17).

Solid waste disposal services in the City of Fontana are provided by Burrtec Waste Industries, Inc., a private company under contract with the City (Stantec, 2018b, p. 5.12-20).

Electrical service to the site is provided by Southern California Edison through a grid of transmission lines and related facilities. Natural gas is supplied to the project site by Southern California Gas Company (SoCal Gas), which provides natural gas to the City of Fontana (City of Fontana Utilities, 2023).

3.0 PROJECT DESCRIPTION

3.1 PROJECT BACKGROUND

The City of Fontana (City) has initiated the process for renovation and Renovation of the existing City of Fontana Civic Center (referred to hereafter as Civic Center). Currently, the Civic Center is comprised of four buildings (City Hall, Development Services Organization, Annex, and Police). The project proposes to demolish and replace the existing City Hall and Annex buildings, add/remove driveways, and add landscaping; City Hall and Annex are located at 8353 Sierra Avenue (APNs 0192-031-23, -24) and 17001 Upland Avenue (APN 0192-031-26), respectively. The Administration and Police buildings would remain in place as they are.

The City's General Plan land use designation for the project site is Public Facilities (P-PF) with a zoning designation of Downtown Core - Civic (City of Fontana, 2023a). The project is within the Civic Core portion of the Downtown Core area of the City. The Civic Core district involves a mix of existing and new public uses, including the existing City Hall, Library, and Park spaces.

3.2 PROJECT OVERVIEW

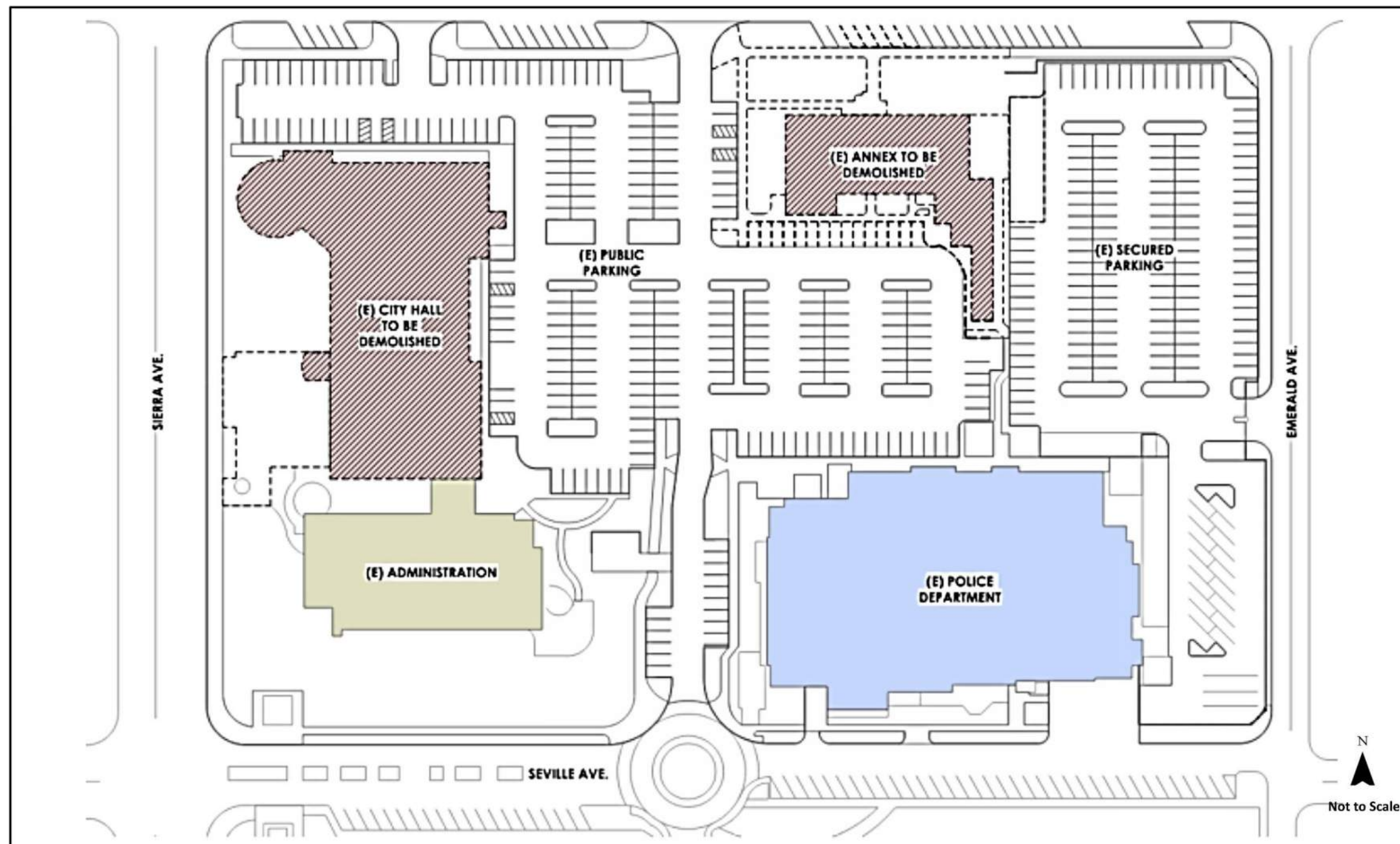
In its entirety, the project would consist of: (1) demolition of Annex and City Hall buildings; (2) utility improvements; (3) construct Annex (Phase I) and City Hall (Phase II) buildings (including adding parking garages on the first level of each new building); (4) reconfiguration of surface parking adjacent to the two buildings and (5) landscaping.

Figure 3.2-1 is a site plan depicting the current layout of the Civic Center and **Figure 3.2-2** shows the layout of the proposed project, including the replacement of two existing buildings. **Table 3.2-1** summarizes the primary proposed project features. Available project plans (only for Phase I) are included in **Appendix A**. The project will develop a two-story city hall building (first floor parking and offices, second floor offices only) and a two-story annex building (first floor parking level and offices, second floor offices only).

Table 3.2-1
PROJECT SUMMARY

Demolition	New Construction	Proposed Uses/Features	Square Feet	No. of Stories	Approximate Building Height (feet)
Annex Building (13,500 SF)	Annex Building/Parking Garage	Two stories with the first floor being a garage to accommodate 56 parking spaces and the second story an office area.	30,000 (excluding parking level)	2	30
City Hall Building (31,500 SF)	City Hall Building/Parking Garage	Two stories with the first floor being a mix of garage and office space, as well as City Council chambers. Second floor would be offices. Approximately 65 parking spaces would be provided.	25,000 to 30,000 per floor, including parking area	2 + 3 rd story vaulted ceiling for Council Chambers	40

Figure 3.2-1
CIVIC CENTER SITE PLAN - EXISTING



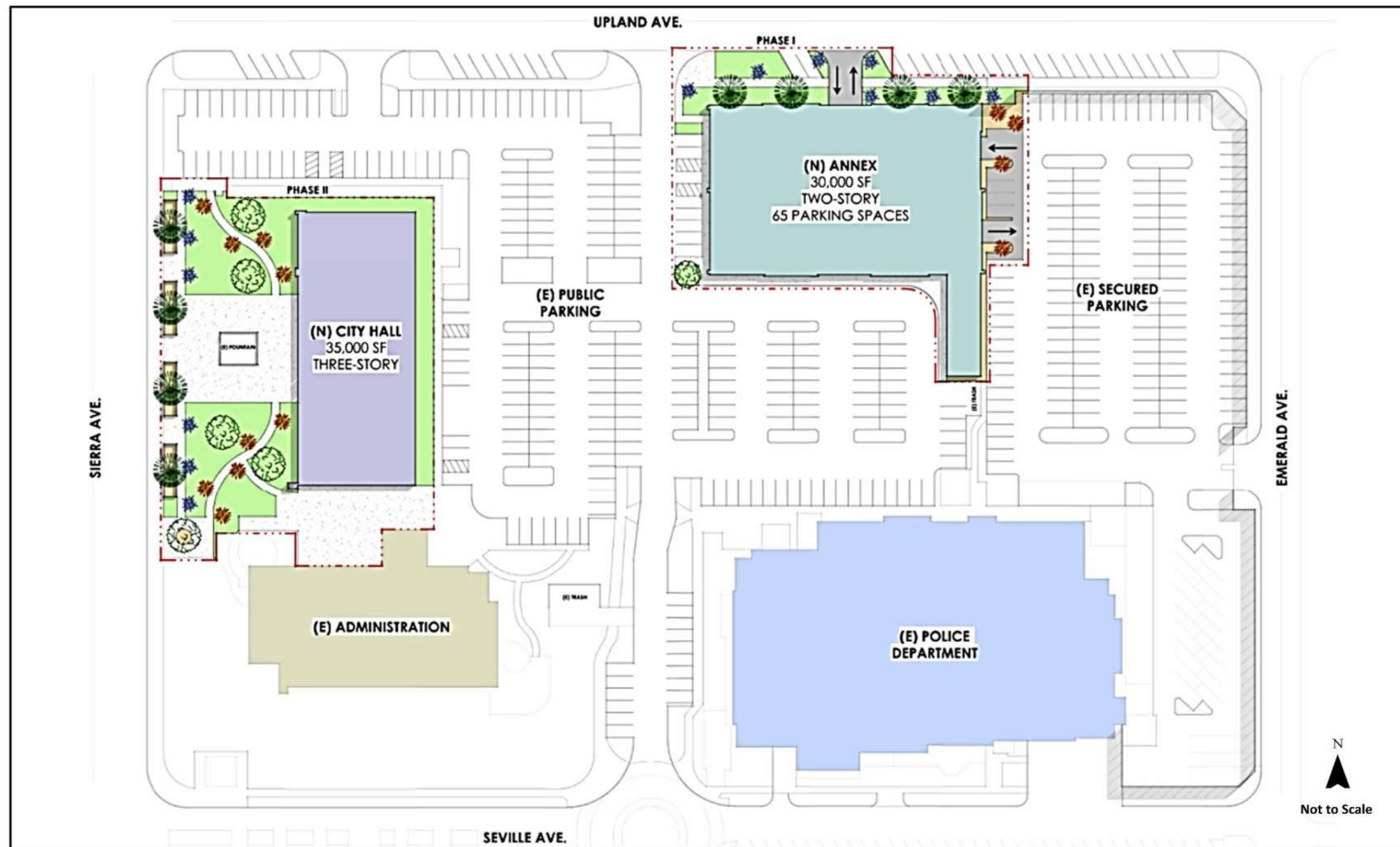
Source: City of Fontana, March 2023.



Source: City of Fontana, March 2023

Fontana
 Civic Center Renovation
 Existing Civic Center Site Plan

Figure 3.2-2
CIVIC CENTER SITE PLAN – PROPOSED



Source: City of Fontana, March 2023.



Fontana
 Civic Center Renovation
 Proposed Civic Center Site Plan

Source: City of Fontana, March 2023

3.3 Proposed Project Features

3.3.1 ANNEX BUILDING (PHASE I)

The project proposes to develop a two-story Annex building that would replace the existing 17,000 square foot, single-story annex building within the Civic Center. The proposed Annex building would be two stories tall with a 56-car parking garage and approximately 1,500 square feet of office space on the first floor and approximately 30,000 square feet of office space on the second floor. The disturbed area for the Annex Building (Phase I) is approximately 82,750 square feet (Ninyo & Moore, 2023). Renderings of the proposed two-story Annex building are shown in **Figures 3.3-1a through 3.3-1d**.

Upon completion, the building will house 118 employees (an increase over the 50 employees housed in the current building), including the following departments: Community Services, Human Resources, Information Technology, KFON, Code Compliance, Fire, and Coast.

The Annex building will be open to the public from the hours of 8:00 a.m. to 5:00 p.m. Monday-Thursday and would be expected to see approximately 10-15 members of the public per day. The building will have hours of operation for employees from the hours of 6:00 a.m. to 6:00 p.m. Monday-Friday.

3.3.2 CITY HALL BUILDING (PHASE II)

The project proposes to develop a City Hall building that would replace the existing City Hall building within the Civic Center. The proposed City Hall building would feature a 3-story high vaulted ceiling above City Council chambers; only the vaulted ceiling above Council chambers would reach the third level. The first floor of the remainder of the building would house a mix of parking garage (approximately 65 spaces) and office space, and the second floor would be exclusively for offices.

The building will have an approximate 30,000 square foot footprint. It will be up to 40 feet in maximum height. It will include about 35,000+/- square feet of office space (inclusive of a 3,000-5,000 square foot City Council chambers). It will likely include a ground level parking area under a portion of the new building; parking would be at current grade with the new building built partially on a podium above the parking. The disturbed area for the new City Hall building and site work (Phase II) will likely include everything from the rear parking lot to Sierra Avenue, from the parking lot on Upland Avenue to the existing southern end of the City Hall building (about 56,000 square feet). A rendering of the proposed City Hall building appears in **Figure 3.3-2**.

Administrative offices in the City Hall Building will house 100 employees from the following departments:

- Finance
- City Clerk
- Housing and homeless services
- Economic Development
- City Manager / Deputy City Manager
- Media / Public Relations / Public Affairs
- City Council
- Admin support for the above

Figure 3.3-1a
PROPOSED ANNEX BUILDING RENDERING (PHASE I)



Source: PENTA, carrierjohnson + CULTUR3, August 29, 2023.



Fontana
Civic Center Renovation
 Proposed Annex Building Rendering (Phase I)

Figure 3.3-1b
PROPOSED ANNEX BUILDING RENDERING (PHASE I)



Source: PENTA, carrierjohnson + CULTUR3, August 29, 2023.



Fontana
Civic Center Renovation
 Proposed Annex Building Rendering (Phase I)

Figure 3.3-1c
PROPOSED ANNEX BUILDING RENDERING (PHASE I)



Source: PENTA, carrierjohnson + CULTUR3, August 29, 2023.



Fontana
Civic Center Renovation
 Proposed Annex Building Rendering (Phase I)

Figure 3.3-1d
PROPOSED ANNEX BUILDING RENDERING (PHASE I)



Source: PENTA, carrierjohnson + CULTUR3, August 29, 2023.



Fontana
Civic Center Renovation
 Proposed Annex Building Rendering (Phase I)

Figure 3.3-2
PROPOSED CITY HALL BUILDING RENDERING (PHASE II)



Source: Holt Architecture, August 3, 2023.



Fontana
Civic Center Renovation

Proposed City Hall Building Rendering (Phase II)

3.3.3 PARKING

As noted, the first floor of the Annex Building (Phase I) will accommodate 56 parking spaces on the first level. In the City Hall Building (Phase II), a portion of the first level will accommodate approximately 65 parking spaces.

Surface parking will remain in its current capacity and configuration. There will be no changes.

3.3.4 LANDSCAPING

The proposed site plan includes several landscaped areas totaling 23,250 square feet (accounting for approximately 25 percent of the project site). At project completion the site would be approximately 75 percent impervious (consisting of building footprints and hardscape, including paved surface parking areas).

3.3.5 SITE ACCESS, CIRCULATION AND PARKING

Site ingress and egress would be provided by driveways along the northern portion of the site along Upland Avenue, eastern side along Emerald Avenue, and along Seville Avenue; there would be no vehicle access from Sierra Avenue, which borders the western side of the Phase II project boundary. As noted earlier, the proposed City Hall and Annex buildings would have first floor parking garages that would accommodate 65 and 56 parking spots, respectively, or a total of 121 garage spaces.

Phase I includes 44 public stalls and 12 secured stalls. Of the 44 public stalls, three will be Disabled (ADA) and two will be Electric Vehicle (EV) spaces.

3.3.6 EXTERIOR LIGHTING

There will be no lights installed during construction as construction operations will be confined from 7:00 am to 6:00 pm on weekdays, 8:00 am to 5:00 pm on Saturdays, and no construction on Sundays and Holidays unless it is approved by the building inspector for cases that are considered urgently necessary as defined in Section 18-63(7) of the Municipal Code. The remaining lights will match existing conditions.

The project proposes area lighting throughout the project site for visibility and safety purposes. Lighting for the project would comply with the requirements of the City's Municipal Code. Specifically, the project would be required to comply with City of Fontana Municipal Code § 30 508, Lighting and Glare, which states, "all lights shall be directed and/or shielded to prevent the light from adversely affecting adjacent residential or commercial properties. No structure or feature shall be permitted which creates adverse glare effects."

3.3.7 UTILITIES

The project would require sewer, domestic water, fire water, irrigation and dry utilities connections to existing utility infrastructure in Sierra Avenue.

Sanitary Sewer - The project proposes a network of sewer mains connecting to an existing sewer in Sierra Avenue.

Domestic Water - Water would be provided by Fontana Water Company, which serves part of the city of Fontana. Construction would need to occur in the public right-of-way during installation of domestic water lines from the existing main in Sierra Avenue to the project site.

Fire Water - The project proposes continued use of existing fire water lines from Sierra Avenue to the project site.

Dry Utilities - The existing solar will be removed from the roof top. The new structure will include infrastructure for future solar installation, but this will not be part of this project. Southern California Edison (SCE) would provide electricity to the project site. Electrical utilities are undergrounded.

Stormwater - Stormwater runoff would be collected by downspouts and area drains and discharged to the existing drainage system. Stormwater mitigation and water quality management system will be installed.

Trash Service - Trash service would be provided by Burrtec Waste Industries, which has a contract with the City of Fontana to provide an array of trash, recycling and special waste handling services to residents and businesses (Fontana, 2022).

Communications and Data - There is an existing cellular tower that will be relocated and improved.

3.4 OFFSITE IMPROVEMENTS

Offsite improvements would include landscaping, sidewalk, vehicular access and roadway restorations.

3.5 CONSTRUCTION ACTIVITIES

The project would be completed in two major phases, with Phase I consisting of the Annex Building and Phase II consisting of the City Hall Building. For each major phase, once demolition commences, all of the construction activities would follow in sequence. There would be no cut or fill of soil during site grading. After site preparation is completed, infrastructure such as sewer laterals and storm drains would be installed and/or connected to existing facilities. The building foundations would be poured and framing of the buildings would begin. The final steps of construction would involve interior furnishings, detail work, and completion of common areas and outside landscaping.

Construction staging areas would be provided within the boundaries of the project site. Construction workers would park vehicles onsite and construction trucks and equipment would also be parked and stored onsite. Additional parking for the construction crew may be located along Upland Avenue. It is anticipated that approximately 20 workers would be onsite during the peak construction activities of each phase.

For safety reasons, temporary barricades would be used to limit access to the site during project construction and maintain safe access for construction workers. Construction would occur during daylight and during regular business hours. Lighting for the construction site would be limited to the minimum amount of light needed for safety and security.

3.5.1 CONSTRUCTION SCHEDULE

Project construction of Phase I (Annex Building) is expected to begin in December 2023 and end in January 2025 (approximately 25 months). Phase II (City Hall) is expected to commence in January 2025, with completion expected in December 2027 (approximately 23 months). **Table 3.5-1** shows start and finish dates for each construction phase.

Table 3.5-1
START AND FINISH DATES BY CONSTRUCTION ACTIVITY (PHASE I)

Construction Phase	Start Date	Finish Date
Mobilization	December 13, 2023	December 27, 2023
Site Demolition and Grading	December 28, 2023	January 31, 2024
Underground Building Utilities (wet and dry)	January 26, 2024	February 14, 2024
Foundation	February 14, 2024	May 24, 2024
Building Shell and Core	June 6, 2024	September 26, 2024
Building Interior	August 29, 2024	January 6, 2025
Site Work	February 24, 2024	January 10, 2025

Source: PENTA Building Group, *FIRE ANNEX 11 01 2023 – Contract Schedule*

Construction Equipment by Activity

Table 3.5-2 shows construction equipment to be utilized and other pertinent data for indicated activities during the construction of Phase I.

Table 3.5-2
CONSTRUCTION EQUIPMENT BY ACTIVITY (PHASE I)

DEMOLITION	
Concrete/Industrial Saws	1
Crane	1
Crushing/Processing Equipment	1
Excavators	1
Rubber Tired Loaders	1
Skid Steer Loaders	2
GRADING ¹ 1 month duration	
Bore/Drill Rigs	1
Excavators	1
Graders	2
Off-Highway Tractors	1
Other Equipment	1
Rubber Tired Loaders	2
Skid Steer Loaders	2
Tractors/Loaders/Backhoes	1

CONSTRUCTION 8 months duration	
Bore/Drill Rigs	1
Concrete/Industrial Saws	2
Crane	1
Excavators	1
Graders	1
Other Equipment	1
Paving Equipment	1
Rollers	1
Rough Terrain Forklifts	2
Rubber Tired Loaders	1
Skid Steer Loaders	3
Tractors/Loaders/Backhoes	1
PAVING² <1 month duration	
Graders	1
Pavers	1
Rollers	1
Rubber Tired Loaders	1
Tractors/Loaders/Backhoes	1

NOTES: (1) 1 day of grading, 0 export/0 import (2) 0.1 acres paved area

Sources: PENTA Building Group, City of Fontana Engineering Department

3.6 Permits and Approvals

The proposed project would be reviewed in detail by applicable City of Fontana departments and divisions that have the responsibility to review land use application compliance with City codes and regulations. City staff is also responsible for reviewing this IS/MND to ensure that it is technically accurate and is in full compliance with CEQA. The departments and divisions at the City of Fontana responsible for technical review include:

- City of Fontana Development Services Department;
- City of Fontana Public Works Department;
- City of Fontana Fire Protection District;
- City of Fontana Engineering Department.

Ordinance No. 1906⁵, adopted in October 2022 by the City Council, exempted the City from certain zoning regulations for City owned, controlled or leased properties or facilities. In that the City is the project applicant and owner of the subject project properties, the only permits or approvals required would be a Design Review and building permits.

⁵ See Appendix I for a complete text and signed copy of Ordinance No. 1906.

4.0 Environmental Checklist

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” or as a “Potentially Significant Unless Mitigation Incorporated,” as indicated by the checklist on the following pages.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology / Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

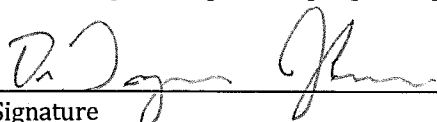
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

12/14/23
Date

DiTanyon Johnson
Printed Name

Principal Planner
City of Fontana

EVALUATION OF ENVIRONMENTAL IMPACTS

- (1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- (2) All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- (3) Once the lead agency has determined that a particular physical impact may occur then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- (4) “Negative Declaration: Less than Significant with Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to less than significant level.
- (5) Earlier analyses may be use where, pursuant to the tiering, Program EIR, or other CEQA process, an affect has been adequately analyzed in an earlier EIR or negative declaration. (See Section 15063(c)(3)(D) of the CEQA Guidelines. In this case, a brief discussion should identify the following:
 - (a) Earlier Analyses Used. Identify and state where the earlier analysis available for review.
 - (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - (c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- (6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference

to the page or pages where the statement is substantiated. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.

- (7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- (8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- (9) The explanation of each issue should identify:
 - (a) The significance criteria or threshold, if any, used to evaluate each question; and
 - (b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

A “visual environment” includes the built environment (development patterns, buildings, parking areas, and circulation elements) and natural environment (such as hills, vegetation, rock outcroppings, drainage pathways, and soils) features. Visual quality, viewer groups and sensitivity, duration, and visual resources characterize views.

- Visual quality refers to the general aesthetic quality of a view, such as vividness, intactness, and unity.
- Viewer groups identify who is most likely to experience the view. High-sensitivity land uses include residences, schools, playgrounds, religious institutions, and passive outdoor spaces such as parks, playgrounds, and recreation areas.
- Duration of a view is the amount of time that a particular view can be seen by a specific viewer group.
- Visual resources refer to unique views, and views identified in local plans, from scenic highways, or of specific unique structures or landscape features.

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact

Scenic vistas generally include extensive panoramic views of natural features, unusual terrain, or unique urban or historic features, for which the field of view can be wide and extend into the distance, and focal views that focus on a particular object, scene or feature of interest.

The project site is located in an area of Fontana that is characterized by flat topography and urban development. The City's General Plan does not specify any scenic vistas that occur within the City. However, the San Gabriel Mountains and the Jurupa Hills that lie north and south of the City, respectively, are considered scenic resources (Stantec, 2018b, p. 5.1-1).

In general, existing views in the project vicinity include views of the distant Jurupa Hills to the south and distant views of the San Gabriel Mountains to the north. The Jurupa Hills are approximately four miles south of the project site and the San Gabriel Mountains are located approximately five miles north of the project site (Google Earth Pro, 2023). However, views of the Jurupa Hills and San Bernardino Mountains would not be significantly impacted because of the far distance from the project site and the intervening buildings and trees surrounding the project site that partially block views of the mountains.

The project proposes to demolish and replace the existing three-story City Hall and two-story Annex buildings. The Administration and Police buildings would remain as they are. The replacement City Hall and Annex buildings would be three- and two-stories, respectively. The proposed new buildings would be consistent with the general character of the surrounding neighborhood in terms of architectural style, density, height, bulk, and setback. As mentioned above, there are intervening buildings and trees that block the view of the mountains. The proposed development would not obstruct views of distant mountains and hills for motorists traveling along nearby roadways. Therefore, the project would have less than significant impact on scenic vistas.

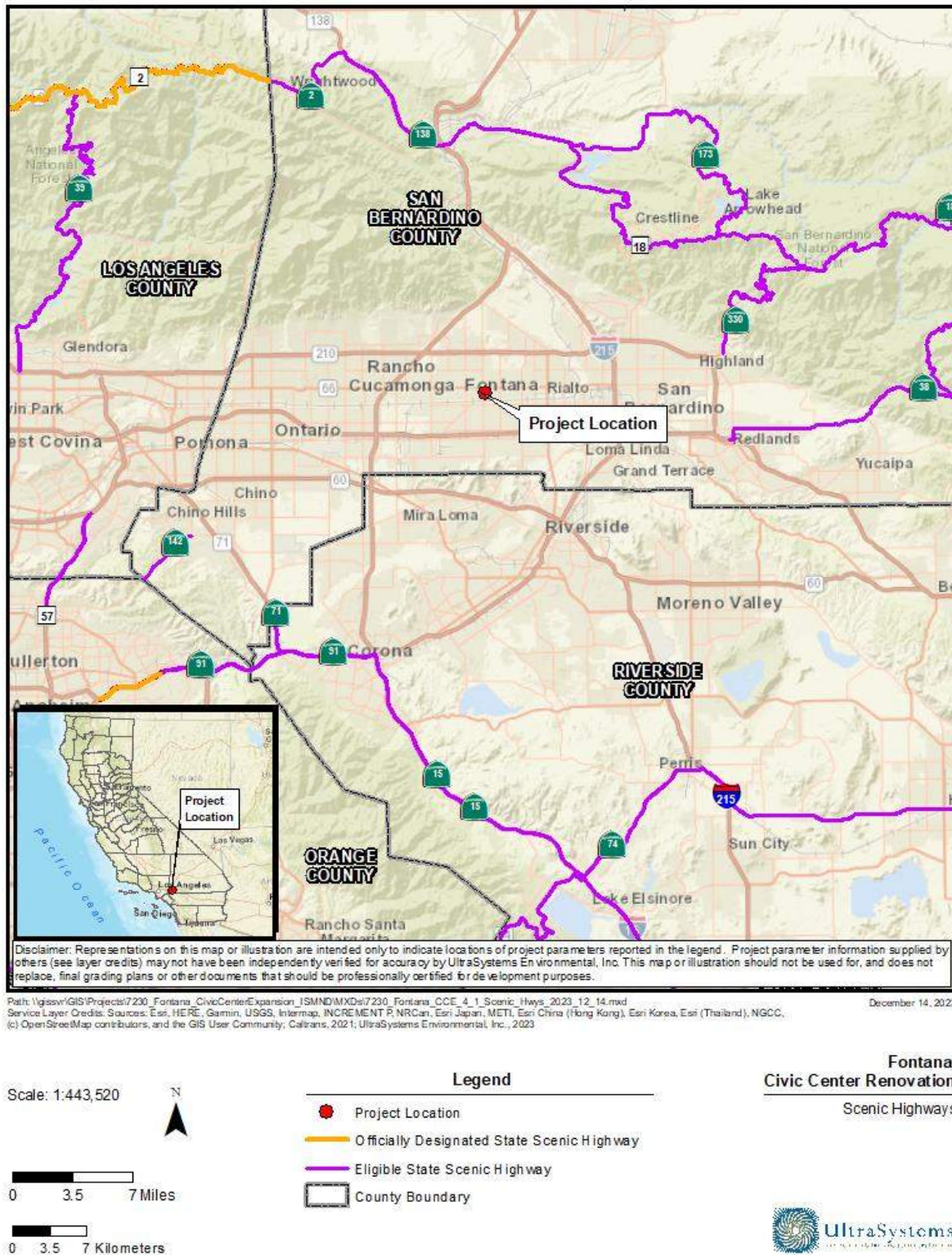
b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

The California Department of Transportation (Caltrans) provides information regarding officially designated or eligible state scenic highways identified as part of the California Scenic Highway Program. The nearest designated state scenic highway to the project site is State Route 2 (SR-2) in Los Angeles County, approximately 22 miles northwest of the project site (Caltrans, 2023) (see **Figure 4.1-1**). Due to the large distance between the project site and SR-2, construction and implementation of the project would have no impact on state scenic highways. Therefore, the project would have no impacts on trees, rock outcroppings and historic buildings within a state scenic highway.



**Figure 4.1-1
STATE SCENIC HIGHWAYS**





- c) **In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

Less than Significant Impact

The project site is located within a highly urbanized portion of the City characterized by public and commercial facilities. Therefore, project analysis shall determine if the project conflicts with applicable zoning and other regulations governing scenic quality. As further detailed in **Section 4.11**, the project would not conflict with policies under the Public Facilities (P-PF) General Plan land use or Downtown Core - Civic zoning designation. **Table 4.1-1** below provides the applicable policies from the City of Fontana General Plan that pertain to aesthetics, along with a description of how the proposed project would comply.

Table 4.1-1
**PROJECT COMPLIANCE WITH CITY OF FONTANA GENERAL PLAN POLICIES REGARDING
SCENIC QUALITY AND AESTHETICS**

General Plan Element	Project Compliance
Land Use Element. Goal 7: Public and private development meets high design standards.	
Policies: <ul style="list-style-type: none">Support high-quality development in design standards and in land use decisions.	The proposed project would construct a high-quality development including ornamental landscaping that would complement the surrounding public and commercial land uses. Therefore, the proposed project would not conflict with this policy.

Source: Stantec, 2018b, p. 5.1-8 and 5.1-14

As analyzed above, the proposed project would adhere to applicable aesthetic and scenic quality regulations and policies mandated by the City of Fontana General Plan. The proposed project would add well-designed aesthetically pleasing buildings and landscaping on the site and therefore have a positive effect on the visual character of the site when compared to existing conditions. Therefore, impacts would be less than significant.

- d) **Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

Less Than Significant Impact

The project site is located in an urban area, which is characterized by low to medium nighttime ambient light levels. Street lights, traffic on local streets and exterior lighting in nearby developments are the primary sources of light that contribute to the ambient light levels in the project area. The project is generally surrounded by public and commercial land uses.

The project proposes new exterior lighting throughout the site, including the installation of exterior lighting on the building exteriors, as well as proposed parking lot lighting that would be necessary for safety and nighttime visibility throughout the project site. The new project lighting would be



❖ SECTION 4.1 - AESTHETICS ❖

visible from the surrounding area. Therefore, the project's proposed exterior lighting is expected to contribute to ambient nighttime illumination in the project vicinity. However, the proposed project would comply with the City of Fontana Municipal Code § 30-260, Lighting and Glare, which states, "all lights shall be directed and/or shielded to prevent the light from adversely affecting adjacent residential or commercial properties. No structure or feature shall be permitted which creates adverse glare effects" (City of Fontana Municipal Code, 2023). Additionally, none of the materials proposed would have a mirror finish or would be highly reflective. Refer to **Appendix A** of this document, which provides the proposed project plans.

Adherence to applicable City Municipal Codes would ensure that new sources of light or glare would not adversely affect day or nighttime views in the area. Therefore, impacts from a new source of substantial light or glare would be less than significant.

4.2 AGRICULTURE AND FORESTRY RESOURCES

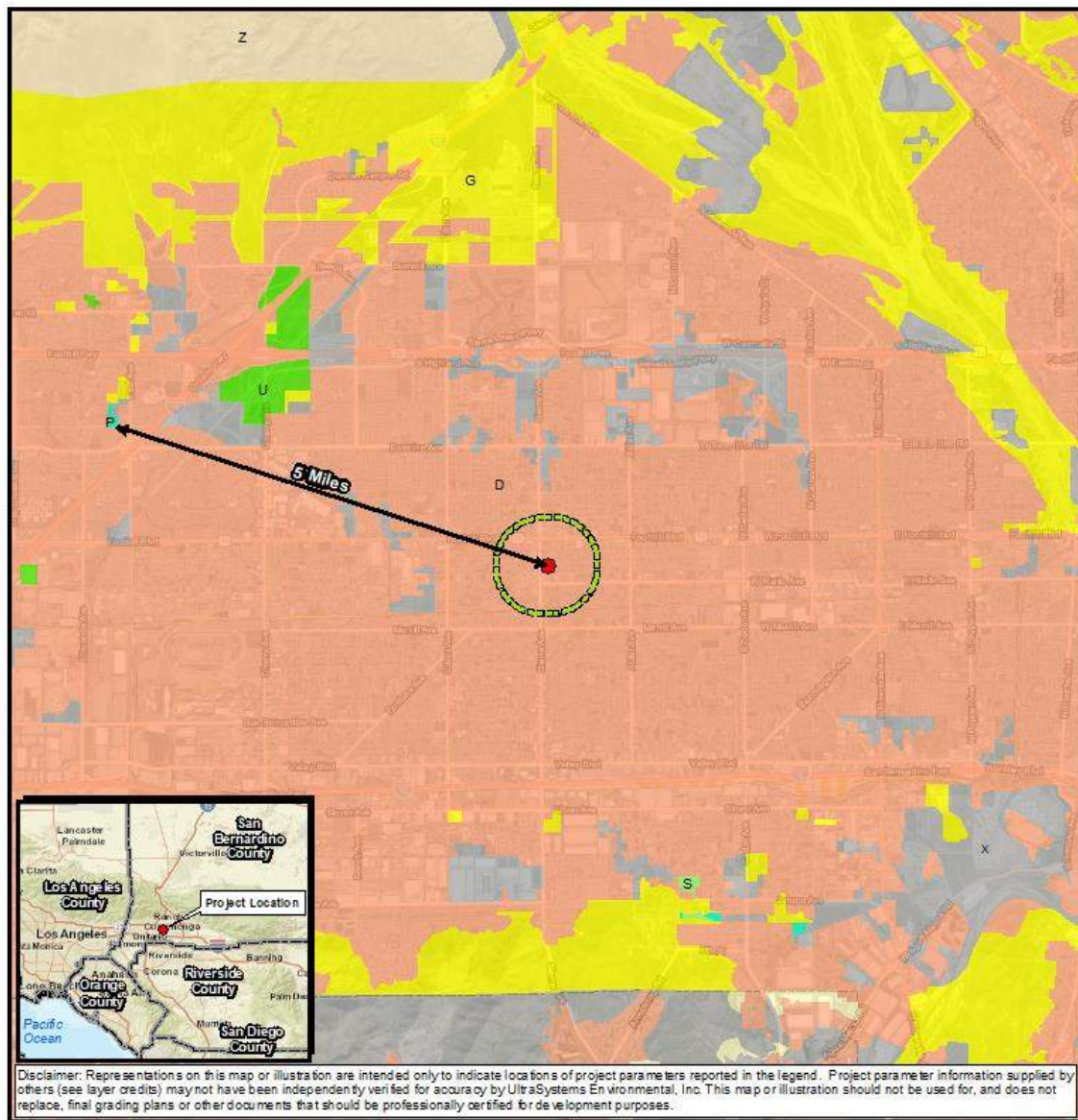
Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Codes § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

- a) **Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Impact

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 by the California Department of Conservation (DOC) in order to analyze critical agricultural farmlands and observe land conversion change over time. The project site and surrounding uses are deemed as “Urban and Built-Up Land” (see **Figure 4.2-1** below), which means that the land has a building density of at least one building to 1.5 acres of land and is mainly utilized for residential, industrial or other non-agricultural business (DOC, 2023). As shown in **Figure 4.2-1**, the project site is about five miles from the nearest Prime Farmland. Hence, the project would not convert farmland for non-agricultural use. No impacts would occur.

**Figure 4.2-1
IMPORTANT FARMLAND CATEGORIES**



Path: I:\gis\GIS\Projects\7230_Fontana_CivicCenterExpansion_ISMND\MXD\7230_Fontana_CCE_4_2_Important_Farmlands_2023_12_14.mxd
December 14, 2023
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community; Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; CA Dept. of Conservation, 2016; UltraSystems Environmental, Inc., 2023



- b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact

The Williamson Act, also known as the California Conservation Act of 1965, authorizes local governments to work with private landowners by negotiating an agreement to tax these landowners at lower rates if they restrict specific pieces of land to agricultural or open space use. According to San Bernardino County's Williamson Act Contract Map, the proposed project is shown as being on land identified as "Urban and Built-Up Land" and does not contain any land under the specific jurisdiction of the Williamson Act (Department of Conservation, 2020a). The City of Fontana's General Plan for 2015-2035 identifies the proposed project area as "P-PF," which means it is for Public Facilities with a zoning designation of Downtown Core - Civic (City of Fontana, 2023a). Currently, no agricultural operations are near the site. Therefore, the project would not conflict with existing zoning for agriculture uses or any Williamson Act contracts. No impacts would occur.

- c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Codes § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?**

No Impact

The City's General Plan land use designation for the project site is Public Facilities (P-PF) with a zoning designation of Downtown Core - Civic; the site is not zoned for forest, timberland, or timberland production use. Therefore, project development would not conflict with zoning for forest land or timberland, and no impact would occur.

- d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact

The project site and surroundings are not cultivated for forest resources. Therefore, project development would not result in the loss of forest land or conversion of forest land to non-forest use, and no impact would occur.

- e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact

The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. No impacts would occur.

4.3 AIR QUALITY

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

4.3.1 POLLUTANTS OF CONCERN

Criteria pollutants are air pollutants for which acceptable levels of exposure can be determined and an ambient air quality standard has been established by the U.S. Environmental Protection Agency (USEPA) and/or the California Air Resources Board (ARB). The criteria air pollutants of concern are nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), lead (Pb), and ozone, and their precursors, such as reactive organic gases (ROG) (which are ozone precursors). Since the proposed Fontana Civic Center Renovation project (proposed project or Project) would not generate appreciable SO₂ or Pb emissions,⁶ the analysis doesn't need to include those two pollutants. Below is a description of the remaining air pollutants of concern and their known health effects.

The project is in the San Bernardino County portion of the South Coast Air Basin (SCAB), for whose air pollution control the South Coast Air Quality Management District (SCAQMD) is substantially responsible.

Table 4.3-1 shows the attainment status of the SCAB for each criteria pollutant for both the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

⁶ Sulfur dioxide emissions will be below 0.071 pound per day during construction and below 0.032 pound per day during operations.

**Table 4.3-1
FEDERAL AND STATE ATTAINMENT STATUS**

Pollutants	Federal Classification	State Classification
Ozone (O ₃) – 1-hour standard	Nonattainment (Extreme)	Nonattainment
Ozone (O ₃) – 8-hour standard	Nonattainment (Extreme)	
Particulate Matter (PM ₁₀)	Maintenance (Serious)	Nonattainment
Fine Particulate Matter (PM _{2.5})	Nonattainment (Serious)	Nonattainment
Carbon Monoxide (CO)	Maintenance (Serious)	Attainment
Nitrogen Dioxide (NO ₂)	Maintenance (Primary)	Attainment
Sulfur Dioxide (SO ₂)	Unclassified	Attainment
Sulfates	No Federal Standards	Attainment
Lead (Pb)		Attainment
Hydrogen Sulfide (H ₂ S)	Unclassified	
Visibility Reducing Particles		

Sources: ARB, 2020, USEPA, 2022a.

Nitrogen oxides (NO_x) serve as integral participants in the process of photochemical smog production and are precursors for certain particulate compounds that are formed in the atmosphere and for ozone. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an ambient air quality standard (AAQS) has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more AAQs. When NO_x and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight to form ozone. The two major forms of NO_x are nitric oxide (NO) and NO₂. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown pungent gas formed by the combination of NO and oxygen. NO₂ acts as an acute respiratory irritant and eye irritant and increases susceptibility to respiratory pathogens (USEPA, 2011).

Carbon monoxide is a colorless, odorless non-reactive pollutant produced by incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft and trains. In urban areas, such as the project location, automobile exhaust accounts for most CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing

it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions. High concentrations are lethal (USEPA, 2010).

Particulate matter (PM) consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes and mists. Primary PM is emitted directly into the atmosphere from activities such as agricultural operations, industrial processes, construction and demolition activities, and entrainment of road dust into the air. Secondary PM is formed in the atmosphere from predominantly gaseous combustion by-product precursors, such as sulfur oxides, NO_x, and ROG.

Particle size is a critical characteristic of PM that primarily determines the location of PM deposition along the respiratory system (and associated health effects) as well as the degradation of visibility through light scattering. In the United States, federal and state agencies have focused on two types of PM. PM₁₀ corresponds to the fraction of PM no greater than 10 micrometers in aerodynamic diameter and is commonly called respirable particulate matter, while PM_{2.5} refers to the subset of PM₁₀ of aerodynamic diameter smaller than 2.5 micrometers, which is commonly called fine particulate matter.

PM₁₀ and PM_{2.5} deposition in the lungs results in irritation that triggers a range of inflammation responses, such as mucus secretion and bronchoconstriction, and exacerbates pulmonary dysfunctions, such as asthma, emphysema, and chronic bronchitis. Sufficiently small particles may penetrate the bloodstream and impact functions such as blood coagulation, cardiac autonomic control, and mobilization of inflammatory cells from the bone marrow. Individuals susceptible to higher health risks from exposure to airborne PM₁₀ pollution include children, the elderly, smokers, and people of all ages with low pulmonary/cardiovascular function. For these individuals, adverse health effects of PM₁₀ pollution include coughing, wheezing, shortness of breath, phlegm, bronchitis, and aggravation of lung or heart disease, leading, for example, to increased risks of hospitalization and mortality from asthma attacks and heart attacks (USEPA, 2022b).

Reactive organic gases (ROG) are defined as any compound of carbon, excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. It should be noted that there are no state or national ambient air quality standards for ROG because ROG are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formation of ozone. ROG are also transformed into organic aerosols in the atmosphere, which contribute to higher PM₁₀ and lower visibility. The term "ROG" is used by the ARB for this air quality analysis and is defined the same as the federal term "volatile organic compound" (VOC).

Ozone is a secondary pollutant produced through a series of photochemical reactions involving ROG and NO_x. Ozone creation requires ROG and NO_x to be available for approximately three hours in a stable atmosphere with strong sunlight. Because of the long reaction time, peak ozone concentrations frequently occur downwind of the sites where the precursor pollutants are emitted. Thus, ozone is considered a regional, rather than a local, pollutant. The health effects of ozone include eye and respiratory irritation, reduction of resistance to lung infection and possible aggravation of pulmonary conditions in persons with lung disease. Ozone is also damaging to vegetation and untreated rubber (USEPA, 2022c).

4.3.2 CLIMATE/METEOROLOGY

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The project site is located wholly within the SCAB, which includes all of Orange County, as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The distinctive climate of the SCAB is determined by its terrain and geographical location. The SCAB is in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. Thus, the climate is mild, tempered by cool sea breezes. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds (SCAQMD, 1993).

The average annual maximum and minimum temperatures in the project area, as determined from the nearest meteorological station, Fontana Kaiser (#043120; latitude 34.08333°; longitude -117.5167°) (WRCC, 2023), which is approximately 1.95 miles northwest of the project site, are 73.6 degrees Fahrenheit (°F) and 48.5°F, respectively. Average winter (December, January, and February) high and low temperatures are approximately 68.2°F and 44.5°F, respectively, and average summer (June, July, and August) high and low temperatures are approximately 92.0°F and 60.6°F, respectively. The annual average of total precipitation is approximately 15.32 inches, which occurs mostly during the winter and relatively infrequently during the summer. Monthly precipitation averages approximately 2.9 inches during the winter (December, January, and February), approximately 1.4 inches during the spring (March, April, and May), approximately 0.8 inch during the fall (September, October, and November), and approximately 0.05 inch during the summer (June, July, and August).

4.3.3 LOCAL AIR QUALITY

The SCAQMD has divided the SCAB into source receptor areas (SRAs), based on similar meteorological and topographical features. The project site is in SCAQMD's Central San Bernardino Valley air monitoring area (SRA 34), which is served by the SCAQMD's Fontana-Arrow Monitoring Station, located about 2.02 miles south of the proposed project site, at 14360 Arrow Highway in Fontana (SCAQMD, 2022a). Criteria pollutants monitored at the Fontana-Arrow Monitoring Station include ozone, PM₁₀, PM_{2.5}, and NO₂. CO has not been monitored in the SCAB since 2012. The ambient air quality data in the project vicinity as recorded from 2020 through 2022, along with applicable standards, are shown in **Table 4.3-2**.

Table 4.3-2
AMBIENT AIR QUALITY MONITORING DATA

Air Pollutant	Standard/Exceedance	2020	2021	2022
Ozone (O ₃)	Max. 1-hour Concentration (ppm)	0.151	0.124	0.144
	Max. 8-hour Concentration (ppm)	0.112	0.104	0.108
	# Days > Federal 8-hour Std. of 0.070 ppm	89	89	68
	# Days > California 1-hour Std. of 0.09 ppm	56	44	44
	# Days > California 8-hour Std. of 0.070 ppm	91	83	70
Respirable Particulate Matter (PM ₁₀)	Max. 24-hour Concentration (µg/m ³)	76.8	73.8	62.4
	Est. # Days > Fed. 24-hour Std. of 150 µg/m ³	ND	ND	0
	Federal Annual Average (12 µg/m ³)	37.9	30.1	32.0
Fine Particulate Matter (PM _{2.5})	Max. 24-hour Concentration (µg/m ³)	57.6	55.1	38.1
	# Days > Fed. 24-hour Std. of 35 µg/m ³	12.3	5.9	3.0
	State Annual Average (12 µg/m ³)	12.7	12.0	10.8
Nitrogen Dioxide (NO ₂)	Max. 1-hour Concentration (ppm)	0.057	0.060	0.050
	State Annual Average (0.030 ppm)	0.018	0.018	0.017
	# Days > California 1-hour Std. of 0.18 ppm	0	0	0

Source: ARB, 2023

ND - There was insufficient (or no) data available to determine the value.

4.3.4 AIR QUALITY MANAGEMENT PLAN (AQMP)

The SCAQMD is required to produce plans to show how air quality will be improved in the region. The California Clean Air Act (CCAA) requires that these plans be updated triennially to incorporate the most recent available technical information.⁷ A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implements the programs contained in these plans. Agencies involved include the USEPA, ARB, local governments, Southern California Association of Governments (SCAG), and SCAQMD. The SCAQMD and SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SCAB. The SCAQMD updates its AQMP every three years.

The 2022 AQMP (SCAQMD, 2022b) was adopted by the SCAQMD Board on December 2, 2022. It focuses on reducing ozone by limiting the emissions of NO_x, which is a key reactant in ozone formation. The NO_x reductions are through extensive use of zero emission technologies across all stationary and mobile sources categories. The majority of NO_x emissions are from heavy-duty trucks, ships and other state and federally regulated mobile sources that are mostly beyond the SCAQMD's control. The SCAQMD's primary authority is over stationary sources, which account for approximately 20 percent of the SCAB's NO_x emissions.

The AQMP incorporates updated emission inventory methodologies for various source categories and incorporates the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) prepared by SCAG (2020). The 2020-2045 RTP/SCS was determined to conform to the federally mandated State Implementation Plan for the attainment and maintenance of the NAAQS. county and city general plans.

⁷ CCAA of 1988.

4.3.5 SENSITIVE RECEPTORS

Some people, such as individuals with respiratory illnesses or impaired lung function because of other illnesses, persons over 65 years of age, and children under 14, are particularly sensitive to certain pollutants. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours (Chico and Koizumi, 2008, p. 3-2). Commercial and industrial facilities are not included in the definition of sensitive receptor, because employees typically are present for shorter periods of time, such as eight hours. Therefore, applying a 24-hour standard for PM₁₀ is appropriate not only because the averaging period for the state standard is 24 hours, but because the sensitive receptor would be present at the location for the full 24 hours.

The nearest sensitive receptors to the project site are single-family residences north of the project site along Upland Avenue, and to the east along Emerald Avenue. Additionally, Weekday Nursery School (within Fontana Community Church) is directly west of the project site, across Sierra Avenue.

4.3.6 APPLICABLE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULES

Rule 403 (Fugitive Dust Rule)

During construction, the project would be subject to SCAQMD Rule 403 (fugitive dust). SCAQMD Rule 403 does not require a permit for construction activities, per se; rather, it sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in the SCAB. The general requirement prohibits a person from causing or allowing emissions of fugitive dust from construction (or other fugitive dust source) such that the presence of such dust remains visible in the atmosphere beyond the property line of the emissions source. SCAQMD Rule 403 also prohibits construction activity from causing an incremental PM₁₀ concentration impact, as the difference between upwind and downwind samples, at the property line of more than 50 micrograms per cubic meter as determined through PM₁₀ high-volume sampling. The concentration standard and associated PM₁₀ sampling do not apply if specific measures identified in the rules are implemented and appropriately documented.

Other requirements of Rule 403 include not causing or allowing emissions of fugitive dust that would remain visible beyond the property line; no track-out extending 25 feet or more in cumulative length and all track-out to be removed at conclusion of each workday; and using the applicable best available control measures included in Table 1 of Rule 403.

Rule 1113 (Architectural Coatings)

Construction of this project will include the application of architectural coatings and be subject to SCAQMD Rule 1113 (Architectural Coatings). Rule 1113 requires who applies, stores at a worksite, or solicits the application of architectural coatings use coatings that contain VOC less than or equal to the VOC limits specified in Table 1 of the rule.

4.3.7 IMPACT ANALYSIS

- a) **Would the project conflict with or obstruct implementation of the applicable air quality plan?**

Less than significant Impact

The South Coast 2022 AQMP, discussed above, incorporates land use assumptions from local general plans and regional growth projections developed by the SCAG to estimate stationary and mobile air emissions associated with projected population and planned land uses. If the proposed land use is consistent with the local general plan, then the impact of the project is presumed to have been accounted for in the AQMP. This is because the land use and transportation control sections of the AQMP are based on the SCAG regional growth forecasts, which incorporate projections from local general plans. The proposed project is in compliance with the City's General Plan and Zoning designations and with the Fontana General Plan. Therefore, no General Plan amendment or Zone Change is required. The land use would continue to be consistent with the local plans and the impacts of the project are still accounted for in the AQMP.

Another measurement tool in evaluating consistency with the AQMP is to determine whether a project would generate population and employment growth and, if so, whether that growth would exceed the growth rates forecasted in the AQMP and how the project would accommodate the expected increase in population or employment. The project would not create increase in population and overall vehicle miles traveled (VMT) (RK Engineering Group, 2023), which would be included in the growth rates forecasted in the AQMP.

According to a trip generation and VMT screening analysis performed for this project (RK Engineering Group, 2023), the project has been screened out from a full VMT analysis based on the Project Net Daily Trips Less Than 500 ADT criterion and may be presumed to have a less than significant impact on VMT under CEQA (City of Fontana, 2020b).

Additionally, to assist the implementation of the AQMP, projects must not create regionally significant emissions of regulated pollutants from either short-term construction or long-term operations. The SCAQMD has developed criteria in the form of emissions thresholds for determining whether emissions from a project are regionally significant (SCAQMD, 2019). They are useful for estimating whether a project is likely to result in a violation of the NAAQS and/or whether the project is in conformity with plans to achieve attainment. SCAQMD's significance thresholds for criteria pollutant emissions during construction activities and project operation are summarized in **Table 4.3-3**. A project is considered to have a regional air quality impact if emissions from its construction and/or operational activities exceed the corresponding SCAQMD significance thresholds.

Table 4.3-3
SCAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction Thresholds (lbs/day)	Operational Thresholds (lbs/day)
Volatile Organic Compounds (VOC)	75	55
Nitrogen Oxides (NO _x)	100	55
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SO _x)	150	150

Pollutant	Construction Thresholds (lbs/day)	Operational Thresholds (lbs/day)
Particulate Matter (PM ₁₀)	150	150
Fine Particulate Matter (PM _{2.5})	55	55

Note: lbs = pounds.

Source: SCAQMD, 2023.

Regional Construction Emissions

Project construction for Phase I is expected to begin around December 2023 and would last approximately 13 months, ending about January 2025. Project construction for Phase II is expected to begin around January 2025 and would last approximately 23 months, ending about December 2026.

Table 4.3-4 and **Table 4.3-5** shows the project schedules for Phase I and Phase II that were used for the air quality, GHG emissions, and noise analyses.

Table 4.3-4
CONSTRUCTION SCHEDULE – PHASE I

Construction Phase	Start	End
Demolition	December 28, 2023	January 11, 2024
Grading	January 12, 2024	January 31, 2024
Underground Building Utilities (Trenching)	January 26, 2024	February 14, 2024
Building Site Construction	February 14, 2024	January 10, 2025
Paving	September 29, 2024	December 9, 2024
Architectural Coating (Painting)	December 10, 2024	January 10, 2025

Table 4.3-5
CONSTRUCTION SCHEDULE – PHASE II

Construction Phase	Start	End
Demolition	January 1, 2025	March 31, 2025
Site Preparation	April 1, 2025	May 31, 2025
Grading	May 1, 2025	July 31, 2025
Building Construction	August 1, 2025	August 31, 2026
Paving	September 1, 2026	October 31, 2026
Architectural Coating	November 1, 2026	December 31, 2026

These construction activities would temporarily create emissions of dusts, fumes, equipment exhaust, and other air contaminants. Mobile sources (such as diesel-fueled equipment onsite and

traveling to and from the project site) would primarily generate NO_x emissions. The quantity of emissions generated daily would vary, depending on the amount and types of construction activities occurring at the same time.

Estimated criteria pollutant emissions from the project's onsite and offsite project construction activities were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.20 (CAPCOA, 2022). CalEEMod is a planning tool for estimating emissions related to land use projects. Model-predicted project emissions are compared with applicable thresholds to assess regional air quality impacts. Offroad construction equipment information was supplied by the client but CalEEMod defaults were used for onroad construction traffic inputs.

As shown in **Table 4.3-6** and **Table 4.3-7**, construction emissions would not exceed SCAQMD regional thresholds. Therefore, the project's short-term regional air quality impacts would be less than significant. Refer to **Appendix B** of this document for air quality calculations.

Table 4.3-6
MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS – PHASE I

Construction Activity	Maximum Emissions (lbs/day)				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Emissions, 2023	1.82	18.4	18.5	1.99	0.94
Maximum Emissions, 2024	2.43	21.7	26.5	4.03	2.30
Maximum Emissions, 2025	1.99	12.7	17.0	0.60	0.42
<i>SCAQMD Significance Thresholds</i>	75	100	550	150	55
Significant? (Yes or No)	No	No	No	No	No

Source: Calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2022). SCAQMD, 2019

Table 4.3-7
MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS – PHASE II

Construction Activity	Maximum Emissions (lbs/day)				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Emissions, 2025	2.90	26.2	27.7	6.58	3.65
Maximum Emissions, 2026	3.82	8.75	10.6	0.42	0.30
<i>SCAQMD Significance Thresholds</i>	75	100	550	150	55
Significant? (Yes or No)	No	No	No	No	No

Source: Calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2022). SCAQMD, 2019

Regional Operational Emissions

The proposed renovation of the Civic Center project would involve the construction of a new City Hall and annex building, which would result in operational emissions from area sources, motor vehicles, and energy demand. The significance evaluation was based upon the difference between project-related operational emissions and those from the replaced sources. The resulting net emissions levels were subsequently compared with the SCAQMD thresholds to determine compliance. The findings of the emissions calculations are presented in **Table 4.3-8**.

As seen in the table, for each criteria pollutant, net operational emissions would be below the pollutant's SCAQMD significance threshold. Therefore, regional operational emissions would be less than significant.

Table 4.3-8
MAXIMUM DAILY NET PROJECT OPERATIONAL EMISSIONS

Scenario	Emission Source	Pollutant (lbs/day)				
		ROG	NOX	CO	PM10	PM2.5
Project, Phase I & II Combined	Area Sources	1.76	0.02	2.6	0.01	0.01
	Energy Sources	0.02	0.44	0.38	0.04	0.04
	Mobile Sources	12.27	12.37	110.1	23.69	6.13
	Total Operational Emissions	14.05	12.83	112.08	23.73	6.17
Existing buildings	Area Sources	1.4	0.02	1.96	<0.005	< 0.005
	Energy Sources	0.02	0.33	0.28	0.03	0.03
	Mobile Sources	4.65	4.92	42.9	7.72	2.01
	Total Operational Emissions	6.07	5.27	45.14	7.75	2.04
Net Increase in Operational Emissions		7.98	7.56	66.94	15.98	4.13
<i>SCAQMD Significance Thresholds</i>		<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>	<i>55</i>
Significant? (Yes or No)		No	No	No	No	No

Source: Calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2022). SCAQMD, 2019.

- b) **Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?**

Less Than Significant Impact

Since the SCAB is currently in nonattainment for ozone and PM_{2.5}, related projects may exceed an air quality standard or contribute to an existing or projected air quality exceedance. The SCAQMD neither recommends quantified analyses of construction and/or operational emissions from multiple development projects nor provides methodologies or thresholds of significance to be used to assess the cumulative emissions generated by multiple cumulative projects. Instead, the District recommends that a project's potential contribution to cumulative impacts be assessed by utilizing the same significance criteria as those for project-specific impacts. Furthermore, the SCAQMD states that if an individual development project generates less-than-significant construction or operational emissions impacts, then the development project would not contribute to a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment.

As discussed above, the mass daily construction and operational emissions generated by the project would not exceed any of the SCAQMD's significance thresholds. Also, as discussed below, localized emissions generated by the Project would not exceed the SCAQMD's Localized Significance Thresholds (LSTs). Therefore, the project would not contribute a cumulatively considerable increase in emissions for the pollutants that the SCAB is in nonattainment. Thus, cumulative air quality impacts associated with the project would be less than significant.

- c) **Would the project expose sensitive receptors to substantial pollutant concentrations?**

Less than Significant Impact

Construction of the project would generate short-term and intermittent emissions. Following the SCAQMD's *Final Localized Significance Threshold Methodology* (Chico and Koizumi, 2008), only onsite construction emissions were considered in the localized significance analysis. The residence at 17000 Upland Avenue is the nearest sensitive receptor to the Phase I project site (about 23 meters away).⁸ The Fontana Community Church and attached Nursery School west of the project site is the nearest sensitive receiver to Phase II of the project (about 50 meters away). Localized significance thresholds for projects in SRA 34 were obtained from tables in Appendix C of the SCAQMD's *Final Localized Significance Threshold Methodology* (Chico and Koizumi, 2008). **Table 4.3-10** and **Table 4.3-11** shows the results of the localized significance analysis for the project for Phase I and for Phase II. Localized short-term air quality impacts from construction of the project would be less than significant.

⁸ According to SCAQMD guidance, a receptor closer than 25 meters to the source may be assumed to be 25 meters away (Chico and Koizumi, 2008, p. 3-3).

Table 4.3-10
RESULTS OF UNMITIGATED LOCALIZED SIGNIFICANCE ANALYSIS – PHASE I

Nearest Sensitive Receptor	Maximum Onsite Construction Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum daily unmitigated emissions	19.3	20.7	3.6	2.1
<i>SCAQMD LST for 1.9 acres (82,750-square-foot disturbed area) @ 25 meters</i>	164.8	941.5	6.7	3.9
Significant (Yes or No)	No	No	No	No

Source: Calculated by UltraSystems with CalEEMod (2022.1.1.20) (CAPCOA, 2022).

Table 4.3-11
RESULTS OF UNMITIGATED LOCALIZED SIGNIFICANCE ANALYSIS – PHASE II

Nearest Sensitive Receptor	Maximum Onsite Construction Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum daily unmitigated emissions	14.1	15.1	3.4	1.9
<i>SCAQMD LST for 1.3 acres (56,000-square-foot disturbed area) @ 50 meters</i>	163.6	1180.2	15.7	5.3
Significant (Yes or No)	No	No	No	No

Source: Calculated by UltraSystems with CalEEMod (2022.1.1.20) (CAPCOA, 2022).

- d) **Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

Less than Significant Impact

A project-related significant adverse effect could occur if construction or operation of the proposed project would result in generation of odors that would be perceptible in adjacent sensitive areas. According to the SCAQMD *CEQA Air Quality Handbook* (SCAQMD, 1993), land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Potential sources that may emit odors during construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the project. The project would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

The project would not create substantial objectionable odors and this impact would be less than significant.

4.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Methodology

UltraSystems biologists researched readily available information, including relevant literature, databases, agency websites, various previously completed reports and management plans, GIS data, maps, aerial imagery from public domain sources, and in-house records to identify the following: 1) habitats, special-status plant and wildlife species, jurisdictional waters, critical habitats, and wildlife corridors that may occur in and near the project site; and 2) local or regional plans, policies, and

regulations that may apply to the project. Sources accessed by UltraSystems for analysis of potential impacts within this Initial Study include:

- California Department of Fish and Wildlife (CDFW) BIOS Habitat Connectivity Viewer (CDFW, 2023a).
- California Natural Diversity Database (CNDDDB), provided by the CDFW (CNDDDB, 2023a).
- Information, Planning and Conservation (IPaC), provided by the United States Fish and Wildlife Service (USFWS; USFWS, 2023a).
- National Wetlands Inventory (NWI), provided by the USFWS (USFWS, 2023c).
- California Invasive Plant Inventory, provided by the California Invasive Plant Council (Cal-IPC, 2006)
- Sawyer, J.O., T. Keeler-Wolf, J.M. Evens, 2009. A Manual of California Vegetation, Second Edition, provided by California Native Plant Society Press.

Additional sources used are cited in the text.

Aerial imagery was overlaid with geospatial data by utilizing Geographic Information System (GIS) software to identify documented observations of the following biological or environmental components within the project vicinity:

- 1) Previously recorded observations within the project vicinity and geographic range of special status species and potentially suitable habitats;
- 2) special-status vegetation communities;
- 3) protected management lands;
- 4) proposed and final critical habitats;
- 5) waters of the State and waters of the U.S., including wetlands; and
- 6) wildlife corridors.

4.4.1 DISCUSSION OF IMPACTS

The project site plus a 500-foot buffer are collectively referred to as the *Biological Study Area* (BSA) in this section (see **Figure 4.4-1**). Plant and wildlife species listed under the federal Endangered Species Act (ESA) or under the California Endangered Species Act (CESA) are referred to collectively as *listed species* in this section. Plant and wildlife species not listed under ESA or CESA but still protected by federal agencies, state agencies, local or regional plans and/or nonprofit resource organizations, such as the California Native Plant Society (CNPS), are collectively referred to as sensitive species in this section. The term special-status species is used when collectively referring to both listed and sensitive species.

- a) **Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less Than Significant Impact

Literature Review Results and Discussion

The project site is currently developed and is located in an urbanized area, providing low-value habitat for most of the special status plant and wildlife species that have been recorded within ten miles of the project site (CNDDDB 2023a). Elevations in the BSA range from 1,284 to 1,306 feet above mean sea level (amsl; Google Earth Pro, 2023).

Plants and Vegetation Communities

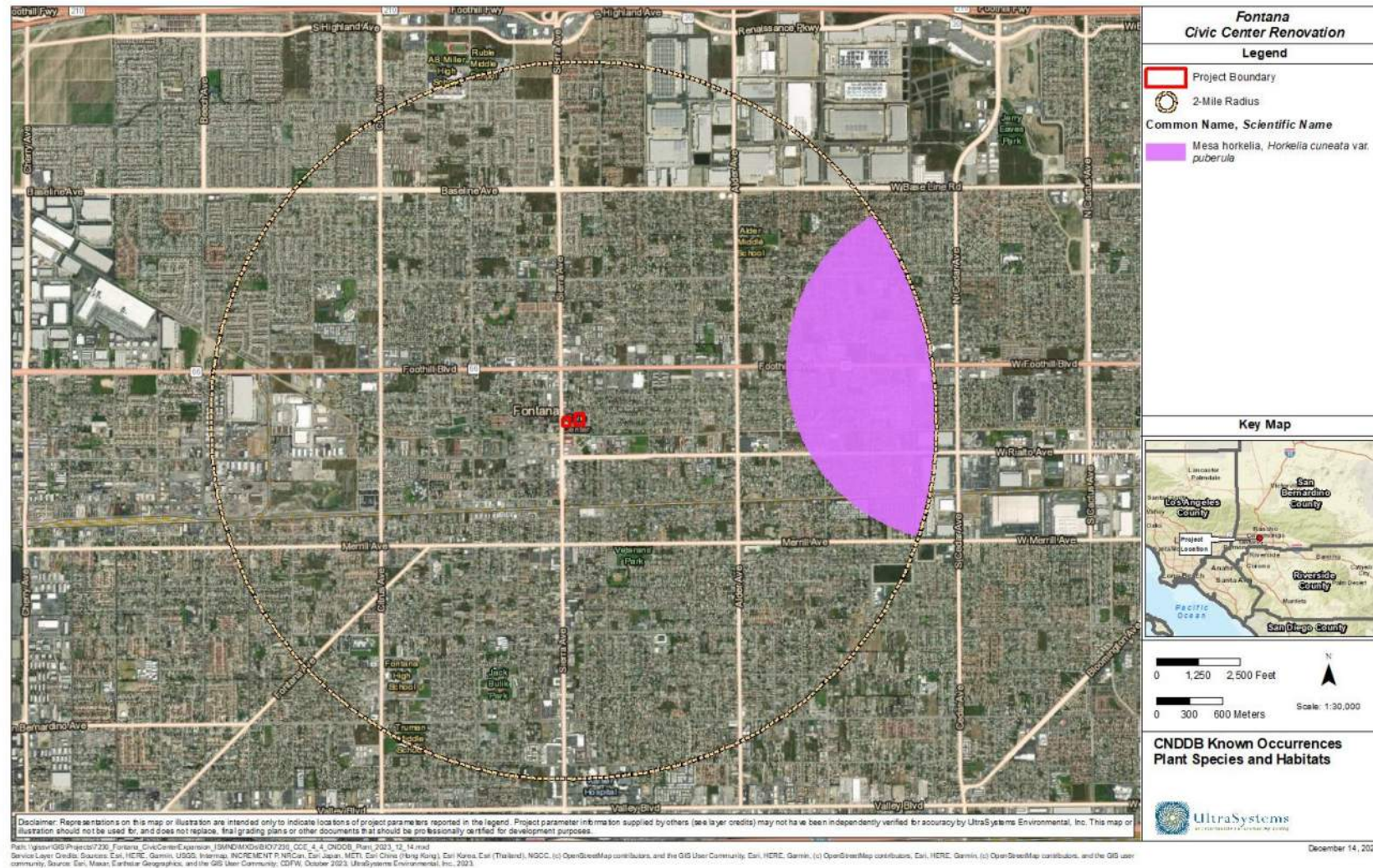
Based on a literature review and query from publicly available databases (hereafter, plant inventory; CNDDDB, 2022a; USFWS, 2023a; CNPS, 2023a) for reported occurrences within a ten-mile radius of the project site, there were eight listed and 24 sensitive plant species identified by one of the following means: reported in the plant inventory; recognized as occurring based on knowledge of the area; or observed during other surveys. **Figure 4.4-2** displays the only special-status plant species, mesa horkelia (*Horkelia cuneata* var. *puberula*), that was recorded by the CNDDDB within a two-mile radius of the BSA (CNDDDB, 2023a). ; however, this population was recorded in 1885 and, due to the urbanization of this area, is considered by the CNDDDB to be “possibly extirpated”. All species evaluated in the plant inventory are listed in **Appendix C, Special-Status Species Inventory and Occurrence Potential Determination**.

All 32 special-status plant species evaluated in the plant inventory, including mesa horkelia, were determined to be not expected to occur in the BSA. The BSA lacks suitable habitat or is outside the elevation or geographic range of the majority of the special-status plant species documented in the plant inventory. The project site contains a high coverage of impermeable surfaces, deterring the establishment of special-status plants. No impacts on special-status plant species or sensitive natural communities are anticipated as a result of the project. No mitigation is required.

Figure 4.4-1
PROJECT LOCATION AND BIOLOGICAL STUDY AREA (BSA)



Figure 4.4-2
CNDDb KNOWN OCCURRENCES: PLANT SPECIES AND HABITATS



Wildlife

Based on a literature review and query from publicly available databases (hereafter, wildlife inventory; CNDDDB, 2023a; USFWS, 2023a) for reported occurrences within a ten-mile radius of the project site, there were 19 listed and 39 sensitive wildlife species identified by one of the following means: reported in the wildlife inventory; recognized as occurring based on knowledge of the area; or observed during other surveys. Of those 48 species, only three sensitive species (Cooper's hawk [*Accipiter cooperii*], western yellow bat [*Lasiurus xanthinus*], and western mastiff bat [*Eumops perotis californicus*]), were determined to have a low potential to occur in the BSA. Cooper's hawk is generally adaptive to urbanized environments, but the BSA does not provide woodland forest habitat which would be considered optimal to support Cooper's hawk. There is suitable habitat (large trees including palms) in the BSA to potentially support western yellow bat; however, western yellow bat has not been recorded in the area since 1996, and the exact location of that recorded observation is unknown⁹.

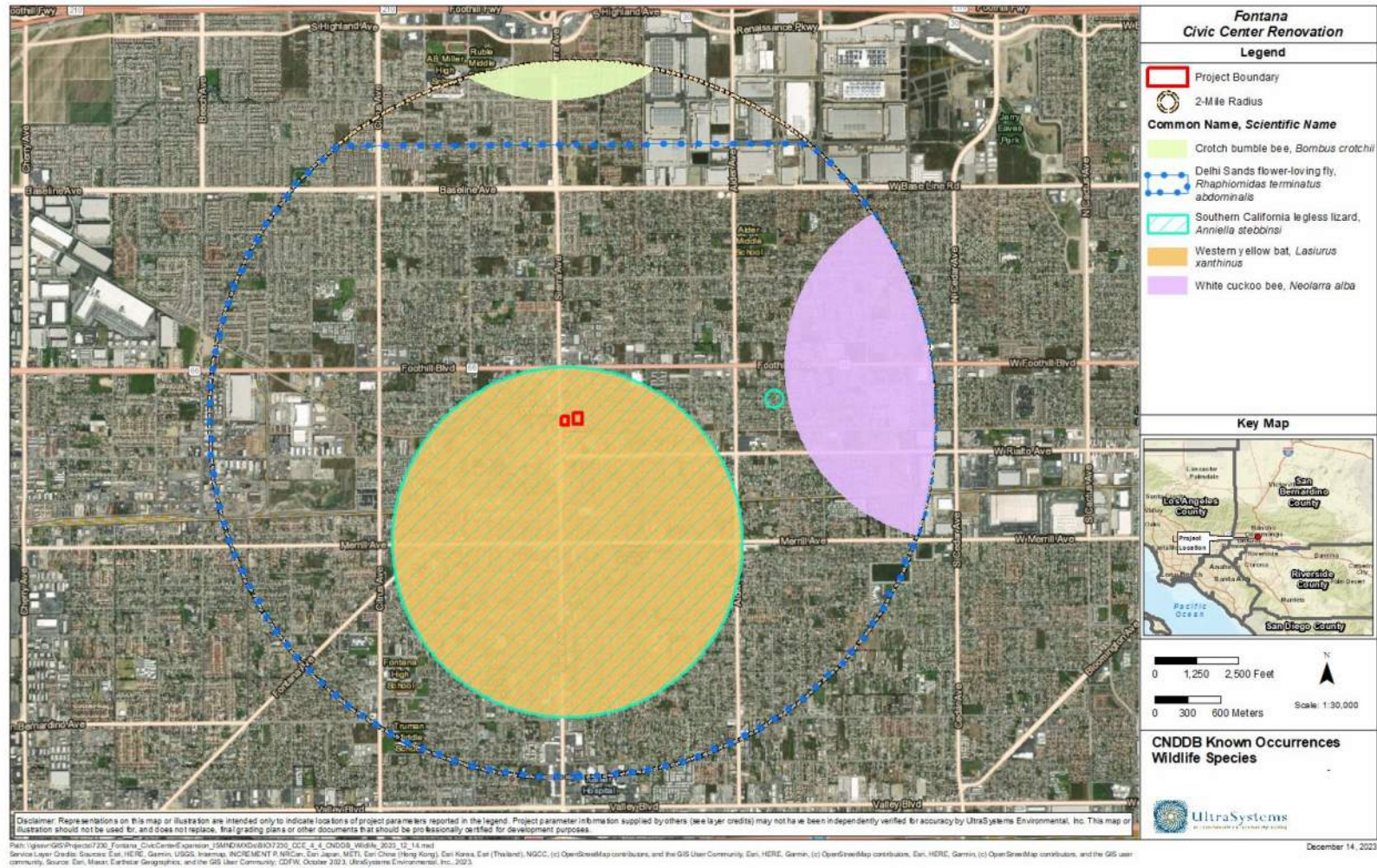
Figure 4.4-3 displays the five species recorded by the CNDDDB within a two-mile radius of the BSA (CNDDDB, 2023a). These five species are Crotch's bumble bee (*Bombus crotchii*), Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*), southern California legless lizard (*Anniella stebbinsi*), western yellow bat, and white cuckoo bee (*Neolarra alba*). As discussed above, western yellow bat was determined to have a low potential to occur in the BSA. The remaining four species identified within a two-mile radius (CNDDDB, 2023) were determined to be not expected to occur due to the developed condition of the BSA and resulting lack of suitable habitat to support them.

The majority of the special-status wildlife species evaluated in the wildlife inventory were determined to be not expected to occur in the BSA. The BSA lacks suitable habitat or is outside the geographic range of the majority of the special-status wildlife species documented in the wildlife inventory. The BSA primarily contains residential and commercial developments with associated paved areas, infrastructure, and areas landscaped with ornamental (non-native) vegetation. The majority of the species evaluated in the wildlife inventory require sufficient coverage of native vegetation for nesting and foraging. Additionally, there is a significant level of human activity, traffic, and traffic noise which may render the BSA less desirable for many special-status wildlife species to occupy. The wildlife species evaluated in the wildlife inventory and their respective status rankings are included in **Appendix C Special-Status Species Inventory and Occurrence Potential Determination**.

Impacts to special-status wildlife species resulting from the project are anticipated to be less than significant. No mitigation is proposed.

⁹ CNDDDB states that the exact location unknown. This record has been mapped by the CNDDDB as "in the vicinity of Fontana" and the location uncertainty is 2 miles.

Figure 4.4-3
CNDDb KNOWN OCCURRENCES WILDLIFE SPECIES



Migratory Birds

Migratory birds are protected by the Migratory Bird Treaty Act (MBTA), which renders it unlawful to take migratory birds, and their nests, eggs, and young. California Fish and Game Code makes it unlawful to take native birds, their nests, eggs, and young; California courts have held that take includes incidental take and is not limited to hunting and fishing and other activities that are specifically intended to kill protected fish and wildlife.

Trees within the BSA could provide suitable future or current bird nesting sites. If construction occurs during the breeding/nesting season (typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions), direct impacts could occur through loss (take) of nests, eggs, and young resulting from tree trimming and removal. Indirect impacts to migratory birds could occur from increased noise, vibration, and dust generated during construction. This could adversely affect the breeding behavior of some birds, and lead to the loss (take) of eggs and chicks, or nest abandonment. To maintain compliance with the MBTA and Fish and Game Code, and to avoid potential for take of migratory non-game breeding birds and of native birds, their nests, young, and eggs, **PDF BIO-1** would be implemented to minimize or avoid potential impacts. Implementation of **PDF BIO-1**, described below, would minimize or avoid significant impacts to breeding and nesting birds. Impacts would be less than significant, and mitigation is not required.

Project Design Features (PDFs)

PDF BIO-1: Pre-Construction Breeding Bird Survey

To maintain compliance with the MBTA and Fish and Game Code, and to minimize or avoid direct and indirect impacts or take of migratory non-game breeding birds, their nests, young, and eggs, the following measures will be implemented.

1. Project activities that will remove or disturb potential nest sites, such as open ground, trees, shrubs, grasses, or burrows, during the breeding season would be a potential significant impact if migratory non-game breeding birds are present. Project activities that will remove or disturb potential nest sites will be scheduled outside the breeding bird season to avoid potential direct impacts to migratory non-game breeding birds protected by the MBTA and Fish and Game Code. The breeding bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions. Removing all physical features that could potentially serve as nest sites will also help to prevent birds from nesting within the project site during the breeding season and during construction activities.
2. If project activities cannot be avoided during February 15 through September 15, a qualified biologist will conduct a pre-construction breeding bird survey for breeding birds and active nests or potential nesting sites within the limits of project disturbance. The survey will be conducted at least seven days prior to the onset of scheduled activities, such as mobilization and staging. It will end no more than three days prior to vegetation, substrate, and structure removal and/or disturbance.
3. If no breeding birds or active nests are observed during the pre-construction survey or they are observed and will not be impacted, project activities may begin and no further mitigation will be required.

4. If a breeding bird territory or an active bird nest is located during the pre-construction survey and will potentially be impacted, the site will be mapped on engineering drawings and a no activity buffer zone will be marked (fencing, stakes, flagging, orange snow fencing, etc.) a minimum of 100 feet in all directions or 500 feet in all directions for listed bird species and all raptors. The biologist will determine the appropriate buffer size based on the type of activities planned near the nest and the type of bird that created the nest. Some bird species are more tolerant than others of noise and activities occurring near their nest. This no-activity buffer zone will not be disturbed until a qualified biologist has determined that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by project activities. Periodic monitoring by a biologist will be performed to determine when nesting is complete. Once the nesting cycle has finished, project activities may begin within the buffer zone.
5. If listed bird species are observed within the project site during the pre-construction survey, the biologist will immediately map the area and notify the appropriate resource agency to determine suitable protection measures and/or mitigation measures and to determine if additional surveys or focused protocol surveys are necessary. Project activities may begin within the area only when concurrence is received from the appropriate resource agency.

Breeding birds or their active nests will not be disturbed, captured, handled or moved. Active nests cannot be removed or disturbed. However, nests may be removed or disturbed if determined inactive by a qualified biologist.

- b) **Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

No Impact

Land Cover Types

The BSA contains one land cover type, Developed/Ornamental, which is described below. This land cover type is not classified as a sensitive natural community in the CDFW *California Natural Community List* (CDFW, 2023b).

Developed/Ornamental:

Developed/ornamental land cover includes areas that often support man-made structures such as houses, sidewalks, buildings, parks, water tanks, flood control channels, transportation infrastructure (bridges and culverts), and ornamental landscaping, consisting of exotic, or non-native, plant species, that occurs in parks, gardens and yards. The BSA is comprised entirely of developed/ornamental land cover.

The BSA is fully developed and does not support riparian habitat or other sensitive natural communities (see **Figure 4.4-4**). Results of the literature review indicate that riparian habitat or other sensitive natural communities do not occur in the BSA. Construction of the project would not result in impacts to any riparian habitat, or sensitive natural communities identified in local, regional state, or federal plans, policies, or regulations. No impact would occur and no mitigation is proposed.

Fontana Civic Center Renovation

Legend

- Phase I Boundary (Annex)
- Phase II Boundary (City Hall)
- 500ft Biological Study Area (BSA)

Land Cover Type

- Developed/Ornamental

Key Map

0 75 150 Feet
0 20 40 Meters
Scale: 1:1,800

Land Cover Types

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Font: TopoGIS Pro 2020, Fontana, Civic Center, 1946-1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 255

- c) **Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

No Impact

Drainages, depressions, and other topographic features that would be conducive to wetlands formation were not observed within the BSA. The results of the literature study (USEPA, 2023a; USFWS, 2023c;) determined that the BSA does not contain wetlands and other waters of the U.S. or State, including drainages with a definable bed, bank, channel, or evidence of an ordinary high-water mark. Wetland hydrology, wetland soils, or wetland plants were not observed on the project site. It was determined that state or federal protected wetlands and other waters do not occur on the project site. No impact would occur and mitigation is not required.

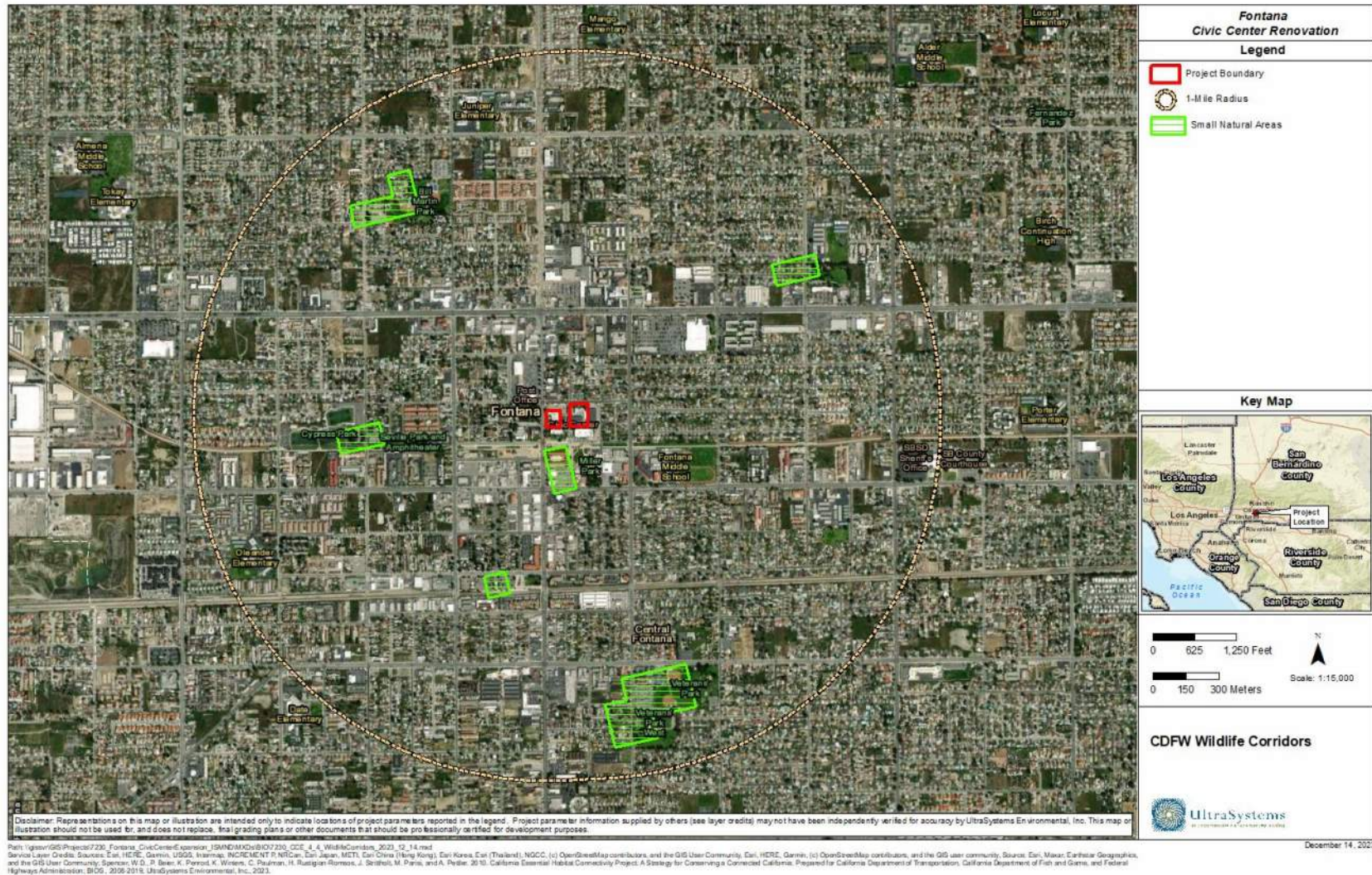
- d) **Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Less than Significant Impact

There is a CDFW Small Natural Area (Miller Park on Arrow Boulevard) approximately 550 feet south of the project. The project site does not overlap with CDFW Essential Connectivity Areas or Natural Landscape Blocks (CDFW, 2023a; see **Figure 4.4-5**). Access to the Small Natural Areas site near the project site is already heavily impeded by the presence of major roadways and developed areas, so project development would not further impede wildlife access to these areas.

Due to the urbanized state of the area, it is unlikely that mammals unacclimated to human activities or that require dense vegetative cover would utilize the BSA for passage. Species that are less restricted in movement pathway requirements require larger home range areas and dispersal distances; those that are adapted to urban areas (raccoon, skunk, coyote, birds) are likely to use the BSA as a wildlife movement corridor for hunting and foraging. Construction of the project may temporarily affect potential wildlife use of the project site during the construction phases; however, operation of the project would not significantly impact wildlife movement. The urban-adaptive species that already utilize the BSA for passage and foraging, as described above, would likely continue to utilize the BSA after completion of the project. Impacts to wildlife corridors are anticipated to be less than significant as a result of the project.

Figure 4.4-5
CDFW WILDLIFE CORRIDORS





❖ SECTION 4.4 – BIOLOGICAL RESOURCES ❖

Impacts to native wildlife nursery sites are not anticipated as a result of the project. Western yellow bat and western mastiff bat were determined to have a low potential to occur in the BSA, and bat maternity roosts were not observed during the field survey. The BSA is developed and contains paved and landscaped areas. The majority of the BSA is covered with impermeable surfaces and does not provide suitable habitat to support native wildlife nursery sites, with the exception of breeding birds. Impacts to breeding birds are previously discussed in Section 4.4 a). Impacts to native wildlife nursery sites resulting from the project are not anticipated to occur. No mitigation is proposed.

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Less Than Significant

Fontana Code of Ordinances, Chapter 28, Article III, Section 28-64 (City Tree Ordinance; City of Fontana, 1993) requires that *Except as provided in section 28-65, no person shall remove or cause the removal of any heritage, significant or specimen tree unless a tree removal permit is first obtained.* One of the exemptions in Section 28-65 states that *No permit or replacement shall be required for... Removal of trees which are determined to be diseased and/or dead by a certified arborist and approved by the staff (§ 28-65[4]).*

As designed, the project would remove only those trees that have been determined to be diseased by a certified arborist, as approved by City staff. The project would not conflict with local policies and ordinances protecting biological resources such as the City Tree Ordinance. Impacts would be less than significant, and mitigation is not required.

- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

No Impact

The project site is not located within an area addressed by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (CDFW, 2023a), and therefore no conflicts would occur. No mitigation is required.

4.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Information from UltraSystems' Draft Phase I Cultural Resources Inventory report, dated December 14, 2023 (see **Appendix D**), prepared for the Fontana Civic Center Renovation Project, City of Fontana has been included within this section.

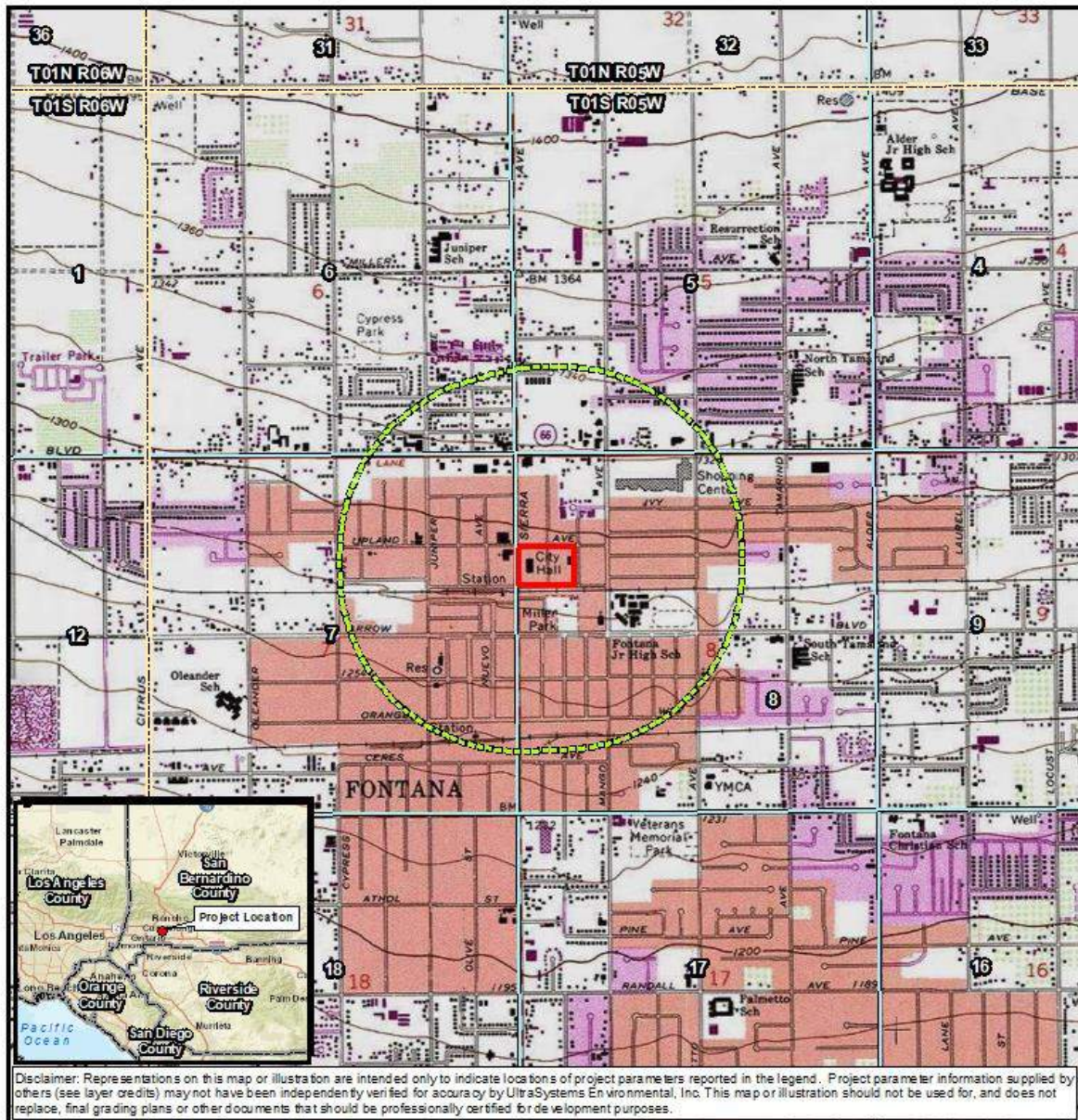
4.5.1 METHODOLOGY

A cultural resources records search was conducted on October 3, 2023 for the Fontana Civic Center Renovation Project site (**Figure 4.5-1**). The study included a California Historic Resources Inventory System (CHRIS) records and literature search at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton for cultural resources in the project boundary and the 0.5-mile radius around the site. Additionally, a request was made to the Native American Heritage Commission (NAHC) to conduct a search of their Sacred Lands File (SLF) for potential traditional cultural properties as well as to provide a list of local Native American tribal organizations to contact. The NAHC request was made on September 28, 2023. The NAHC's response received November 21, 2023 indicated the SLF search was negative. Letters were sent the same day to the 41 individual contacts representing 21 tribes noted by the NAHC, requesting a reply if they have knowledge of cultural resources in the area that they wished to share and asking if they had any questions or concerns regarding the project, with follow up calls made December 6, 2023. A pedestrian field survey of the project site was conducted on November 10, 2023.

4.5.2 EXISTING CONDITIONS

Based on the cultural resources records search, it was determined that no historic cultural resources or prehistoric archeological sites have been previously recorded within the project site boundary. Within the 0.5-mile buffer zone, there are 13 recorded historic era cultural resources. One prior survey included the project parcel (SB-1065640) which, while indicated on the SCCIC's *Fontana, Calif. 7.5' Project Locations map*, was not available at the SCCIC, and a copy could not be obtained (see **Section 4.1** and **Tables 4.1-1** and **Table 4.1-2** in **Appendix D**). The pedestrian field survey undertaken for this project did not observe any indications of human activities dating to the prehistoric or historic periods (i.e., 50 years or older). (see **Section 4.3** in **Appendix D**).

**Figure 4.5-1
TOPOGRAPHIC MAP**



Path: \\gis\GIS\Projects\7230_Fontana_CivicCenterExpansion_ISMND\MXD\7230_CDE_4_5_Topo_2023_12_14.mxd
December 14, 2023
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community. Sources: Esri, HERE, Garmin, Intermap, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community. Copyright © 2013 National Geographic Society, i-cubed, CA Dept. of Conservation, May 2019; UltraSystems Environmental, Inc., 2023.

Scale: 1:24,000



0 1,000 2,000 Feet

0 250 500 Meters

Legend

- Project Location
- Half-Mile Radius
- Township Boundary
- Section Boundary

**Fontana
Civic Center Renovation**

Topographic Map
USGS Quadrangle: Fontana
Township: 1S Range: 5W
Section: 8



4.5.3 IMPACT ANALYSIS

- a) **Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?**

No Impact

A historical resource is defined in § 15064.5(a)(3) of the *CEQA Guidelines* as any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Historical resources are further defined as: being associated with significant events, important persons, or distinctive characteristics of a type, period or method of construction; representing the work of an important creative individual; or possessing high artistic values. Resources listed in or determined eligible for the California Register, included in a local register, or identified as significant in a historic resource survey are also considered as historical resources under CEQA.

Similarly, the National Register criteria (contained in Code of Federal Regulations Title 36 § 60.4) are used to evaluate resources when complying with Section 106 of the National Historic Preservation Act. Specifically, the National Register criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (a) are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or (d) that have yielded or may be likely to yield, information important to history or prehistory.

A substantial adverse change in the significance of an historical resource, as a result of a project or development, is considered a significant impact on the environment. Substantial adverse change is defined as physical demolition, relocation, or alteration of a resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Direct impacts are those that cause substantial adverse physical change to a historic property. Indirect impacts are those that cause substantial adverse change to the immediate surroundings of a historic property, such that the significance of a historical resource would be materially impaired.

Based on the SCCIC cultural resources records search, it was determined that there are no historic cultural resources previously recorded within the project site boundary. Within the 0.5-mile buffer zone, there have been 13 historic era resources recorded. **Table 4.1-1** in **Appendix D** summarizes these resources. There are two historic-era resources located adjacent to the Civic Center project site. These are the Fontana Woman's Club House at 16880 Seville Avenue, and the Fontana Mercantile Company located at the corner of Sierra Avenue and Spring Street, both across Sierra Avenue to the west of the Civic Center, and both identified as a Point of Historic Interest. The Woman's Club (P-36-15375) building was built in 1924. It was designed by Hugh Kirk, a local Fontana architect, in the Spanish Mission style. It was still in use as the Woman's Club when the form was prepared in 1982. The Fontana Mercantile Company (P-36-31935) is described as the "oldest business structure in the townsite of Fontana." Constructed in 1921 by the owner, H.C. Spring, it was used as a community meeting place, chamber of commerce office, U.S. post office, and as the W.P.A. headquarter in the 1930s. The building was remodeled in 1937.

John Charles Anicic, Jr., as Researcher for the Fontana Historical Society, recorded a number of historic buildings throughout downtown Fontana in 1982 which have been listed as Points of Historic Interest by the California Department of Parks and Recreation (CDPR). Within the 0.5-mile buffer of the project site, these included the Sinclair Commercial Building (P-36-15285), the A.B. Miller Community Park and Plunge (P-36-15287), which is located directly south of the Civic Center complex on the south side of Sevilla Avenue but is not visible from the project site, the Fontana Community Church Complex (P-36-15377), the Fontana Company Tract buildings which included the local library and chamber of commerce (P-36-15399), the Fontana Catholic Church (St. Boniface) (P-36-319345); and the American Legion Hall, formerly the Boy Scout Lodge (P-36-31936), which was not accepted as an Historic Point of Interest by the CDPR. These buildings are located along Sierra Avenue and Arrow Boulevard to the west.

Other historic sites within the 0.5-mile zone of the project include historic State Route 66 (CA-SBR-2910) which is now Foothill Boulevard, 0.25 mile to the north of the project site; the stretch that passes through Fontana was recorded as P-36-2910. The Fontana Junior High School, located a block to the southeast of the project site, was recorded in 1988 as P-36-0203377. There was also an isolated historic artifact consisting of a glass electrical insulator found along Foothill Boulevard/Route 66 (P-37-29865). These historic-era structures are not visible from the project site.

A search of the Built Environmental Resource Directory (BERD) provided by the Office of Historic Preservation (2022) was conducted for this project. It was determined that the Project boundary does not have any resources present that have been evaluated under the National Register of Historic Places. The 0.5-mile radius has 61 resources noted in the BERD, 58 of which have been determined ineligible for National Register by consensus through the Section 106 process but not been evaluated for the California Register or local listing (6Y) and three have been designated as a State Point of Historical Interest but do not meet the California Register criteria and have not been evaluated for the National Register (7P). The list of resources can be found on **Table 4.1 1** in **Appendix D**. Proposed project development would not adversely impact historical resources.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant Impact with Mitigation Incorporated

An archaeological resource is defined in § 15064.5(c) of the CEQA Guidelines as a site, area or place determined to be historically significant as defined in § 15064(a) of the CEQA Guidelines, or as a unique archaeological resource defined in § 21083.2 of the Public Resources Code as an artifact, object, or site that contains information needed to answer important scientific research questions of public interest or that has a special and particular quality such as being the oldest or best example of its type, or that is directly associated with a scientifically-recognized important prehistoric or historic event or person.

The past apparent use of the project site for agriculture suggests that ground on the project site has been disturbed, with the native surface soil remaining. The cultural resources investigation conducted by UltraSystems included a CHRIS records search of the project site and buffer zone, a search of the SLF by the NAHC, and a pedestrian field survey. The results of these investigations suggest that a low potential for undisturbed unique archeological resources exists on the project site.

Based on the SCCIC cultural resources records search, it was determined that there are no prehistoric or historic cultural resources previously recorded within the project site boundary. Within the 0.5-mile buffer zone, there have been 13 historic era resources recorded. **Table 4.1-1** in **Appendix D** summarizes these resources.

There have been 14 previous cultural resource studies within the 0.5-mile buffer of the project (**Table 4.1-2** in **Appendix D** of this IS/MND). One survey is located inside the project area (SB-1065640). The survey, while indicated on the SCCIC's *Fontana, Calif. 7.5'* Project Locations map, was not available at the SCCIC and a copy could not be obtained (Michelle Galaz, personal communication; October 3, 2023). Therefore, the extent and nature of the study is unknown. (See **Section 4.1** and **Table 4.1-2** in **Appendix D** of this IS/MND.)

A NAHC SLF search was requested on September 28, 2023. The NAHC's response November 21, 2023 indicated the SLF search was negative. Letters were sent the same day to the 41 individual contacts representing 21 tribes noted by the NAHC, requesting a reply if they have knowledge of cultural resources in the area that they wished to share and asking if they had any questions or concerns regarding the project, with follow up calls to be made 30 days after these letters were sent. These tribes included:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Gabrieleno Band of Mission Indians - Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino/Tongva Nation
- Gabrielino Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe
- Los Coyotes Band of Cahuilla and Cupeno Indians
- Morongo Band of Mission Indians
- Pala Band of Mission Indians
- Pechanga Band of Indians
- Quechan Tribe of the Fort Yuma Reservation
- Ramona Band of Cahuilla
- Rincon Band of Luiseno Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Serrano Nation of Mission Indians
- Soboba Band of Luiseño Indians
- Torres-Martinez Desert Cahuilla Indians

Nine email responses were received. Ana Rios, Administrative Assistant and Geramy Martin, Tribal Secretary for the Augustine Band of Cahuilla Indians responded by email on November 22, 2023 and November 30, 2023 indicated that the tribe is unaware of specific cultural resources that may be affected, but in the event any cultural resources are discovered during development to contact the tribe. Lorrie Gregory, Cultural Resources Coordinator for the Cahuilla Band of Indians indicated that the tribe is unaware of any cultural resources in the project vicinity, but that since the project area is within the Cahuilla traditional land use, they request any cultural materials for review; Ms. Doukakis responded indicating that the City of Fontana will engage in AB 52 consultation for this project and the tribe can request a copy of the cultural resources report at that time. Brandy Salas, Admin Specialist for the Gabrieleno Band of Mission Indians – Kizh Nation asked for the lead agencies contact information; this was provided November 22, 2023. Dorothy Willis with the Los Coyotes Band of Cahuilla and Cupeno Indians indicated that the tribe would defer to local tribes due to the project location. Deneen Pelton, Cultural Resources Department Coordinator for the Ramona Band of Cahuilla Indians indicated that the project location is not within the Band's Area of Historic Interest and they recommend UEI contact a Tribe that is closer to the project. Eunice Ambriz, Cultural Resources Technician for the San Manuel Band of Mission Indians indicated that the proposed project

area is not sensitive for cultural resources but it is located within Serrano Ancestral Territory and the tribe wishes to engage in AB 52 consultation. Cheryl Madrigal Cultural Resources Manager / Tribal Historic Preservation Officer for the Rincon Band of Luiseño Indians indicated that the tribe will review our request and get back to us. Gary Resvaloso, Most Likely Descendent for the Torres-Martinez Desert Cahuilla Indians responded asking Mr. Becerra to follow up with us. Mary Belardo, Cultural Committee Vice-Chair of the Torres-Martinez Desert Cahuilla Indians responded indicating that she was forwarding our letter to Mr. Becerra.

Following up on letter and email contacts, telephone calls were conducted by Mrs. Doukakis on December 6, 2023, to complete the outreach process. These calls were to the 28 tribal contacts (representing 16 tribes) who had not already responded. Fourteen telephone calls were placed with no answer and messages were left describing the project and requesting a response. These were to Doug Welmas, Chairperson of the Cabazon Band of Mission Indians; Anthony Morales, Chairperson of the Gabrieleno / Tongva San Gabriel Band of Mission Indians; Sandonne Goad, Chairperson of the Gabrieleno-Tongva Nation; Christina Conley, Cultural Resources Administrator for the Gabrieleno Tongva Indians of California Tribal Council; Sam Dunlap, Cultural Resource Director of the Gabrieleno- Tongva Tribe; Lovina Redner, Tribal Chair of the Santa Rosa Band of Mission Indians; John Gomez, Environmental Coordinator of the Ramona Band of Cahuilla; Jordan Joaquin, President, Quechan Tribal Council for the Quechan Tribe of the Fort Yuma Reservation; Gary Resvaloso, Most Likely Descendent for the Torres-Martinez Desert Cahuilla Indians; Ann Brierty, Tribal Historic Preservation Officer of the Morongo Band of Mission Indians; Shasta Gaughen, THPO of the Pala Band of Mission Indians; Alexis Wallick, Assistant Tribal Historic Preservation Officer of the Pala Band of Mission Indians; Tuba Ebru Ozdul, Pechanga Cultural Analyst of the Pechanga Band of Indians; and to Wayne Walker, Co-Chairperson of the Serrano Nation of Mission Indians. In a call to Jill McCormick, Historic Preservation Officer for the Quechan Tribe of the Fort Yuma Reservation there was no answer and no ability to leave a message. In a call to Steve Bodmer, General Counsel for the Pechanga Band of Indians the tribal receptionist indicated that Mr. Bodmer is unavailable and a message was left with the receptionist. In a call to Charles Alvarez, Chairperson for the Gabrieleno- Tongva Tribe the phone line was disconnected so no message could be left. In a call to Robert Martin, Chairperson for the Morongo Band of Mission Indians the call would not go through and no message could be left. In a call to Alesia Reed, Cultural Committee Chairwoman for the Torres-Martinez Desert Cahuilla Indians (TMDCI) the tribal receptionist stated the Chairwoman does not work in the office and the way to contact her is through email, which had been done. In a call to Thomas Torte, Chairperson for the TMDCI the tribal receptionist indicated that the Chairperson was away. In a call to Abraham Becerra, Cultural Coordinator for the TMDCI the tribal receptionist forwarded our call to Mr. Becerra's phone line. The line rang with no ability to leave a message. In a call back to the tribal receptionist, she checked and indicated that Mr. Becerra was not in the office. In a call to Mary Belardo, Cultural Committee Vice-Chair of the TMDCI the receptionist indicated that the Vice -Chair was not in the office.

During the call to Joseph Ontiveros, Cultural Resource Department for the Soboba Band of Luiseño Indians, Mr Ontiveros indicated that the tribe would defer to San Manuel. Patricia Garcia-Plotkin, Director of Historic Preservation of the Agua Caliente Band of Cahuilla Indians indicated that the tribe has no concerns with the project. Christina Conley, Cultural Resources Administrator for the Gabrieleno Tongva Indians of California Tribal Council returned the phone call and indicated that the tribe would defer comments to the Gabrieleno / Tongva Nation, Sandonne Goad's group. Manfred Scott, Acting Chairman – Kw'ts'an Cultural Committee for the Quechan Tribe of the Fort Yuma Reservation indicated that the tribe has no concern or comment on the project and defers to closer tribes. Mark Cochrane, Co- Chairperson for the Serrano Nation of Mission Indians indicated that the

tribe would like to be notified if resources were found during ground disturbance activities. Denise Turner Walsh, Attorney General for the Rincon Band of Luiseño Indians indicated that she would contact the Tribal Historic Preservation Officer and get back to us. Ms. Doukakis was copied on an email from Ms. Walsh on the same day to Ms. Madrigal describing UEI's phone call and asked her to advise. An email response was received the same day from Deneen Pelton, Cultural Resources Department Coordinator indicating that the project location is not within the Band's Area of Historic Interest and they recommend UEI contact a Tribe that is closer to the project. Gary Resvaloso, Most Likely Descendent for the Torres-Martinez Desert Cahuilla Indians returned our call on the same day indicating that the Cultural Committee meets on Thursday and we should receive a response after that. He also indicated that Fontana is outside of the prehistoric settlement patterns of the tribe and they may defer to San Manuel or Soboba tribes. (See **Appendix D, Attachment C.**) There have been no further responses from these tribes to date.

A pedestrian field survey of the project site was conducted on November 10, 2023. The survey consisted of walking over, visually inspecting, and photographing the exposed ground surface of the project site using standard archaeological procedures and techniques. Survey of grounds surrounding the northwest annex (which includes the city council chambers) observed the several landscape beds on the west (Sierra Avenue), north (Upland Avenue) and west (facing the interior parking spaces) sides of the building, as well as the grass lawn on the west side. Several of the planter beds on the west and northwest side were raised and so would have contained non-native fill soil. The grass lawn was well maintained and no soil was visible. The beds contained both ornamental annual flowering plants and shrubs; most of the ground surface was covered with heavy mulch and, in some places, with decorative rocks. As a result, there was only approximately 25 percent ground surface visibility.

Survey of grounds along Upland Avenue bordering the parking lot and surrounding the northeast annex (the local fire authority offices) observed the several landscape beds along Upland Avenue and the driveways into the parking lots, along the front of the annex and parking area to the east, as well as the large grass lawn on the north side of the annex and a smaller lawn on the south side. All of the planter beds here were level with the street and native soil was visible within them. The grass lawn was well maintained and no soil was visible. The beds contained a variety of ornamental shrubs; much of the ground surface was covered with heavy mulch. As a result, there was only approximately 25 percent surface visibility.

The remaining landscaped grounds surveyed consisted of small landscape beds in the parking area along the border between parking spaces and driveways. There are 16 of these, all containing ornamental shrubs. All of the planter beds here were level with the street and native soil was visible within them, consisting of sandy soil with small and medium size pebbles consistent with the Qyf1 Lytle Creek alluvium designation for the surface geology throughout much of Fontana. The beds contained a variety of ornamental shrubs; some of the ground surface was covered with heavy mulch. As a result, there was approximately 50 percent surface visibility.

During the survey, the project site was carefully inspected for any indication of human activities dating to the prehistoric or historic periods (i.e., 50 years or older). The result of the pedestrian survey was negative for prehistoric cultural resources, features or isolates in the parcel. (See **Section 4.3 in Appendix D**)

The project site as a whole appears to be disturbed due to development of the project site and surrounding area dating back to at least the 1920s. Therefore it is not recommended that an archaeological monitor be present during ground disturbing activities throughout the project site.

However, if prehistoric and/or historic items are observed during subsurface activities, work should be stopped in that area and a qualified archaeologist and Native American monitor be retained to assess the finding(s) and retrieve the material. This recommendation is subject to change following responses from local tribes to the cultural resources study outreach.

However, construction related subsurface disturbance such as grading and trenching activities could cause new subsurface disturbance and may result in the unanticipated discovery of prehistoric and/or historic archeological resources. Thus, mitigation measure **MM CUL-1** is recommended.

Mitigation Measure

MM CUL-1 If archaeological resources are discovered during construction activities, the contractor shall halt construction activities in the immediate area and notify the City of Fontana. The project applicant shall retain an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology, who will be notified and afforded the necessary time to recover, analyze, and curate the find(s). The qualified archaeologist shall recommend the extent of archaeological monitoring necessary to ensure the protection of any other resources that may be in the area. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A-L) form and filed with the South Central Coastal Information Center. Construction activities may continue on other parts of the project site while evaluation and treatment of prehistoric archaeological resources takes place.

Level of Significance After Mitigation

With implementation of mitigation measure **MM CUL-1** above, the project would result in less than significant impacts to archeological resources.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact with Mitigation Incorporated

As previously discussed (in **Section 4.5.b**) above, the project would be built on disturbed land that has been previously graded. No human remains have been previously identified or recorded onsite. The project proposes demolition and grading activities for the installation of infrastructure including utility improvements and the construction of adding parking garages. Grading would involve new subsurface disturbance and could result in the unanticipated discovery of unknown human remains, including those interred outside of formal cemeteries. In the unlikely event of an unexpected discovery, implementation of mitigation measure **MM CUL-2** would ensure that impacts related to the accidental discovery of human remains would be less than significant.

California Health and Safety Code § 7050.5 specifies the procedures to follow during the unlikely discovery of human remains. CEQA § 15064.5 describes determining the significance of impacts on archeological and historical resources. California Public Resources Code § 5097.98 stipulates the notification process during the discovery of Native American human remains, descendants, disposition of human remains, and associated grave goods.

Mitigation Measure

MM CUL-2 If human remains are encountered during excavations associated with this project, all work shall stop within a 30-foot radius of the discovery and the San Bernardino County Coroner will be notified (§ 5097.98 of the Public Resources Code). The Coroner shall determine whether the remains are recent human origin or older Native American ancestry. If the coroner, with the aid of the supervising archaeologist, determines that the remains are prehistoric, they shall contact the NAHC. The NAHC shall be responsible for designating the Most Likely Descendant (MLD). The MLD (either an individual or sometimes a committee) shall be responsible for the ultimate disposition of the remains, as required by § 7050.5 of the California Health and Safety Code. The MLD shall make recommendations within 24 hours of their notification by the NAHC. These recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials (§ 7050.5 of the Health and Safety Code).

Level of Significance After Mitigation

With adherence to applicable codes and regulations protecting cultural resources and with implementation of mitigation measure **MM CUL-2** above, the proposed project would result in less than significant impacts to human remains.

4.6 ENERGY

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

- a) **Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Less than Significant Impact

Impact Analysis

CEQA Guidelines § 15126.2(d)) states that “uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement that provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.” Therefore, the purpose of this analysis is to identify significant irreversible environmental effects of project implementation that cannot be avoided.

Electricity

Electricity will be supplied through existing lines to the project site by Southern California Edison Company (SCE), which provides electricity to the City of Fontana (Stantec, 2018a). Lighting used during project construction would comply with California Code of Regulations (CCR) Title 24 standards/requirements (such as wattage limitations). This compliance would ensure that electricity use during project construction would not result in the wasteful, inefficient, or unnecessary use of energy. Lighting would be used in compliance with applicable City of Fontana Municipal Code requirements to create enough light for safety.

Construction Use

During project construction, energy would be consumed in the form of electricity associated with the conveyance and treatment of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities needing electrical power.

Due to the fact that electricity usage associated with lighting and construction equipment that utilizes electricity is not easily quantifiable, the estimated electricity usage during project construction is speculative. The amount of electricity used during construction would be minimal, as demand would primarily stem from use of electrically powered hand tools. The electricity used for construction activities would be temporary and minimal; therefore, project construction would not result in wasteful, inefficient, or unnecessary consumption of electricity. Therefore, impacts would be less than significant.

Operational Use

Project operation would require electricity for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Additionally, the supply, conveyance, treatment, and distribution of water used by the project would indirectly result in electricity usage. The California Emissions Estimator Model (CalEEMod), as part of the air quality and greenhouse gas emissions analyses (refer to **Section 4.3** and **Section 4.8**), was used to estimate the electricity demand for the proposed project, which is shown in **Table 4.6-1**

Natural Gas

Construction Use

Southern California Gas Company (SoCalGas) will provide natural gas for the proposed project (City of Fontana Utilities, 2023). Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Any minor amounts of natural gas that may be consumed as a result of project construction would be temporary and negligible and would not have an adverse effect; therefore, construction would not result in wasteful, inefficient, or unnecessary consumption of natural gas. Therefore, impacts would be less than significant.

Operational Use

Natural gas consumption during operation would be required for various purposes, including building heating and cooling. The California Emissions Estimator Model (CalEEMod), as part of the air quality and greenhouse gas emissions analyses (refer to **Section 4.3** and **Section 4.8**), was used to estimate natural gas demand for the proposed project, which is presented in **Table 4.6-1**.

Table 4.6-1
ESTIMATED PROJECT AND EXISTING BUILDING OPERATIONAL ENERGY USE

Energy Type	Units	Phase I & Phase II		Existing Buildings		Net Change	
		Value	Per Capita ^a	Value	Per Capita ^a	Value	Per Capita ^a
Onroad Motor Vehicle Travel (Fuel) ^b	Gallons gasoline/year	316,994	1,454	109,885	709	207,109	745
	Gallons diesel/year	49,326	226	15,945	103	33,381	123
Natural Gas Use	MBTU per year	1,646	8	1,234	8	412	0
Electricity Use	Kilowatt-hours per year	1,047,114	4,803	785,335	5067	261,779	-263

^a Based upon estimate of 218 employees; Existing employees were interpolated using the information provided by the client as 105 employees (Phase I-50 employees and Phase II-105 employees). see **Table 3.3-1**.

Energy Type	Units	Phase I & Phase II		Existing Buildings		Net Change	
		Value	Per Capita ^a	Value	Per Capita ^a	Value	Per Capita ^a

^b On-road Motor Vehicle Fuel Consumption calculated by UltraSystems using EMFAC2021(v1.0.2) emissions inventory web platform tool (ARB, 2022) and CalEEMod (Version 2022.1.1.20) (CAPCOA, 2023); see **Appendix B**.
Electricity Use calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2023).

Petroleum

Construction Use

Petroleum-based fuel consumed by construction equipment would be the primary energy resource expended over the course of construction. Transportation of construction materials and construction workers would also result in petroleum consumption. Heavy-duty construction equipment, vendor trucks, and haul trucks would use diesel fuel. Construction workers would likely travel to and from the project area in gasoline-powered vehicles. Phase I construction for the proposed project is anticipated to take 13 months, from December 2023 to January 2025, while Phase II construction would take 24 months, from January 2025 to December 2026. Because of the short-term nature of construction and relatively small scale of the project, the project's petroleum consumption would be negligible when compared to California's daily total use of approximately 1.8 million barrels of petroleum.

During project construction, trucks and construction equipment would be required to comply with the ARB's anti-idling regulations. ARB's In-Use Off-Road Diesel Fueled Fleets regulation would also apply (ARB, 2016). Vehicles driven to or from the project site (delivery trucks, construction employee vehicles, etc.) are subject to fuel efficiency standards established by the federal government. Therefore, project construction activities regarding fuel use would not result in wasteful, inefficient, or unnecessary consumption, and impacts would be less than significant.

Operational Use

During operations, the majority of fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by employees and visitors to the project site. Estimated annual project operation natural gas and electricity usage, which was estimated by CalEEMod, is shown in **Table 4.6-1**, which also shows annual gasoline and diesel fuel use,

The project would comply with all applicable regulations and codes that require achievement of various levels of energy efficiency in building operation. These include (1) the 2022 California Energy Efficiency Standards for Nonresidential Buildings (California Code of Regulations Title 24, Part 6), and (2) the 2022 California Green Building Standards Code (CalGreen; California Code of Regulations Title 24 Part 11).

As shown in **Table 4.6-1**, the net change in the project would consume approximately 240,490 gallons of petroleum-based fuel per year during operation. In comparison, approximately 13.82 billion gallons of finished gasoline were consumed by Californians in 2021 (CEC, 2022b). The anticipated increase in consumption associated with one year of project operation is 0.0017 percent of the statewide use. Although implementation of the project would result in an increase in petroleum use during operation, over time, vehicles would use less petroleum due to advances in fuel economy.

The net change between the existing buildings and proposed project (Phase I and Phase II) would consume approximately 261,779 kilowatt-hours (kWh) of electricity per year and 412 million British thermal units (MMBTU) of natural gas per year. By comparison, in 2022, the latest year for which data are available, approximately 10,327 gigawatt hours of electricity were consumed by SCE non-residential sector in San Bernardino County (CEC, 2023a). SoCalGas supplied approximately 29,479,231 million British thermal units (MMBtu) in 2022 for the non-residential sector in that same year (CEC, 2023b). The increase in electricity and natural gas demand at the project site would be negligible relative to the use in SCE's and SoCalGas's service areas.

Continued use of energy resources is consistent with the anticipated growth within the city and the general vicinity and would not result in energy consumption that would require a significant increase in energy production for the energy provider. Based on the information provided above, the proposed project would have a less than significant impact regarding wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

As shown in **Table 4.6-1**, the net project's operational energy was calculated by subtracting the operational energy of existing buildings from the combined operational energy of Phase I and Phase II. On-road motor vehicle miles traveled (VMT) for Phase I and Phase II were calculated using the ARB's EMFAC2021 model for 2025 and 2027, respectively. On-road motor vehicle travel for the existing buildings was calculated by using EMFAC2021 for 2023.

- b) **Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

Less than Significant Impact

Title 24 Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulations) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Compliance with Title 24 will result in a decrease in GHG emissions.

The Title 24 standards are updated on a three-year schedule, with the most current 2022 standards adopted on August 11, 2021. In December 2021, the 2022 standards were approved by the California Building Standards Commission for inclusion into the California Building Standards Code. The Building Energy Efficiency Standards (Energy Code) apply to newly constructed buildings, additions, and alterations. They are a vital pillar of California's climate action plan. The 2022 Energy Code will produce benefits to support the state's public health, climate, and clean energy goals. The 2022 Energy Code encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings with permit applications applied for on or after January 1, 2023 must comply with the 2022 Energy Code. Public Resources Code §§ 25402 subdivisions (a)-(b) and § 25402.1 emphasize the importance of building design and construction flexibility by requiring the California Energy Commission (CEC) to establish performance standards, in the form of an "energy budget" in terms of the energy consumption per square foot of floor space (CEC, 2022b).

The provisions of Title 24, Part 6 apply to all buildings for which an application for a building permit or renewal of an existing permit is required by law. They regulate design and construction of the building envelope, space-conditioning and water-heating systems, indoor and outdoor lighting systems of buildings, and signs located either indoors or outdoors. Title 24, Part 6 specifies mandatory, prescriptive and performance measures, all designed to optimize energy use in buildings and decrease overall consumption of energy to construct and operate residential and nonresidential buildings. Mandatory measures establish requirements for manufacturing, construction, and installation of certain systems, equipment, and building components that are installed in buildings.

Title 24 California Green Building Standards Code

The California Green Building Standards Code (Title 24, Part 11 code) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics.

The proposed project would be designed with energy-efficient features, including insulated and glazed windows and low-E coating on windows, and will be built in compliance with the California Green Building Standards (CAL Green) Code (California Code of Regulations, Title 24, Part 11).

City of Fontana General Plan

Chapter 12, *Sustainability and Resilience*, of the City of Fontana General Plan focuses on sustainability and resilience in resource efficiency and planning for climate change. It includes policies for new development promoting energy-efficient development in Fontana, meeting state energy efficiency goals for new construction, promoting green building through guidelines, awards and nonfinancial incentives, and continuing to promote and implement best practices to conserve water (Stantec, et al., 2018b).

The proposed project design would comply with the following:

- Chapter 25 – Streets, Sidewalks and other Public Ways, City of Fontana Code of Ordinances (Fontana, 2023c).
- City of Fontana Standards Design Guidelines.
- San Bernardino County Department of Public Works and Flood Control Standards and Specifications.
- Caltrans Standard Plans and Specifications.
- Standard Plans and Specifications for Public Works Construction.

The proposed project would not cause inefficient, wasteful, and unnecessary energy consumption, and no adverse impact would occur. As one measure of energy conservation, the city participates in the California Energy Commission’s Gridscape Solutions grant. The grant demonstrates the business case for advanced micro-grids in support of California’s energy and Greenhouse Gases (GHG) policies to aid in the reduction of energy consumption and GHG emissions to meet the goals of AB 32 (Gridscape, 2021). The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce GHG emissions, including Title 24, AB 32, and SB 32. Therefore, the project would not conflict with any state or local plan for renewable energy or energy efficiency and impacts would be less than significant.

4.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

This section is based on the following technical report and records search:

- Geotechnical Evaluation for the City Hall Renovation Project, Assessor's Parcel Numbers (APNs): 019-203-123-0000, 019-203-124-0000, 019-203-126-0000, 8353 Sierra Avenue,

City of Fontana, San Bernardino County, California 92335. Prepared by Ninyo and Moore Geotechnical and Environmental Science Consultants (Ninyo and Moore). May 25, 2023. A complete copy of this report (Ninyo and Moore, 2023) is included as **Appendix E1** to this IS/MND.

- Paleontological Records Search for the City Hall Renovation Project in Fontana, San Bernardino County. Prepared by Dr. Brittany Stoneburg, Western Science Center, dated October 31, 2023. A complete copy of this report is included as **Appendix E** to this IS/MND.
- a) **Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Less than Significant Impact

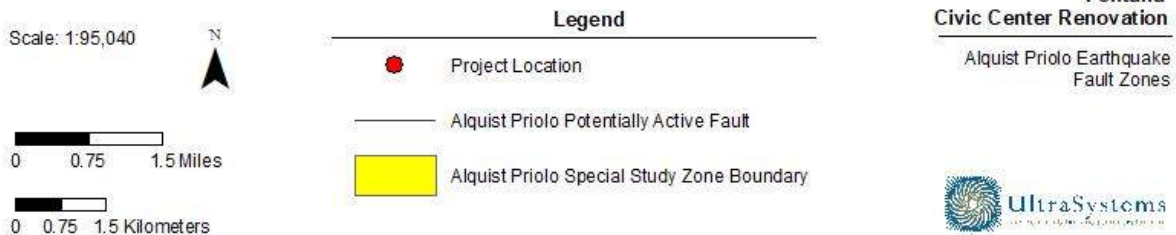
The Alquist-Priolo Zones (AP Zones) Special Studies Act defines active faults as those that have experienced surface displacement or movement during the last 11,000 years. As shown in **Figure 4.7-1**, the project site is not in an AP Zone. The nearest mapped AP Zones are the Cucamonga and San Jacinto Faults, which are located approximately 5.0 and 5.4 miles northwest and northeast of the site, respectively (CGS, 2022). No known active or potentially active faults transect the site. The potential for surface fault rupture at the site is considered low (Ninyo and Moore, 2023; pp. 5-6). Project development would not directly or indirectly cause potential substantial impacts, including the risk of loss, injury, or death involving surface rupture of a known active fault, and impacts would be less than significant.

Figure 4.7-1
ALQUIST PRIOLO FAULT ZONES



Path: \\gis\GIS\Projects\7230_Fontana_CivicCenterExpansion_ISMND\MXD\7230_Fontana_CCE_4_7_Alquist_Priolo_2023_12_14.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Seismic Hazards Program, California Geological Survey, California Department of Conservation, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, CA Dept. of Conservation, 2017; UltraSystems Environmental, Inc., 2023

December 14, 2023



ii) Strong seismic ground shaking?

Less than Significant Impact

The proximity of the site to active faults capable of producing a maximum moment magnitude of 6.0 or more indicated that the project area has a high potential for experiencing strong ground motion (Ninyo & Moore 2023, p. 6). As shown in **Figure 4.7-1** and **4.7-2**, the project is located within a seismically active region of Southern California. All structures in the region are susceptible to collapse, buckling of walls, and damage to foundations from strong seismic ground shaking. The nearest mapped active fault to the site is the unnamed fault near Fontana, which is approximately 0.9 mile from the project site. Additionally, the Cucamonga and San Jacinto Faults are located approximately 5.0 and 5.4 miles northwest and northeast of the site, respectively (USGS, 2018; see **Figure 4.7-2**). Structures for human occupancy must be designed to meet or exceed 2022 California Building Code (CBC) standards for earthquake resistance. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground motion with a specified probability of occurring at the site.

The Geotechnical Evaluation of the project site (Ninyo & Moore, 2023; see **Appendix F** of this document) provides recommended geotechnical criteria regarding the design and construction of the proposed site improvements (Ninyo & Moore, 2023; p. 9).

With implementation of the recommendations provided in the Geotechnical Evaluation, adherence to project specifications, and requirements of applicable agencies, the project would not directly or indirectly cause potential substantial impacts, including the risk of loss, injury, or death involving strong seismic shaking. Impacts would be less than significant. Mitigation is not required.

iii) Seismic-related ground failure, including liquefaction?

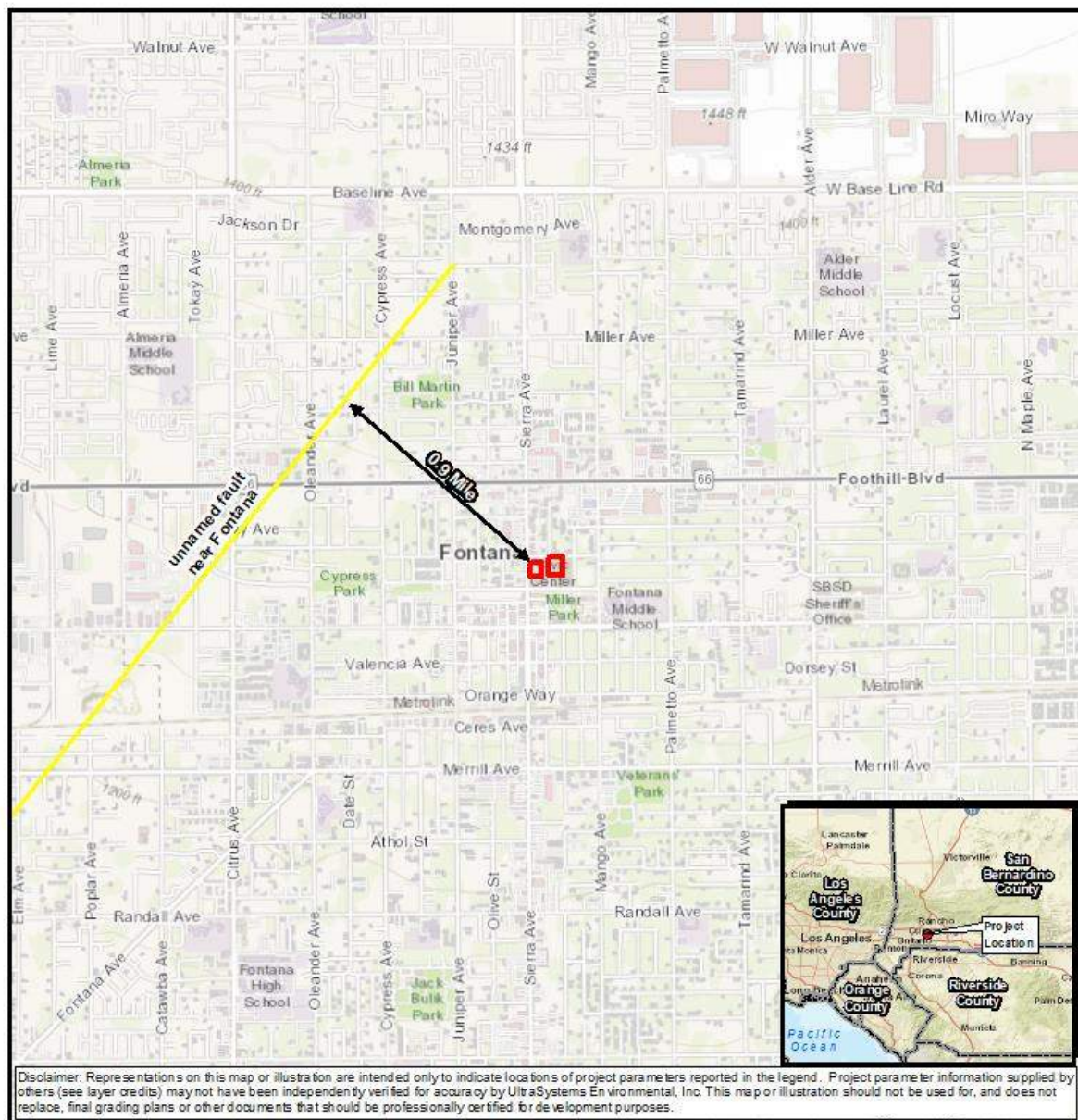
Less than Significant Impact

Liquefaction typically occurs when saturated or partially saturated soils behave like a liquid, as a result of losses in strength and stiffness in response to an applied stress caused by ground shaking or other sudden change in stress conditions.

The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from the faults, topography, subsoils and relatively shallow groundwater tables (approximately 50 feet or less below ground surface), in addition to other factors. Groundwater depth is mapped on the Department of Water Resources SGMA Viewer at 884 feet below ground surface (bgs). This groundwater depth is measured approximately 1.2 miles north from the project site (DWR, 2023b).

According to the geologic hazard map for San Bernardino County, the site is not located within a mapped area subject to seismically induced liquefaction hazards. Groundwater was not encountered in the exploratory borings conducted as part of the geotechnical evaluation. Based on historical groundwater data, depth to groundwater is expected to be 400 feet or more below the ground surface. Based on the depth to groundwater and results of the geotechnical evaluation, liquefaction and lateral spreading are not design considerations for the project (Ninyo and Moore, 2023; pg. 8).

**Figure 4.7-2
REGIONAL FAULTS**



Path: I:\gis\GIS\Projects\7230_Fontana_CivicCenterExpansion_ISMND\MXD\7230_Fontana_OCE_4.7_Active_Faults_2023_12_14.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Sources: Esri, HERE, Garmin, Intermap, INCREMENT P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, U.S. Geological Survey, 2019; UltraSystems Environmental, Inc., 2023

December 14, 2023

Scale: 1:30,000



0 1,250 2,500 Feet

0 300 600 Meters

Legend

- Project Boundary
- Older Quaternary Faults

Fontana
Civic Center Renovation
Regional Faults



Compliance with federal, state, and local regulations, including the CBC and the City’s Municipal Code, would minimize hazards from potential seismic-related ground failure, including liquefaction. The project would not directly or indirectly cause potential substantial impacts, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Impacts would be less than significant, and mitigation is not proposed.

i) Landslides?

Less Than Significant

Landslides occur when the stability of the slope changes from a stable to an unstable condition. A change in the stability of a slope can be caused by a number of factors, acting together or alone. Natural causes of landslides include groundwater (pore water) pressure acting to destabilize the slope, loss of vegetative structure, erosion of the toe of a slope by rivers or ocean waves, weakening of a slope through saturation by snow melt or heavy rains, earthquakes adding loads to a barely stable slope, earthquake-caused liquefaction destabilizing slopes, and volcanic eruptions.

The project site is relatively flat, with elevation ranging from approximately 1,290 to 1,295 feet above mean sea level (Google Earth Pro, 2023). There are no mapped landslides on the project site or in the vicinity. Additionally, the project does not overlap with areas of Landslide Confidence indicated on the USGS Landslide Inventory (Ninyo and Moore, 2023; pg. 8). Landslides are not considered to be a potential hazard at the site. The project would not directly or indirectly cause potentially significant impacts, including the risk of loss, injury, or death involving landslides. Impacts would be less than significant, and mitigation is not required.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact

Construction

Construction projects of one acre or more are regulated under the Statewide General Construction Permit, Order No. 2009-0009-DWQ, issued by the State Water Resources Control Board (SWRCB) in 2009. Projects obtain coverage by developing and implementing a Stormwater Pollution Prevention Plan (SWPPP) estimating sediment risk from construction activities to receiving waters and specifying Best Management Practices (BMPs) that would be used by the project to minimize pollution of stormwater.

Operation

During operation, the project would be developed with a mix of impervious surfaces such as structures, concrete, pavement and landscaped areas. This combination of impervious surfaces and landscaped areas would reduce the potential of the project for soil erosion to a negligible level.

With the implementation of soil erosion and sedimentation BMPs during the construction phase and the proposed combination of generally impervious surfaces during the operational phase, the project would have less than significant impacts related to soil erosion or loss of topsoil and mitigation is not proposed.

- c) **Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

Less than Significant Impact

The project site is underlain by young alluvial-fan deposits of Lytle Creek (Holocene and late Pleistocene) – Unconsolidated, gray, cobbly and bouldery alluvium of Lytle Creek fan. Relatively fine-grained (pebbly and cobbly) in southern extent; becomes coarser grained (cobbly and bouldery) northward (Morton, 2003).

Impacts related to liquefaction and landslides are discussed in **Section 4.7 a)**. Additionally, the project would be constructed in accordance with recommendations of the project geotechnical evaluation and the City of Fontana Building Code (i.e., the California Building code adopted as the City of Fontana Building Code, §§ 5-61, et seq., of the City of Fontana Municipal Code), .

Lateral Spreading

Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer due to gravity and earthquake shaking combined. Lateral spreading of the ground surface during an earthquake usually occurs along the weak shear zones within a liquefiable soil layer and has been observed to generally take place toward a free face (i.e., retaining wall, slope, or channel) and to lesser extent on ground surfaces with a very gentle slope. The geotechnical investigation assessed liquefaction potential in subsurface site soils and determined that liquefaction and lateral spreading are not design considerations for the project. Impacts resulting from lateral spreading are not anticipated (Ninyo and Moore, 2023; pg. 8). Impacts arising from lateral spreading would be less than significant. Mitigation is not required.

Collapsible Soils

The geotechnical evaluation determined that undocumented fill soil—present to a depth of four feet below ground surface (bgs) in boring B-3 in the east-central part of the project site—is unsuitable for supporting the proposed structures. The geotechnical evaluation recommends removing existing soils to a depth of two feet below the bottom of proposed footings, or to the depth of the undocumented fill, whichever is greater; and that removed soils are expected to be suitable for engineering and replacement on the site as fill (Ninyo & Moore, 2023, pp. 12-13). Project development would not exacerbate hazards arising from collapsible soils after the implementation of the recommendations provided in Section 10 the Geotechnical Evaluation, and with adherence to the 2022 or current CBC. Impacts would be less than significant and mitigation is not required.

Subsidence

The major cause of ground subsidence is the excessive withdrawal of groundwater. Soils with high silt or clay content are particularly susceptible to subsidence. The project site is not in an area of subsidence mapped by the USGS (USGS, 2023c). The project site is over the Chino Subbasin of the Upper Santa Ana Valley Groundwater Basin (DWR, 2019). Project development would not exacerbate hazards related to ground subsidence and impacts would be less than significant. Mitigation is not required.

- d) **Would the project be located on expansive soil, as defined in Table 18-1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

Less than Significant Impact

Expansive soils shrink and swell with changes in soil moisture. Soil moisture may change from landscape irrigation, rainfall, and utility leakage.

The project geotechnical investigation assessed subsurface site soils for Renovation potential, and provides recommendations to minimize hazards from expansive soils. The Standard Specifications for Public Works Construction (Greenbook) requires structure backfill materials to be composed of granular, non-expansive soils that conform to Greenbook standards. With adherence to 2021 or current Greenbook Specifications for Public Works Construction, impacts arising from expansive soils would be less than significant. Mitigation is not required.

- e) **Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

No Impact

The project site would connect to the City of Fontana's existing sewer system; therefore, the project would not use septic tanks or alternative wastewater disposal systems. For this reason, no impacts associated with septic tanks or alternative waste water disposal systems would occur.

- f) **Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Less than Significant Impact with Mitigation Incorporated

The project site is underlain by Holocene alluvial deposits (Morton and Miller 2006). In the past they have been mapped as including Pleistocene sediments (Morton 2003). Holocene alluvial units are considered to be of high preservation value, but material found is unlikely to be fossil material due to the relatively young deposits, and Pleistocene alluvial units are considered to be of high preservation value and are likely to contain fossils (Stoneburg, 2023). The Western Science Center completed a search of its paleontology records for the project region on October 31, 2023; a copy of the records search letter is included as **Appendix E** to this Initial Study. The Western Science Center does not have localities within the project area or within a one-mile radius, although this may be due in part to the project area's distance from the museum and may not be indicative of the area's paleontological sensitivity (Stoneburg, 2023).

Excavations or grading may encounter fossil remains. Any substantial excavations below the uppermost layers should be closely monitored to quickly and professionally collect any specimens. This impact would be potentially significant and mitigation is required.

Mitigation Measure

- MM GEO-1** If paleontological resources are uncovered during project construction, the contractor shall halt construction activities in the immediate area and notify the City.

The on-call paleontologist shall be notified and afforded the necessary time and funds to recover, analyze, and curate the find(s). Subsequently, the monitor shall remain onsite for the duration of the ground disturbance to ensure the protection of any other resources that are found during construction on the project site.

Level of Significance After Mitigation

With implementation of **MM GEO-1**, potential impacts to paleontological resources would be reduced to a less than significant level.

4.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

4.8.1 BACKGROUND INFORMATION ON GREENHOUSE GAS EMISSIONS

Life on earth depends on energy coming from the sun. About half the light reaching Earth's atmosphere passes through the air and clouds to the surface, where it is absorbed and then radiated upward in the form of infrared heat. About 90 percent of this heat is then absorbed by carbon dioxide (CO₂) and other greenhouse gases (GHG) and radiated back toward the surface, which is warmed to a life-supporting average of 59 degrees Fahrenheit (°F) (NASA, 2023).

Human activities are changing the natural greenhouse. Over the last century, the burning of fossil fuels such as coal and oil has increased the concentration of atmospheric CO₂. This happens because the coal or oil burning process combines carbon in the fuel with oxygen in the air to make CO₂. To a lesser extent, the clearing of land for agriculture, industry, and other human activities has increased concentrations of GHGs (NASA, 2023).

GHGs are defined under the California Global Warming Solutions Act of 2006 (AB 32) as CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆). Associated with each GHG species is a "global warming potential" (GWP), which is a value used to compare the abilities of different GHGs to trap heat in the atmosphere. GWPs are based on the heat absorbing ability of each gas relative to that of CO₂, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years). The GWPs of CH₄ and N₂O are 25 and 298, respectively (GMI, 2023). "Carbon dioxide equivalent" (CO₂e) emissions are calculated by weighting each GHG compound's emissions by its GWP and then summing the products. HFCs, PFCs, and SF₆ would not be emitted in significant amounts by the Fontana Civic Center Renovation Project sources, so they are not discussed further.

Carbon Dioxide (CO₂). Carbon dioxide is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. It is produced when an organic carbon compound (such as wood) or fossilized organic matter (such as coal, oil, or natural gas) is burned in the presence of oxygen. Since the industrial revolution began in the mid-1700s, industrial activities have increased in scale and distribution. Prior to the industrial revolution, CO₂ concentrations were stable at a range of 275 to 285 ppm (IPCC, 2007). The National Oceanic and Atmospheric Administration's Earth System Research Laboratory indicates that global concentration of CO₂ was 416.59 parts per million (ppm) in August 2023 (ESRL, 2023). These concentrations of CO₂ exceed by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores.

Methane (CH₄). Methane is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH₄ is combustible, and is the main constituent of natural gas, a fossil fuel. It is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Anthropogenic sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies, and the buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH₄. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N₂O). Nitrous oxide is a colorless, non-flammable gas with a sweetish odor, commonly known as “laughing gas,” and sometimes used as an anesthetic. N₂O is naturally produced in the oceans and in rainforests (USEPA, 2011). Manmade sources of N₂O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N₂O also began to rise at the beginning of the industrial revolution.

4.8.2 REGULATORY SETTING

GHGs are regulated at the national, state, and air basin level; each agency has a different degree of control. The USEPA regulates at the national level; the ARB regulates at the state level; and the SCAQMD regulates at the air basin level in the Fontana Civic Center project area.

4.8.2.1 Federal Regulations

The USEPA collects several types of GHG emissions data. These data help policy makers, businesses, and the USEPA track GHG emissions trends and identify opportunities for reducing emissions and increasing efficiency. The USEPA has been maintaining a national inventory of GHG emissions since 1990 and in 2009 established mandatory reporting of GHG emissions from large GHG emissions sources.

The EPA is also achieving GHG reductions through partnerships and initiatives, evaluating policy options, costs, and benefits, advancing the science, partnering internationally and with states, localities, and tribe, and helping communities adapt.

Corporate Average Fuel Economy (CAFE) Standards

In May 2010, the USEPA finalized the first-ever national GHG emissions standards under the Clean Air Act, and the National Highway Traffic Safety Administration (NHTSA) finalized Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The 2010 CAFE standards were for model year 2012 through 2016 light-duty vehicles (USEPA, 2022). In April 2020, NHTSA and USEPA amended the CAFE and GHG emissions standards for passenger cars and light trucks and established new less stringent standards, covering model years 2021 through 2026 (NHTSA, 2021).

Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule

On September 27, 2019, the USEPA and the NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (NHTSA, 2020), which revoked California’s authority to set its own GHG emissions standards and set zero emission vehicle (ZEV) mandates in California. The loss of the ZEV sales requirements would likely result in additional gasoline-fueled

vehicles being sold in the State and criteria emissions increasing. On April 30, 2020, USEPA and NHTSA issued the Final SAFE Rule, (USEPA, 2023b) which relaxed the federal GHG emissions and CAFE standards resulting in the probable increase of CO₂ emissions. However, this regulation was repealed on December 21, 2021 by the Biden administration (NHTSA, 2021).

State Regulations

Executive Order (EO) S 3-05

On June 1, 2005, the governor issued EO S 3-05, which set the following GHG emission reduction targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels;
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

To meet these targets, the Climate Action Team (CAT)¹⁰ prepared a report to the Governor in 2006 that contained recommendations and strategies to help ensure that the targets in EO S-3-05 are met.

Assembly Bill 32 (AB 32)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 focuses on reducing GHG emissions in California. AB 32 required that GHGs emitted in California be reduced to 1990 levels by the year 2020. The ARB is the state agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming. AB 32 also required that by January 1, 2008, the ARB determine what the statewide GHG emissions level was in 1990, and that it approve a statewide GHG emissions limit, so it may be applied to the 2020 benchmark. The ARB approved a 1990 GHG emissions level of 427 million metric tons of CO₂e (MMTCO₂e), on December 6, 2007, in its Staff Report. Therefore, in 2020, emissions in California were required to be at or below 427 MMTCO₂e.

Under the “business as usual or (BAU)” scenario established in 2008, statewide emissions were increasing at a rate of approximately one percent per year, as noted below. It was determined that the 2020 estimated BAU of 596 MMTCO₂e would have required a 28 percent reduction to reach the 1990 level of 427 MMTCO₂e.

Climate Change Scoping Plan

The first AB 32 Scoping Plan (ARB, 2008) contained the main strategies to achieve the 2020 emissions cap. The plan was developed by the ARB with input from the CAT and proposed a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the state's economy. The GHG reduction strategies contained in the AB 32 Scoping Plan included direct regulations, alternative compliance mechanisms, monetary and

¹⁰ The Climate Action Team (CAT) members are state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency (Cal/EPA). They coordinate statewide efforts to implement global warming emission reduction programs and the state's Climate Adaptation Strategy.

non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

In May 2014, the ARB adopted the First Update to the AB 32 Scoping Plan (ARB, 2014). This update identified the next steps for California's leadership on climate change. It described progress made to meet the near-term objectives of AB 32 and defined California's climate change priorities and activities for the next several years. It also framed activities and issues facing the state as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020.

In the original AB 32 Scoping Plan, the ARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons (MT) of CO₂e. As part of the update, the ARB revised the 2020 Statewide limit to 431 million MT of CO₂e, an approximately one percent increase from the original estimate. The 2020 Business as Usual forecast in the update is 509 million MT of CO₂e. The state would have needed to reduce those emissions by 15.3 percent to meet the 431 million MT of CO₂e 2020 limit.

In November 2017, the ARB published the 2017 AB 32 Scoping Plan (ARB, 2017), which built upon the former AB 32 Scoping Plan and updates by outlining priorities and recommendations for the state to achieve its 2030 GHG target of a 40 percent reduction in GHGs by 2030, compared to 1990 levels. The major elements of the framework proposed were: enhancement of the Renewables Portfolio Standard (RPS) and the Low Carbon Fuel Standard (LCFS); a Mobile Source Strategy, Sustainable Freight Action Plan, Short Lived Climate Pollutant Reduction Strategy, Sustainable Communities Strategies, and a Post 2020 Cap and Trade Program; a 20 percent reduction in GHG emissions from the refinery sector; and an Integrated Natural and Working Lands Action Plan.

On November 16, 2022, the ARB circulated its Final 2022 Scoping Plan for Achieving Carbon Neutrality (ARB, 2022). It identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier. Through the lens of carbon neutrality, the plan expands the scope to more meaningfully consider how our natural and working lands (NWL) contribute to our long-term climate goal.

Renewables Portfolio Standard (Scoping Action E-3)

The California Energy Commission estimates that in 2000 about 12 percent of California's retail electric load was met with renewable resources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. California's current RPS is intended to increase that share to 44 percent by 2024. Increased use of renewables will decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. Governor Brown signed into legislation Senate Bill (SB) 350 in October 2015, which requires retail sellers and publicly-owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030.

Senate Bill 375 (SB 375)

Senate Bill (SB) 375 passed the Senate on August 30, 2008, and was signed by the Governor on September 30, 2008. Per SB 375, the transportation sector is the largest contributor of GHG emissions and contributes approximately 45 percent of the GHG emissions in California, with automobiles and light trucks alone contributing almost 30 percent. SB 375 indicates that GHGs from automobiles and light trucks can be reduced by new vehicle technology. However, significant reductions from changed land use patterns and improved transportation also are necessary. SB 375 states, "Without improved

land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions; (2) aligns planning for transportation and housing; and (3) creates specified incentives for the implementation of the strategies.

Executive Order B-30-15

On April 29, 2015, the governor issued Executive Order B-30-15, which added an interim target of GHG emissions reductions to help ensure the State meets its 80 percent reduction by 2050, as set in EO S-3-05. The interim target is reducing GHG emissions by 40 percent by 2030. It also directs state agencies to update the Scoping Plan, update Adaptation Strategy every three years, and take climate change into account in their planning and investment strategies. Additionally, it requires the state’s Five-Year Infrastructure Plan will take current and future climate change impacts into account in all infrastructure projects.

Title 24

California Code of Regulations Title 24 Part 6: California’s Building Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption. Although these standards were not originally intended to reduce GHGs, energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The standards are updated every three years, to allow consideration and possible incorporation of new energy efficient technologies and methods. The 2019 standards were a major step towards meeting the Zero Net Energy goal by the year 2030. The latest iteration is the 2022 Energy Code, adopted on August 11, 2021, that builds upon California’s goals towards building decarbonization and net carbon neutrality by emphasizing energy efficient innovations (CEC, 2022). Its four areas of focus for the construction of new buildings include encouraging electric heat pump technology, establishing electric-ready requirements, expanding solar photovoltaic (PV) system and battery storage standards, and strengthening ventilation standards.

San Bernardino Greenhouse Gas Emissions Reduction Plan

The County of San Bernardino is committed to planning sustainably for the future while ensuring a livable, equitable, and economically vibrant community. Planning sustainably includes acknowledging the local role in climate change and how the County can mitigate its greenhouse gas (GHG) emissions and prepare for (i.e., adapt to) anticipated climate-related changes. The County adopted its first Greenhouse Gas Emissions Reduction Plan (GHGRP) in September 2011 and updated it in June 2021 (LSA Associates, 2021). The GHGRP provided the GHG emissions inventory for the year 2007, and the target of reducing GHG emissions 15 percent below 2007 levels by 2020. The County has implemented strategies to reduce its GHG emissions identified in the 2011 GHGRP, which has helped the County meet its 2020 GHG reduction targets. Since the adoption of County’s GHGRP, the State has enacted new climate change regulations, most notably Senate Bill (SB) 32, which provides statewide targets to reduce GHG emissions to 40 percent below 2007 levels by 2030 (LSA Associates, 2021).

The State has set goals for reducing GHG emissions by 2020, 2030, and 2045 through AB 32, SB 32, SB-100, EO-B-55-18. The State passed an executive order (EO-B-55-18), which mandates statewide net carbon neutrality by 2045. In the interim, the State has also provided a target of 40 percent below

2020 levels by 2030. The County has identified this target as 40 percent below 2020 emission levels by 2030. The 2030 target will put the County on a path toward the State’s long-term goal to achieve zero net carbon emissions by 2045 (LSA Associates, 2021). As shown in **Table 4.8-1**, in 2030, San Bernardino County would need to reduce its emissions to 1,754,098 MTCO_{2e} to meet the GHG reduction target of 40 percent below 2020 levels.

Table 4.8-1
SAN BERNARDINO COUNTY GHG REDUCTION TARGETS FOR COUNTYWIDE EMISSIONS

Strategy	Target
2020 Target	15 percent below 2007 baseline levels
2020 Emissions Goal (MTCO _{2e})	5,315,000
2030 Target	40 percent below 2020 BAU levels
2030 Emissions Goal (MTCO _{2e})	1,754,098

Source: San Bernardino County GHG Reduction Plan Update, (LSA Associates, Inc., 2021, p.22), MTCO_{2e} = metric tons of carbon dioxide equivalent.

City of Fontana

The City of Fontana approved and adopted a General Plan on November 13, 2018 and issued an updated general plan on July 23, 2023 through City Council Resolution 2023-088, Ordinance No. 1923. Chapter 12 of the plan on Sustainability and Resilience addresses policies for Fontana to meet the greenhouse gas reduction goals for 2030 and subsequent goals set by the state. These policies include continuing to collaborate with San Bernardino County Transportation Authority on greenhouse gas inventories and climate action planning. The state goals focus on reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030 by increasing renewable electricity production to 50 percent. Major sources of greenhouse gases in Fontana include onroad transportation making up 39 percent and building energy making up 51 percent (City of Fontana, 2023). To reduce GHG, Fontana is using LED lighting in new developments, energy savings in wastewater treatments, and implementing Smart Bus technologies. Fontana is incorporating land use strategies and transit-oriented development to reduce vehicle miles traveled which will also decrease GHG emissions.

4.8.3 IMPACT THRESHOLDS

The following thresholds of significance are based on criteria in Appendix G of the State CEQA Guidelines. A project has the potential to create a significant environmental impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHG.

a) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact

California has enacted several pieces of legislation that relate to GHG emissions and climate change, much of which set aggressive goals for GHG reductions within the state. Per Senate Bill 97, the

California Natural Resources Agency adopted amendments to the CEQA Guidelines, which address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project's effects on the environment. However, neither a threshold of significance nor any specific mitigations are included or provided in these CEQA Guideline amendments.

GHG Significance Threshold

Neither the City of Fontana, the SCAQMD nor the State CEQA Guidelines Amendments provide adopted quantitative thresholds of significance for addressing a roadway improvement project's GHG emissions. Nonetheless, § 15064.4 of the CEQA Guidelines serves to assist lead agencies in determining the significance of the impacts of GHGs. As required in § 15064.4, this analysis includes an impact determination based on: (1) an estimate of the amount of greenhouse gas emissions resulting from the project; (2) a qualitative analysis or performance based standards; (3) a quantification of the extent to which the project increases greenhouse gas emissions as compared to the existing environmental setting; and (4) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

SCAQMD's guidance uses a tiered approach rather than a single numerical emissions threshold. If a project's GHG emissions "fail" the non-significance of a given tier, then one goes to the next one.

The threshold selected for this analysis is Tier 3, which establishes a screening significance threshold level to determine significance using a 90 percent emission capture rate. For Tier 3, the SCAQMD estimated that at a threshold of approximately 3,000 metric tons (tonnes) CO_{2e} per year, emissions would capture 90 percent of the GHG emissions from new residential or commercial projects (SCAQMD, 2008).

Construction GHG Emissions

Construction is an episodic, temporary source of GHG emissions. Emissions are generally associated with the operation of construction equipment, import or export of soil, and the disposal of construction waste. To be consistent with the guidance from the SCAQMD for calculating criteria pollutants from construction activities, only GHG emissions from onsite construction activities and offsite hauling and construction worker commuting are considered as project-generated. As explained by the California Air Pollution Control Officers Association (CAPCOA) in its 2008 white paper (CAPCOA, 2022), the information needed to characterize GHG emissions from manufacture, transport, and end-of-life of construction materials would be speculative at the CEQA analysis level; CEQA does not require an evaluation of speculative impacts (*CEQA Guidelines* § 15145). Therefore, the construction analysis does not consider such GHG emissions but does consider non-speculative ones.

Estimated criteria pollutant emissions from the Fontana Civic Center project were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.20 (CAPCOA, 2022), which was described in **Section 4.3.7**. The results of the project's Phase I and Phase II analyses are presented in **Table 4.8-3** and **Table 4.8-4**. Phase I GHG construction emissions would be **419 metric tons** and Phase II GHG construction emissions would be **493 metric tons**. Consistent with SCAQMD recommendations and to ensure that construction emissions are assessed in a quantitative sense, construction GHG emissions have been amortized over a 30-year period. The amortized value is **14.0 MTCO_{2e}** for Phase I and **16.4 MTCO_{2e}** for Phase II. Modeling results are in **Appendix B**. For

each construction year, annual GHG emissions would be far below the threshold of 3,000 MT of CO₂e per year and therefore would be less than significant. No mitigation is necessary.

Table 4.8-3
PROJECT CONSTRUCTION-RELATED GHG EMISSIONS – PHASE I

Year/Phase	Annual Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2023	4.77	< 0.005	< 0.005	4.85
2024	401	0.02	0.01	404
2025	9.99	< 0.005	< 0.005	10.1
Total	415.76	0.02	0.01	419

Source: Calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2022).

Table 4.8-4
PROJECT CONSTRUCTION-RELATED GHG EMISSIONS – PHASE II

Year/Phase	Annual Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2025	306	0.01	0.01	308
2026	184	0.01	< 0.005	185
Total	490	0.02	0.01	493

Source: Calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2022).

Operational GHG Emissions

The proposed Renovation of the Civic Center project would involve the construction of a new City Hall and annex building (both replacing existing buildings), which would result in operational emissions from area sources, motor vehicles, and energy demand. As noted in **Section 4.3.7**, the significance evaluation was based upon the difference between project-related operational emissions and those from the replaced sources. The resulting net GHG emissions levels were subsequently compared with the SCAQMD screening threshold of 3,000 MTCO₂e to determine compliance. The findings of the emissions calculations are presented in **Table 4.8-4**.¹¹

The Fontana Civic Center Project (proposed project) would produce 2,172 MTCO₂e per year for Phase I and 1,490 MTCO₂e per year for Phase II, resulting in a total of 3,662 MTCO₂e per year of unmitigated operational GHG emissions. On the other hand, the existing buildings would contribute 1,389 MTCO₂e per year to the operational GHG emissions. Therefore, the net increase in operational GHG emissions due to the proposed project would be **2,273 MTCO₂e per year**.

¹¹ Calculations are provided in **Appendix B**.

Table 4.8-5
NET PROJECT OPERATIONAL GHG EMISSIONS

Emissions Source	Estimated Generated CO ₂ e Emissions (Metric Tons per Year)	
	Phase I & II	Existing buildings
Area Sources	1.22	0.92
Energy Demand (Electricity & Natural Gas)	342	256
Mobile (Motor Vehicles)	3,165	1,092
Solid Waste Generation	40.1	13.1
Water Demand	83	26.9
Construction Emissions ^a	30.43	0
Total	3,662	1,389
Difference in Operational emissions	2,273	

Source: Calculated by UltraSystems with CalEEMod (Version 2022.1.1.20) (CAPCOA, 2022).

^a Total construction emissions were amortized over 30 years for the proposed project, while existing structures had no amortized emissions.

Therefore, under the first significance criterion, GHG emissions would be less than significant, and no mitigation is necessary.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?

Less than Significant Impact

The City of Fontana does not have an adopted climate action plan. An approach to identifying potential conflict with GHG reduction plans, policies, or regulations is to examine General Plan provisions that prescribe or enable GHG emissions control. The Final EIR for the General Plan Update (City of Fontana, 2018b) lists policies in the General Plan Update that reduce GHG emissions and help to quantify emissions reductions. However, the policies prescribe actions to be taken by the City, and not measures to be implemented by a project proponent. Nevertheless, the proposed project would not conflict with any of the GHG emission reduction policies. As was demonstrated in **Section 4.11**, the proposed project would have less than significant impacts in relation to consistency with local land use policies or regulations. Therefore, the project would not hinder the GHG emission reductions of the General Plan Update.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

The analysis for this section is based partly on the Phase I Environmental Site Assessment (ESA) by Ninyo & Moore dated August 2022, included as **Appendix X**. The findings of the Ninyo & Moore Phase I ESA were based on evaluation of only the Annex site; a Phase I ESA will also be prepared in the future for the City Hall site, but is not available at this time.

- a) **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less than Significant Impact

Construction

The Phase I ESA concluded that there were no recognized environmental conditions (RECs) on or adjacent to the project site (Ninyo & Moore, 2022, p. 17). Project construction would involve the use of hazardous materials such as fuels, lubricants, solvents, paints and other architectural coatings, fertilizers, and pesticides. Hazardous materials would be used, stored, transported, and disposed of in compliance with existing regulations of several agencies including: US Environmental Protection Agency; US Department of Transportation; Department of Toxic Substances Control; Occupational Safety and Health Administration; and Division of Occupational Safety and Health. Construction impacts involving hazardous materials would be less than significant after compliance with such regulations.

Operation

Project operation would involve the transport, storage, use, and disposal of small amounts of hazardous materials for cleaning and landscaping purposes, such as commercial cleansers, paints, and lubricants for maintenance and upkeep of the proposed buildings and landscaping. These materials would be stored, handled, and disposed of in accordance with applicable regulations. The proposed project would not involve the routine transport, use, or disposal of quantities of hazardous materials that may create a significant hazard to the public or environment. Therefore, the project would have a less than significant operational impact.

- b) **Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less than Significant Impact

Construction

The Phase I ESA concluded that there were no recognized environmental conditions (RECs) on or adjacent to the project site (Ninyo & Moore, 2022, p. 17). Construction Contractor would maintain supplies and equipment onsite for containing and cleaning up small spills of hazardous materials. Construction contractor would train workers in such containment and cleanup. In the event of a release of hazardous materials of toxicity and/or quantity that onsite personnel could not safely contain and clean up, the construction contractor would immediately notify the San Bernardino County Fire Department, which provides emergency responses to hazardous materials releases in San Bernardino County.

Operation

Project operation would involve the handling and storage of materials such as commercial cleansers, solvents and other janitorial or industrial-use materials, paints, and landscape fertilizers/pesticides during project operations in small amounts. However, these materials would be stored, handled, and disposed of in accordance with applicable regulations and would not be stored in amounts that would

create a significant hazard to the public or the environment through accidental release. Therefore, the project would have a less than significant operational impacts.

- c) **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Less than Significant Impact

Fontana Middle School is located approximately 0.15 mile southeast of the project site (Google Earth Pro, 2023). No other schools are within a 0.25-mile radius of the project.

Construction

As stated above, the project does not contain any RECs and would adhere to all applicable regulations in regards to transport, storage, use, and disposal of hazardous materials and wastes. With adherence to applicable regulations, impacts would be less than significant.

Operation

Project operations would involve the handling and storage of small amounts of hazardous materials such as cleansers, solvents, paints, fertilizers, and pesticides. However, these materials would be stored, handled, and disposed of in accordance with applicable regulations and would not be used or stored in amounts that would pose a hazard to persons at Fontana Middle School. Therefore, the project would have less than significant impacts in this regard.

- d) **Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Less than Significant Impact

Government Code § 65962.5 requires the Department of Toxic Substances Control (DTSC) to compile and update, at least annually, lists of the following:

- Hazardous waste and substances sites from the DTSC EnviroStor database.
- Leaking Underground Storage Tank (LUST) sites by county and fiscal year in the State Water Resources Control Board (SWRCB) GeoTracker database.
- Solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside waste management units.
- SWRCB Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs).
- Hazardous waste facilities subject to corrective action pursuant to § 25187.5 of the Health and Safety Code, identified by DTSC.

These lists are collectively referred to as the “Cortese List.” The project site is not included on the Cortese List (CalEPA, 2023). Impacts would be less than significant.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

No Impact

The nearest public-use airport to the project site is Ontario International Airport, approximately 8.5 miles to the southwest (see **Figure 4.9-1**). The project site is outside of zones at Ontario International Airport where land uses are regulated to minimize aviation-related hazards to persons on the ground, and outside of noise compatibility contours for the airport (City of Ontario, 2018). Project development would not cause airport-related hazards, or excessive noise, to persons at the project site. No impact would occur.

- f) **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Less than Significant Impact

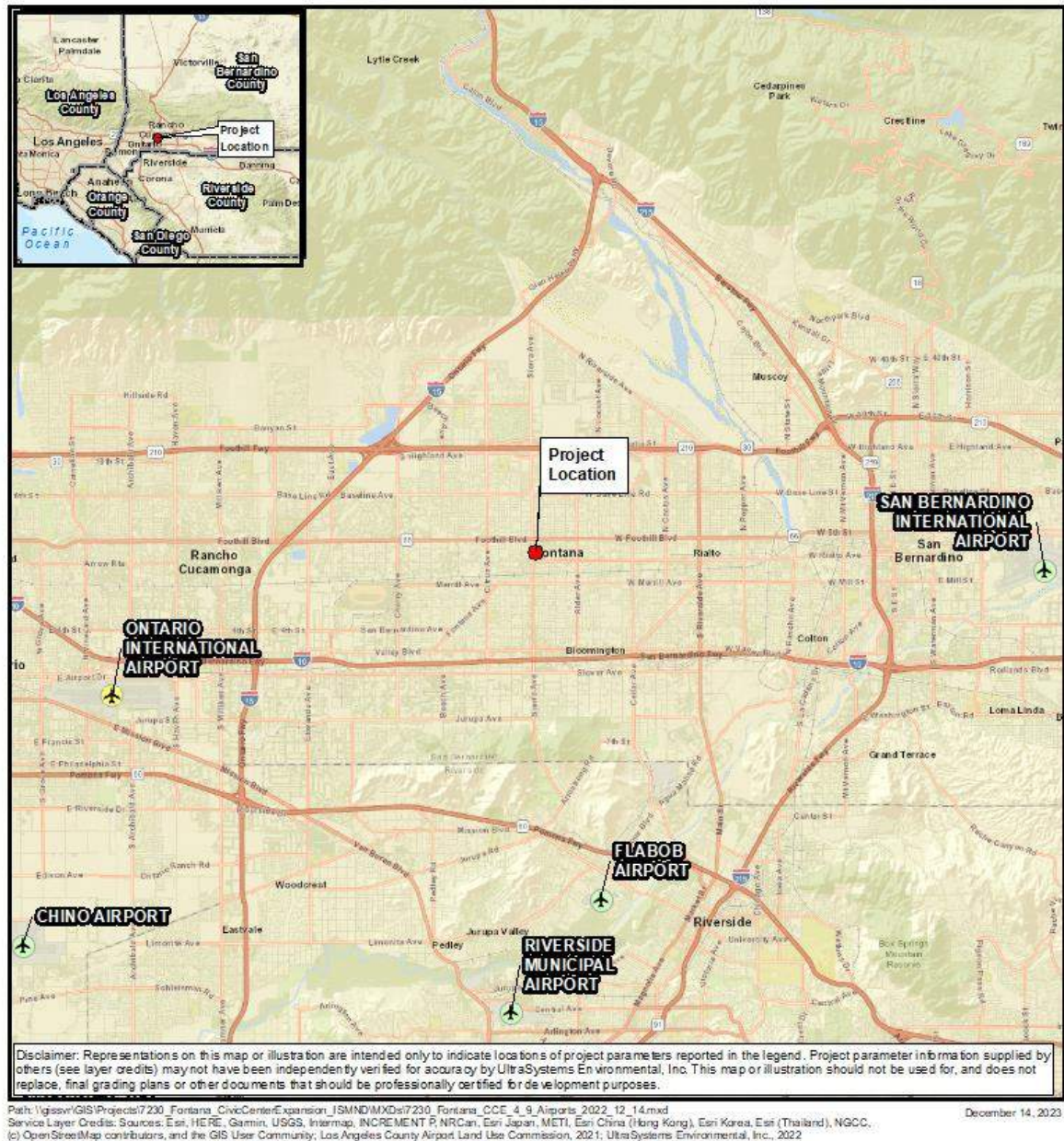
Construction

The City of Fontana Local Hazard Mitigation Plan (LHMP) was adopted by the City Council in 2018. As further detailed in **Section 4.17**, project construction in the right-of-way next to the project site could temporarily impact street traffic by temporarily reducing the number of lanes or temporarily closing a portion of surrounding streets. The city requires that projects conducting construction work in City roadway rights-of-way get Traffic Control Permits approved by the City Department of Engineering. Emergency access must be maintained. Compliance with City requirements for traffic management during construction in the public right-of-way would ensure that the project would have a less than significant impact.

Operation

Project operation would not block traffic on surrounding streets. The project would provide emergency access to the proposed buildings compliant with California Fire Code § 503. Therefore, impacts would be less than significant.

Figure 4.9-1
AIRPORTS IN THE PROJECT REGION



- g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact

The California Department of Forestry and Fire Protection (CAL FIRE) developed Fire Hazard Severity Zones (FHSZ) for State Responsibility Areas (SRA) and Local Responsibility Areas (LRA).

Very High Fire Hazard Severity Zone (VHFHSZ) designation refers to either:

Wildland areas supporting high-to-extreme fire behavior resulting from climax fuels typified by well-developed surface fuel profiles (e.g., mature chaparral) or forested systems where crown fire is likely. Additional site elements include steep and mixed topography and climate/fire weather patterns that include seasonal extreme weather conditions of strong winds and dry fuel moistures. Burn frequency is typically high, and should be evidenced by numerous historical large fires in the area. Firebrands from both short- (<200 yards) and long-range sources are often abundant.

or

Developed/urban areas typically with high vegetation density (>70% cover) and associated high fuel continuity, allowing for frontal flame spread over much of the area to progress impeded by only isolated non-burnable fractions. Often where tree cover is abundant, these areas look very similar to adjacent wildland areas. Developed areas may have less vegetation cover and still be in this class when in the immediate vicinity (0.25 mile) of wildland areas zoned as Very High (CAL FIRE, 2022).

The project site is not in or near a fire hazard severity zone (FHSZ) mapped by CAL FIRE within a State Responsibility Area (SRA) or within a Local Responsibility Area (LRA, that is, where cities and counties are responsible for the costs of wildfire prevention and suppression) (see **Figures 4.9-2 and 4.9-3**, respectively). Therefore, project development would not expose people or structures to substantial hazards from wildfire, and there would be no impact.

Figure 4.9-2
FIRE HAZARD SEVERITY ZONES – STATE RESPONSIBILITY AREA

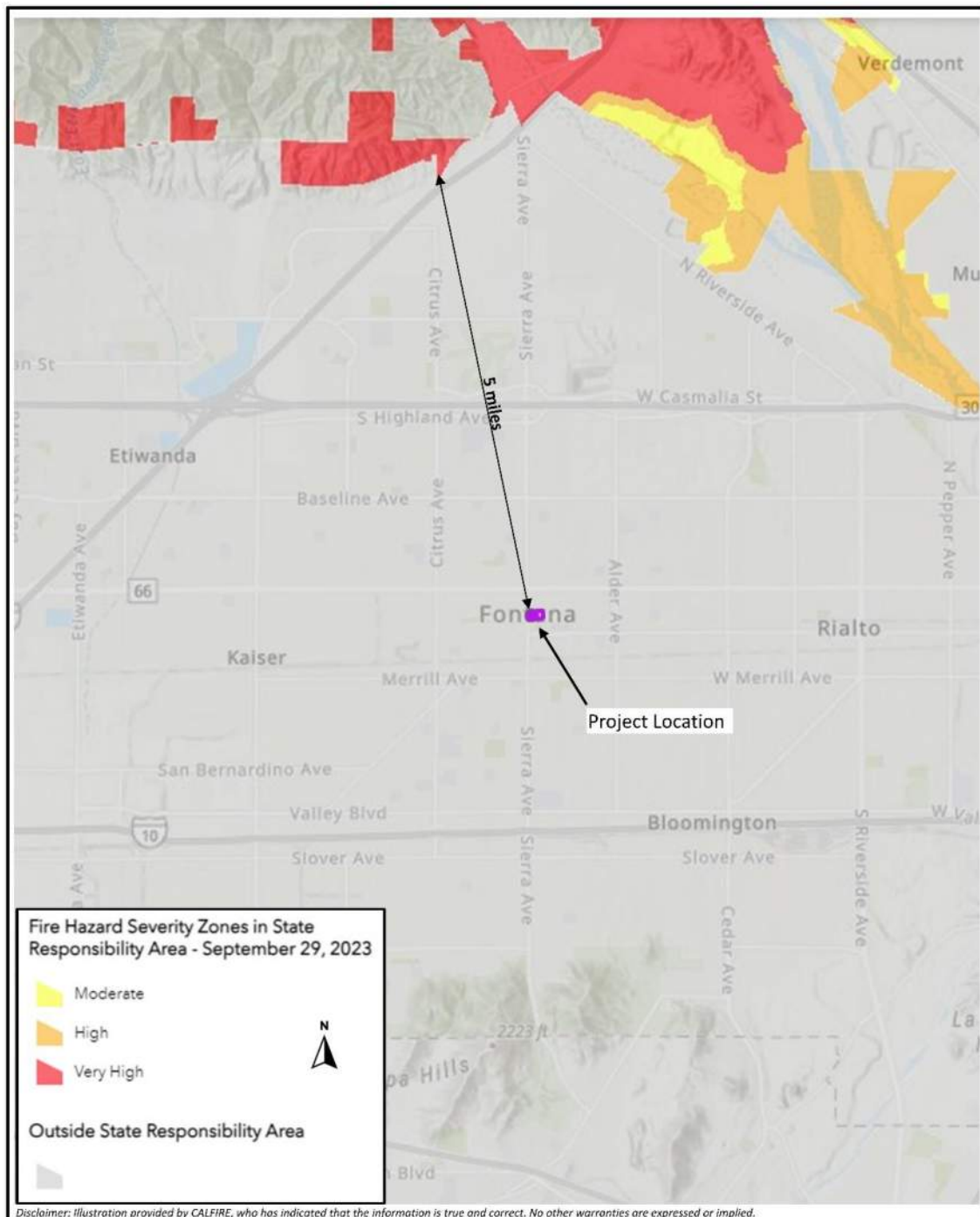
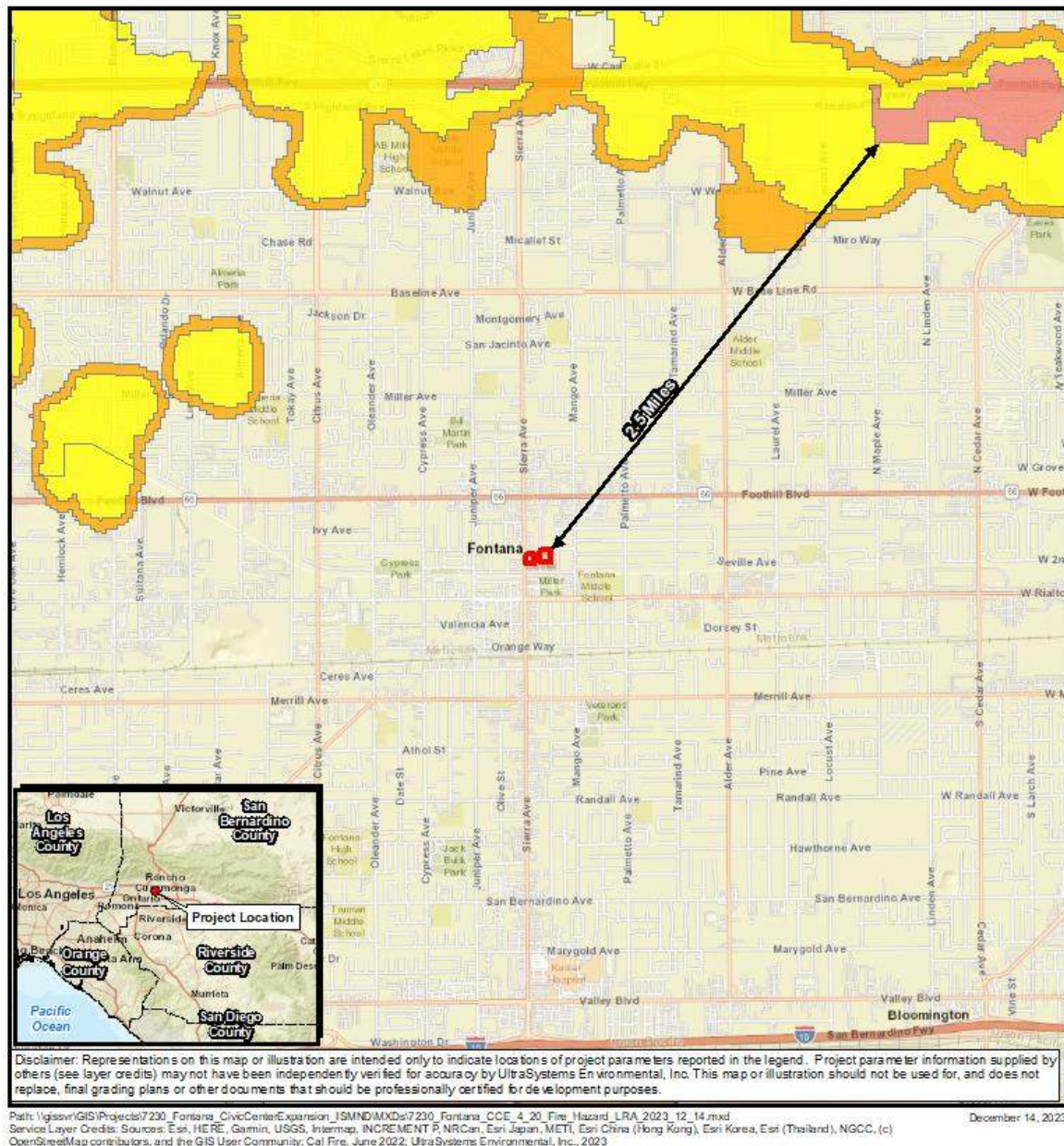


Figure 4.9-3
FIRE HAZARD SEVERITY ZONES – LOCAL RESPONSIBILITY AREA



Scale: 1:42,000



0 1,750 3,500 Feet

0 400 800 Meters

Legend

- Project Boundary
- Fire Hazard Severity Zones in LRA**
 - Moderate
 - High
 - Very High

Fontana
Civic Center Renovation
Fire Hazard Severity Zone
Local Responsibility Area (LRA)



4.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	-	-	-	-
i) result in substantial erosion or siltation on or offsite;			X	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
iv) impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

- a) **Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**

Less than Significant Impact

The California State Water Resources Control Board requires its nine Regional Water Quality Control Boards (RWQCBs) to develop water quality control plans (Basin Plans) designed to preserve and enhance water quality and protect the beneficial uses of all Regional waters. Specifically, Basin Plans

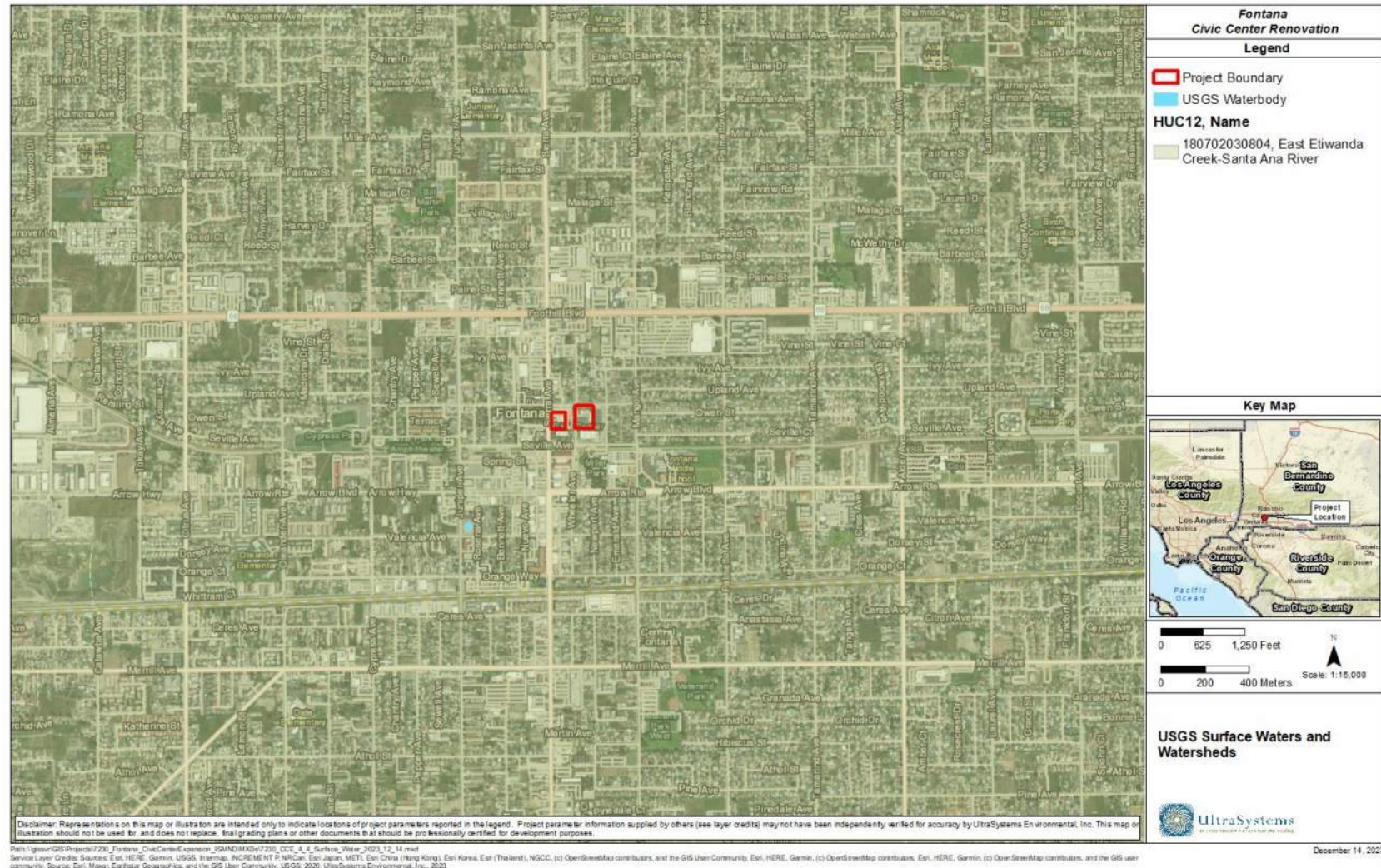
designate beneficial uses for surface waters and groundwater, set narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State antidegradation policy, and describe implementation programs to protect all waters in the Regions (RWQCB, 2016). In addition, Basin Plans incorporate by reference all applicable State and Regional Board plans and policies, and other pertinent water quality policies and regulations. The proposed project is under the jurisdiction of the Santa Ana (Region 8) RWQCB.

As shown in **Figure 4.10-1, USGS Surface Waters and Watersheds**, the project site is located within the USGS East Etiwanda Creek-Santa Ana River Hydrologic Unit (HUC 12; HU Code 180702030804). The project is located within the Santa Ana River Watershed (USGS HUC 18070203). The Santa Ana River Watershed spans approximately 2,650 square miles including the eastern portion of the San Gabriel Mountains. The Santa Ana River, which flows a distance exceeding 100 miles, discharges into the Pacific Ocean at the City of Huntington Beach (USEPA, 2023a). Under existing conditions, stormwater generated on the project site drains to the south toward Seville Avenue to the East Fontana Channel, which is owned and maintained by the San Bernardino County Flood Control District. The East Fontana Channel drains to the Rialto Channel in the City of Rialto and eventually to the Santa Ana River to the Pacific Ocean (City of Fontana, 1992; CWE, 2016; USEPA, 2023a).

Development of the project has the potential to result in two types of water quality impacts: (1) short-term impacts due to construction-related discharges; and (2) long-term impacts from operation. Temporary soil disturbance would occur during project construction, due to earth-moving activities such as excavation and trenching for foundations and utilities, soil compaction and moving, cut and fill activities, and grading. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport via stormwater runoff from the project area. Erosion and sedimentation affect water quality of receiving waters through interference with photosynthesis, oxygen exchange, and respiration, growth, and reproduction of aquatic species. Runoff from construction sites may include sediments and contaminants such as oils, fuels, paints, and solvents. Additionally, other pollutants such as nutrients, trace metals, and hydrocarbons can attach to sediment and be carried by stormwater into storm drains which discharge eventually to the Pacific Ocean.

Spills and mishandling of construction materials and waste may also potentially leave the project site and negatively impact water quality. The use of construction equipment and machinery may potentially result in contamination from petroleum products, hydraulic fluids, and heavy metals. Contamination from building preparation materials such as paints and solvents, and landscaping materials such as fertilizers, pesticides, and herbicides may also potentially degrade water quality during project construction. Trash and demolition debris may also be carried into storm drains and discharged into receiving waters.

Figure 4.10-1
USGS SURFACE WATERS AND WATERSHEDS



Construction Pollutants Control

The project proponent is required by the California State Water Resources Control Board (SWRCB) to obtain coverage under a General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ, as authorized by § 402 CWA, NPDES for projects which will disturb one or more acres of soil during construction). The Construction General Permit requires potential dischargers of pollutants into WOUS to prepare a site-specific Stormwater Pollution Prevention Plan (SWPPP), which establishes enforceable limits on discharges, requires effluent monitoring, designates reporting requirements, and requires construction BMPs to reduce or eliminate point and non-point source discharges of pollutants. Additionally, BMPs must be maintained, inspected before and after each precipitation event, and repaired or replaced as necessary.

Construction BMPs are grouped in six categories: erosion control (prevents soil particles from being detached from soil surface), sediment control (prevents soil particles from being transported offsite by water and being deposited elsewhere), wind erosion control, tracking control (prevents soil from being tracked offsite by vehicles), non-stormwater management controls (prohibits discharges other than stormwater, such as those from cleaning, maintenance, and fueling of vehicles and equipment), and waste management and controls (good housekeeping practices).

Because the project is required by the SWRCB to comply with all applicable conditions of Construction General Permit Order 2009-0009-DWQ, potential violations of water quality standards or waste discharge requirements during project construction would be less than significant.

Operational Pollutant Controls

The San Bernardino County NPDES Permit (NPDES No. CAS618036) and Waste Discharge Requirements Area Wide Urban Storm Water Runoff Management Program regulates, through Order No. R8 2010 0036, the discharge of pollutants into Waters of the US (WOUS) through stormwater and urban runoff conveyance systems, including flood control facilities. These conveyance systems are commonly referred to as municipal separate storm sewer systems (MS4s), or storm drains. The NPDES Permit is also referred to as an MS4 Permit.

Pursuant to the MS4 Permit, Principal Permittees (i.e., the San Bernardino County Flood Control District) and Co-Permittees (Fontana is co-permittee) must regulate discharges of pollutants in urban runoff from man-made sources into storm water conveyance systems within their jurisdiction.

New development and redevelopment can significantly increase pollutant loads in stormwater and urban runoff, because increased population density results in proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage wastes, household hazardous wastes, fertilizers, pet waste, trash, and other pollutants (SWRCB, 2013). The San Bernardino County MS4 Permit requires new development and significant redevelopment projects to incorporate post construction Low Impact Development (LID) BMPs into project design to comply with the local Water Quality Management Plan (WQMP) or the Integrated Regional Urban Water Management Plan (IRUWMP; WSC, 2021) to reduce or eliminate the quantity, and improve the quality of, stormwater being discharged from the project site.

A WQMP will be prepared for the proposed project based on guidance provided in the City WQMP Handbook (CWE, 2016). The MS4 and the associated WQMP will require the implementation of LID features to ensure that most stormwater runoff is treated and retained onsite. The project WQMP

will include structural BMPs such as use of efficient irrigation systems and landscape design, water conservation, source control, and additional LID features. LIDs may also include the minimization of impervious areas, maximization of infiltration capacity, and preservation of the existing drainage patterns to mitigate the impacts of runoff and stormwater pollution as close to the source as possible. These features are highly effective at removing water pollutants such as sediment, nutrients, trash, metals, bacteria, oil and grease, and organic compounds while reducing the volume and intensity of stormwater flow leaving a site.

The WQMP may also include non-structural source control BMPs including BMP maintenance, local water quality ordinances, spill contingency plan, litter/debris control program, employee training, catch basin inspection program, vacuum sweeping of private streets and parking lots, and compliance with applicable NPDES permits.

With implementation of construction and operational BMPs, potential impacts to water quality would be less than significant and mitigation is not proposed.

- b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

Less than Significant Impact

The project site is in the Upper Santa Ana Valley Groundwater Basin, within the Chino subbasin, which spans about . 240 square miles; and in the northwest part of the Upper Santa Ana River Valley (DWR, 2019, 2003; Google Earth Pro, 2023).

The proposed project is within the service area of the Fontana Water Company (FWC; FWC, 2023a). The water supply for the FWC service area is from Lytle Creek surface flow, wells in the Lytle Basin, Rialto Basin, Chino Basin, and another groundwater basin known as No Man's Land. Water from the California State Water Project is purchased from the Inland Empire Utilities Agency and San Bernardino Valley Municipal Water District. A portion of the water supply can be purchased from Cucamonga Valley Water District during water shortages or under emergency situations. (FWC, 2023b).

Projected future water demands have been estimated based on the anticipated growth, as defined by population projections for FWC's service area. FWC assumes per capita water use will remain substantially lower than the historical baseline (1999-2008) water use, but will increase slightly from current recorded usage due to recovery from the 2012-2016 drought conservation efforts. Based on these factors, water demands in the FWC water service area are expected to increase approximately 42 percent from 2020 levels by 2045, which represents a more than 10 percent decrease in the 2040 projected water demand from the 2015 FWC UWMP (West Yost, 2017). The project would have a less than significant impact and mitigation is not required.

- c) **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**
- i) **Result in substantial erosion or siltation on or offsite;**

Less Than Significant Impact

The project site is relatively flat, with elevations ranging from approximately 1,290 to 1,295 feet above mean sea level (amsl; Google Earth Pro, 2023). There is no evidence of ephemeral, intermittent, or perennial streams or rivers that occur on or adjacent to the project site (Google Earth Pro, 2023; USEPA, 2023a).

Construction

As described in **Section 4.10 a)**, temporary soil disturbance would occur during project construction, due to earth-moving activities such as excavation and trenching for foundations and utilities, soil compaction and moving, cut and fill activities, and grading. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport via stormwater runoff from the project area.

Implementation of the required SWPPP and required BMPs, including installation, maintenance, and replacement of BMPs as discussed in **Section 4.10 a)**, would minimize or avoid potential impacts resulting from on- or offsite erosion and siltation to a level that is less than significant.

Operation

The LID BMPs proposed as part of project design would minimize or avoid on- or offsite erosion and siltation by a combination of maintaining existing drainage patterns, installation of landscaping, and installation of LID BMPs which would prevent erosion and prevent siltation-laden stormwater from leaving the site. Applicable regulations (e.g., the MS4 permit, and installation of LID BMPs, including site design, infiltration and pre-treatment BMPs, etc.), would limit pollutant discharges from development of the project. The project's adherence to existing requirements would reduce erosion and siltation during operation, and therefore impacts resulting from operation of the project would be less than significant.

- ii) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;**
- iii) **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Less than Significant Impact

The proposed drainage design for this project will meet the applicable standards and requirements of the Santa Ana Region. The LID BMPs, which will be described in the project WQMP, would mitigate the post-construction increase in peak flow of runoff from the site for storm events.

The project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

The proposed project would incorporate operational LID BMPs in compliance with the San Bernardino County NPDES Permit (NPDES No. CAS618036) and Waste Discharge Requirements Area Wide Urban Storm Water Runoff Management Program requirements.

The MS4 would require the implementation of water quality features to ensure that runoff is treated prior to discharge into native soils (infiltration), storm drains or other regional conveyance facilities, as described above. Therefore, upon adherence to existing state water quality requirements, including MS4 requirements, the proposed project would minimize or avoid causing a substantial increase in the rate or amount of surface runoff in a manner which would: (1) result in flooding on- or offsite; (2) would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff; or (3) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. These water quality features to be implemented will be described further in the project WQMP. Impacts would be less than significant, and no mitigation is proposed.

iv) Impede or redirect flood flows?

No Impact

The project site is located on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for San Bernardino County, California and Incorporated Areas (Map Number 06071C8656H, effective August 28, 2008); the site is located in Flood Hazard Zone X, defined as “*areas of minimal flood hazard*” (FEMA, 2023a, b). The areas of minimal flood hazard, such as Zone X are outside of the Special Flood Hazard Area (SFHA) and higher than the elevation of the 0.2-percent-annual-chance flood areas. The floodplain (i.e., flood hazard zone) nearest to the project site is the 100-year floodplain associated with East Etiwanda Creek (FEMA, 2023a; USEPA, 2023a). The project site is located outside the nearest floodplain and the proposed project would not impede or redirect flood flows. No impact would occur, and mitigation is not required.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

No Impact

Three dams or reservoirs are within a five-mile radius of the project site: San Sevaine Basin #5, Cactus Basin #3, and Hickory Basin. The project is not located within the dam breach inundation areas of these dams or reservoirs (DWR, 2023a) and would not be at risk of flood hazards due to dam breaches. As discussed previously, the project site is located outside the 500-year floodplain and therefore would not be at risk of inundation by flood hazards.

The tsunami inundation area nearest to the project site is the City of Huntington Beach, located approximately 43-miles southwest of the project site (Google Earth Pro, 2023; CEMA, CGS, and USC, 2021), and therefore the project would not be at risk of inundation by tsunami.

A seiche is an oscillating wave, formed by earthquakes or winds, in an enclosed or partially enclosed waterbody. The nearest waterbodies to the project site in which a seiche could form are Lake Mathews, which is approximately 17.5 miles south from the project, and Lake Perris which is approximately 22.5 miles southeast from the project (Google Earth Pro, 2023). The project site is not within the dam breach inundation areas mapped for these waterbodies (DWR, 2023a), and the project would not be at risk of inundation by seiche.

The proposed project would not be at risk of inundation by flood hazards, tsunamis, or seiche, and would therefore not be at risk of release of pollutants due to inundation. No impact would occur, and mitigation is not required.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact

The nearest water well (State Well Number 01S05W06J001S) is located approximately 1.2 miles north from the project. This active well is designated for residential use and is drilled to a depth of 884 feet (CASGEM 2023).

As discussed in **Section 4.10 a)**, the proposed project would comply with the Construction General Permit and the San Bernardino County NPDES Permit requirements by developing and implementing a site-specific SWPPP and construction stormwater BMPs throughout the construction phase. The proposed project would also comply with the MS4 Permit by incorporating LID BMPs into project design, which would avoid or minimize the amount and type of pollutants leaving the project, entering receiving waters, and impacting water quality and beneficial uses defined for these waters by the Basin Plan (RWQCB, 2016). In addition, the LID BMPs would allow stormwater infiltration into the local aquifer, similar to existing conditions, and minimize or avoid impacts to groundwater quality. The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact would occur, and mitigation is not required.

4.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

a) Would the project physically divide an established community?

No Impact

The proposed project would renovate and expand the City Hall and Annex buildings, rearrange driveways, and add landscaping within the Fontana Civic Center. The project footprint would not permanently expand into existing rights-of-way (ROWs) and would stay within the existing Fontana Civic Center. Therefore, the project would not physically divide an established community and there would be no impacts.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact

The project site has a General Plan land use designation of Public Facilities (P-PF) and a zoning designation of Downtown Core - Civic (City of Fontana, 2023a) (see **Figures 4.11-1** and **4.11-2** below). The P-PF land use designation is for properties in public or quasi-public ownership, such as existing schools; the facilities of agencies such as the City, County, water and sewer districts, and fire protection districts; and hospitals and quasi-public institutions (Stantec, 2018a, p. 15.24). Downtown Core - Civic zoning designations permit the development of the government facilities (City of Fontana Municipal Code, 2023). The proposed project would replace the City of Fontana's City Hall and Annex buildings, which are the city's government buildings. Therefore, the proposed project would conform with General Plan and zoning designations for the project site.

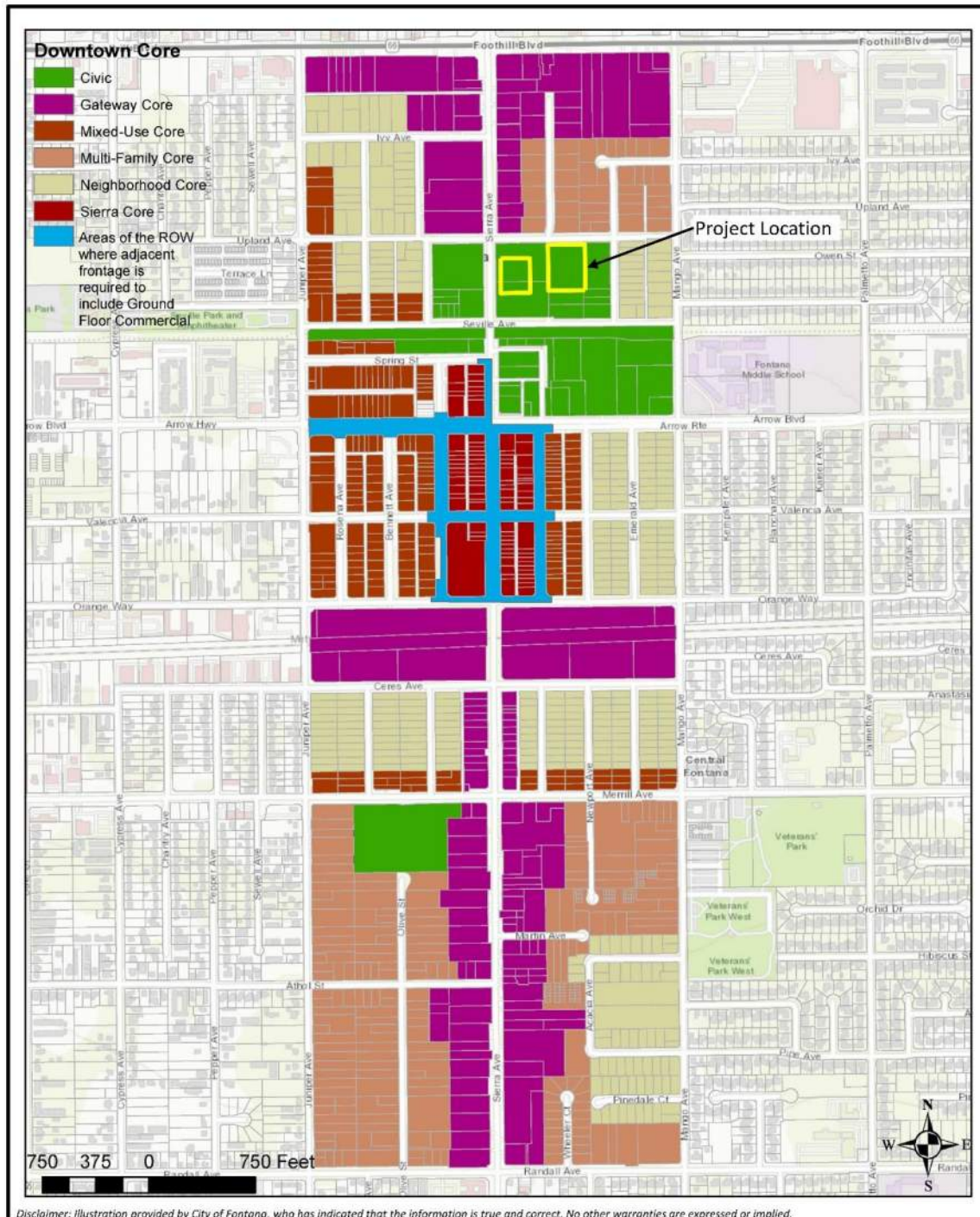
A consistency analysis of the proposed project respecting relevant Fontana General Plan Land Use, Zoning, and Urban Design Element goals and policies is provided below in **Table 4.11-1**. No adverse impact would occur.

Table 4.11-1
CONSISTENCY ANALYSIS: PROPOSED PROJECT COMPARED TO RELEVANT CITY OF FONTANA
GENERAL PLAN LAND USE, ZONING, AND URBAN DESIGN ELEMENT GOALS AND POLICIES

Goals and Policies	Consistency Analysis
Goal 3: Downtown is a dynamic center of activity, with new housing options, walkable environments, and a mixture of uses attracting residents and visitors.	
Policy 3.1: Promote revitalization and redevelopment of older neighborhoods.	Consistent: The proposed project would redevelop outdated buildings with buildings of high-quality design and function.
Policy 3.2: Encourage infill on vacant and underutilized parcels.	Consistent: The proposed project would expand the existing City Hall and Annex on the underutilized parking lot.
Goal 7: Public and private development meets high standards of design.	
Policy 7.1: Support high-quality development in design standards and in land use decisions	Consistent: The project proposes high-quality design standards and materials as shown in Section 3.0 , Project Description.

Sources: Stantec, 2018a, p. 15.33 to 15.39

**Figure 4.11-1
GENERAL PLAN LAND USE DESIGNATION**



Fontana
Civic Center Renovation
Downtown Core Zoning Designations

Figure 4.11-2
ZONING DESIGNATION

4.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

a) **Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

and

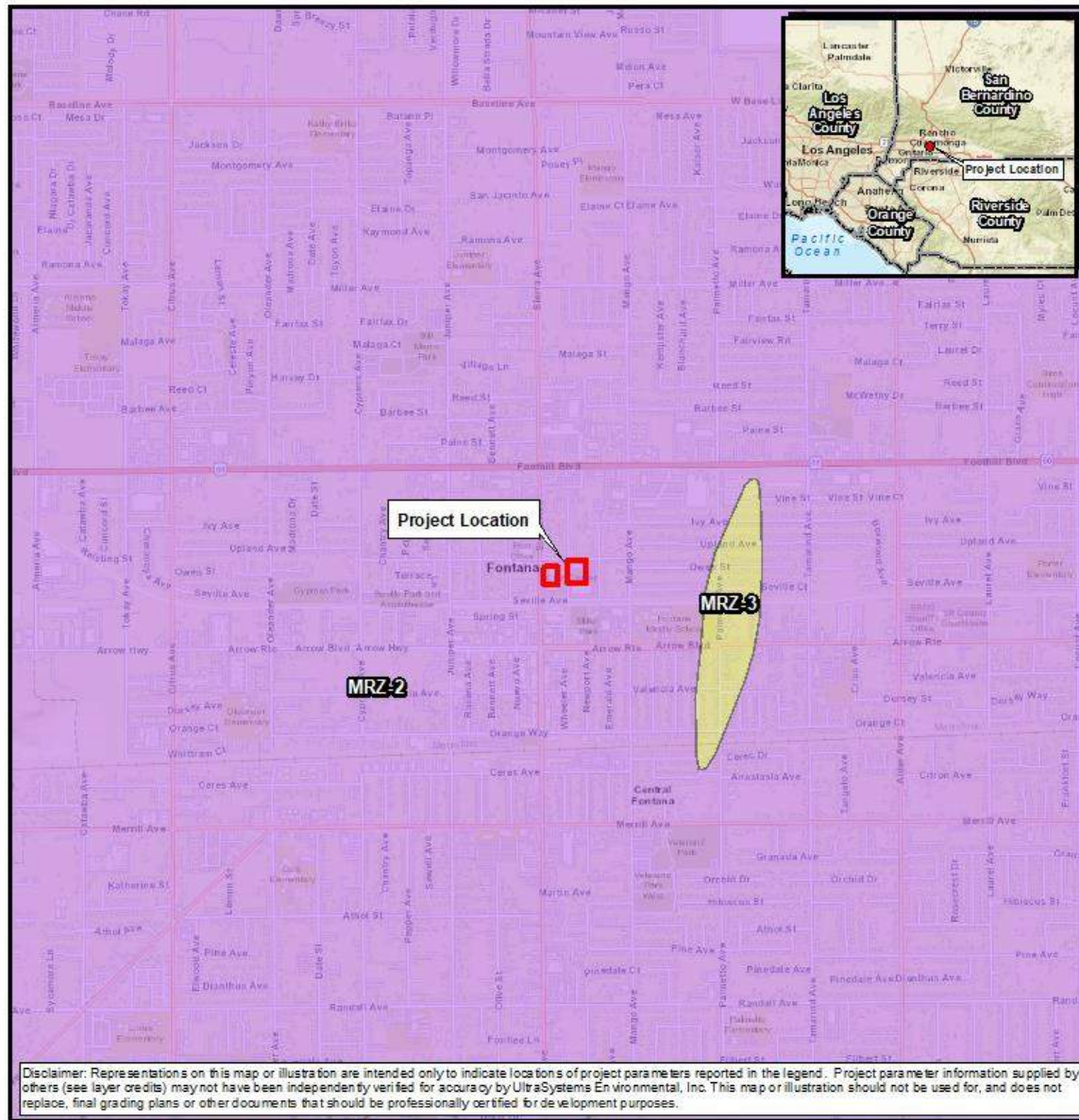
b) **Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

Less than Significant Impact

The proposed project site is located within Mineral Resource Zone (MRZ)-2 as shown in **Figure 4.12 1**. The MRZ-2 classification are areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.

The Land Use, Zoning, and Urban Design section of the City of Fontana General Plan states that the city does not include mining in any of its zoning categories (Stantec, 2018a). It is unlikely that anyone would propose establishing new surface mining operations within the city since mining is not allowed within the city. In addition, the project site and surroundings are built out with urban uses and are thus unavailable for mining. According to the 'Well Finder' tool generated by the California Department of Conservation Division of Oil, Gas, & Geothermal Resources, the project site is not located near (within one mile of) any oil or gas wells or geothermal wells; the nearest active oil or gas well is located 15 miles to the north as shown in **Figure 4.12-2**, and the nearest active geothermal well is located nine miles to the east of the project as shown in **Figure 4.12-3**. Although this project is located within MRZ-2, the project cannot and will not interfere with the availability of these resources since they cannot be accessed due to policies in the City of Fontana's General Plan, which does not allow active mining within the city limits. Therefore, the project site is not an important local mineral resource recovery site and the project would have a less than significant impact on the availability of known mineral and oil-based resources of value to the region or state residents, and on any locally important mineral resource recovery sites.

Figure 4.12-1
DESIGNATED MINERAL RESOURCE ZONE



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December 14, 2023

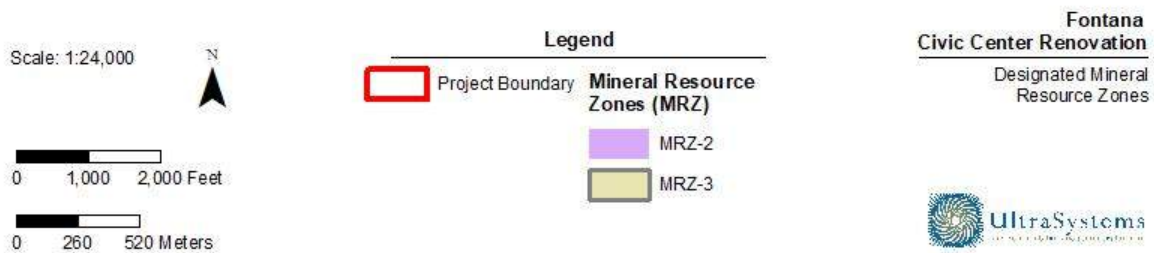
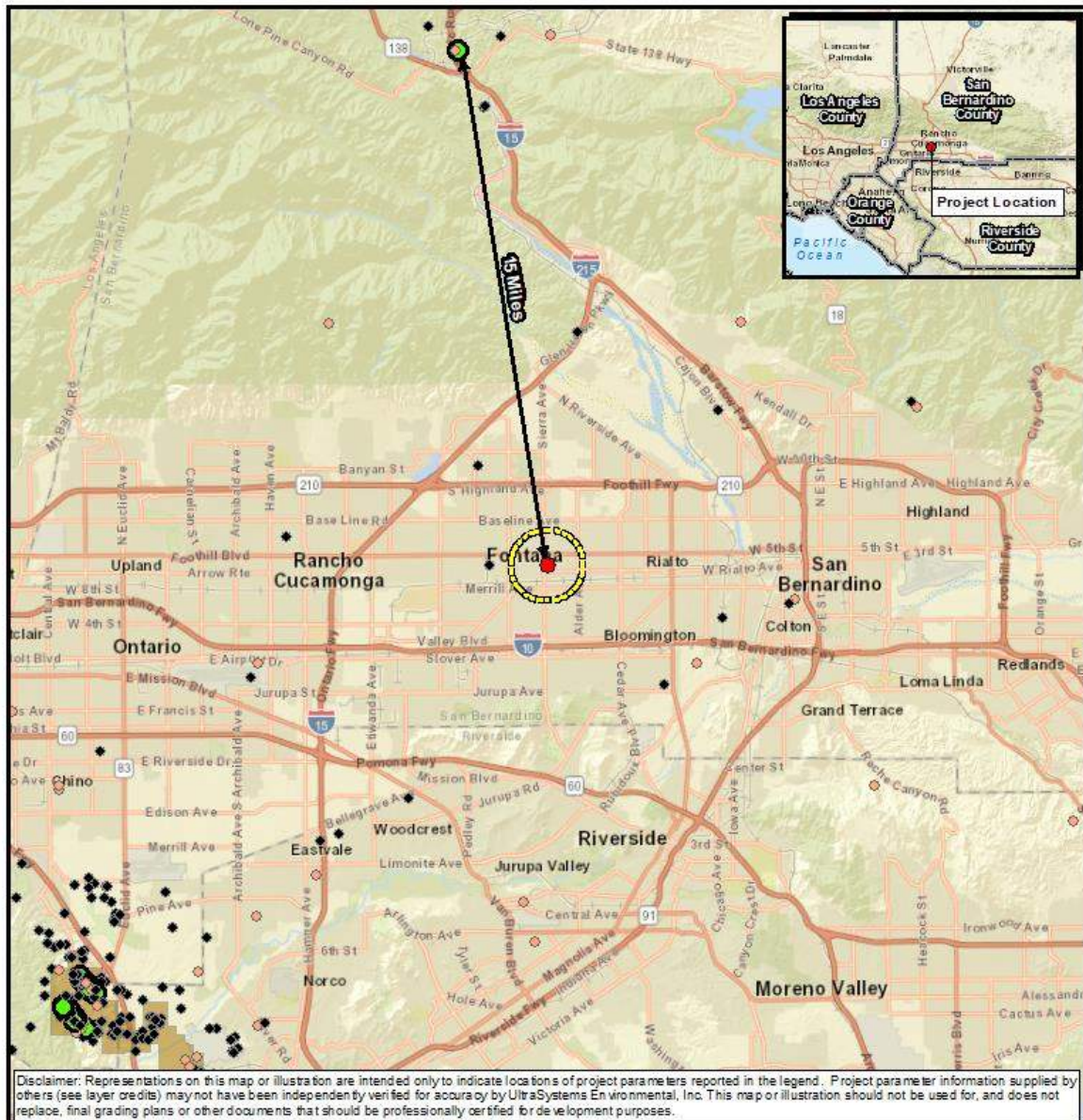
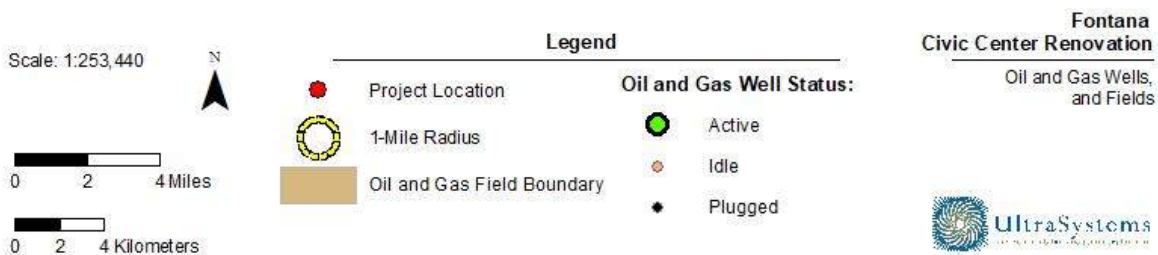


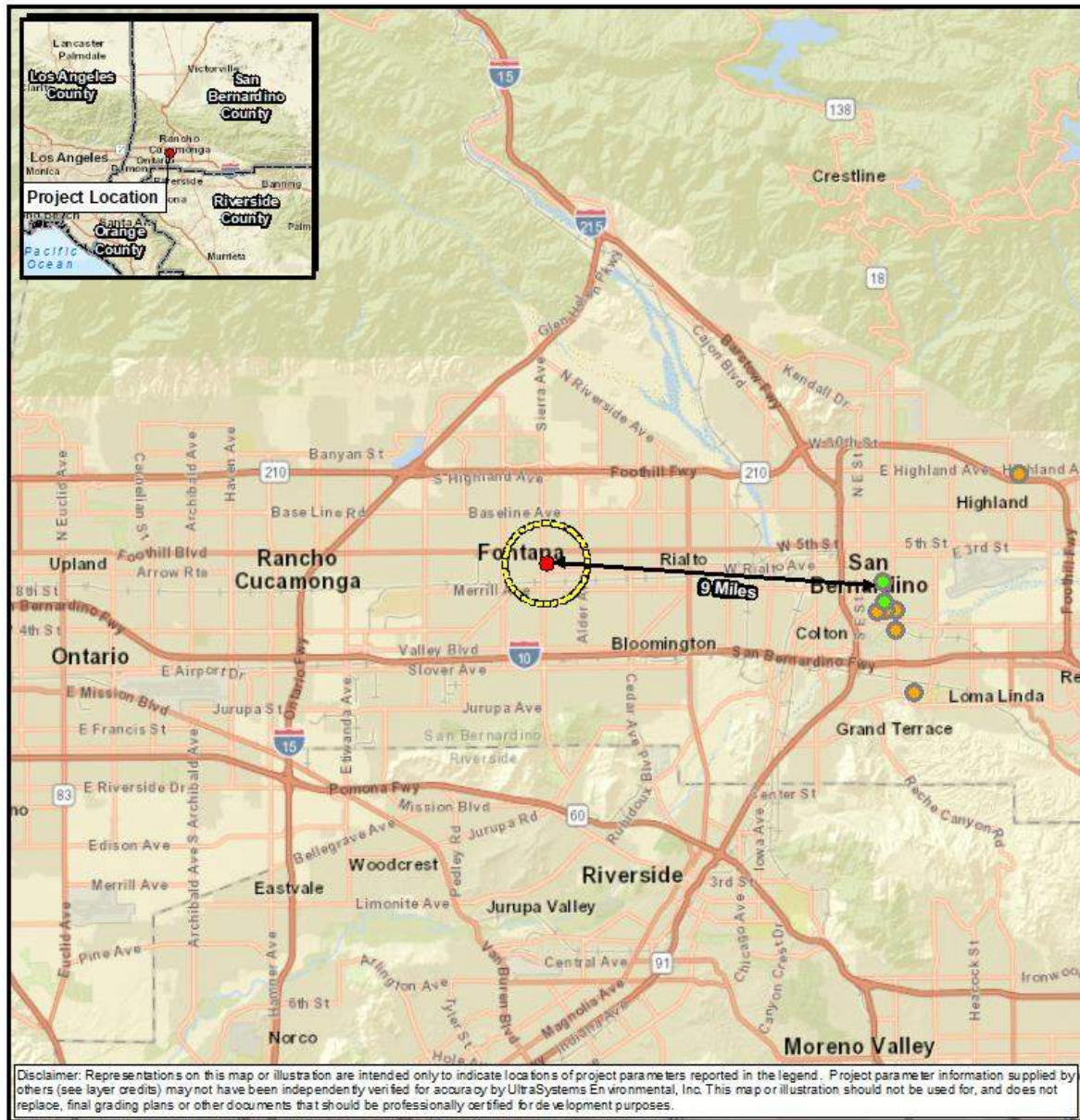
Figure 4.12-2
OIL AND GAS WELLS AND FIELDS



Path: \\gis\svr\GIS\Projects\7230_Fontana_CivicCenterExpansion_ISMND\MXDs\7230_Fontana_CCE_4_9_Oil_Gas_Wells_2023_12_14.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, CA Dept. of Conservation, December, 2017; UltraSystems Environmental, Inc., 2023



**Figure 4.12-3
GEOTHERMAL WELLS**



Scale: 1:221,760

0 1.75 3.5 Miles

0 1.75 3.5 Kilometers

- Legend**
- Project Location
 - 1-Mile Radius
 - Geothermal Well Status:**
 - Active
 - Idle

**Fontana
Civic Center Renovation**

Geothermal Wells



4.13 NOISE

Would the project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

4.13.1 CHARACTERISTICS OF SOUND

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). The decibel (dB) scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micro pascals (zero dBA). The scale ranges from zero (for the average least perceptible sound) to about 130 (for the average human pain level).

4.13.2 NOISE MEASUREMENT SCALES

Several rating scales have been developed to analyze adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people depends largely upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq} , the equivalent noise level, is an average of sound level over a defined time period (such as 1 minute, 15 minutes, 1 hour or 24 hours). Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.
- L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of “background” noise.

- L_{max} is the root mean square (RMS) maximum noise level during the measurement interval. This measurement is calculated by taking the RMS of all peak noise levels within the sampling interval. L_{max} is distinct from the peak noise level, which only includes the single highest measurement within a measurement interval.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 4.77-dBA “penalty” added to noise during the hours of 7:00 p.m. to 10:00 p.m., and a 10-dBA penalty added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime (Hendriks, 2013). The logarithmic effect of these additions is that a 60-dBA 24-hour L_{eq} would result in a calculation of 66.7 dBA CNEL.
- L_{dn} , the day-night average noise, is a 24-hour average L_{eq} with an additional 10-dBA “penalty” added to noise that occurs between 10:00 p.m. and 7:00 a.m. The L_{dn} metric yields values within 1 dBA of the CNEL metric. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

4.13.3 EXISTING NOISE

The project site is in a predominantly residential area. The main source of ambient noise is traffic on local roadways.

4.13.4 SENSITIVE LAND USES

The City of Fontana 2015-2035 General Plan Noise and Safety Element (Stantec, 2018a, p. 11-9) defines “noise-sensitive” uses in areas of 24-hour-per-day of exposure as residential uses, hospitals, rest homes, long-term care facilities, and mental care facilities. Sensitive receivers¹² for shorter-term exposures are defined as schools, libraries, places of worship and passive recreation uses.

The principal sensitive receivers in the project vicinity are Fontana Community Church, the Fontana Lewis Library & Technology Center, single-family and multiple-family residential neighborhoods on the north and east, St. Joseph Catholic Church, and Miller Park. **Table 4.13-1** identifies sensitive receivers in the project vicinity. **Figure 4.13-1** shows the locations of the sensitive receivers.

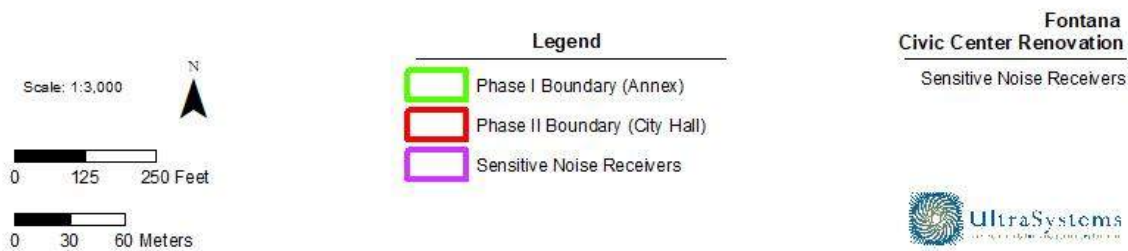
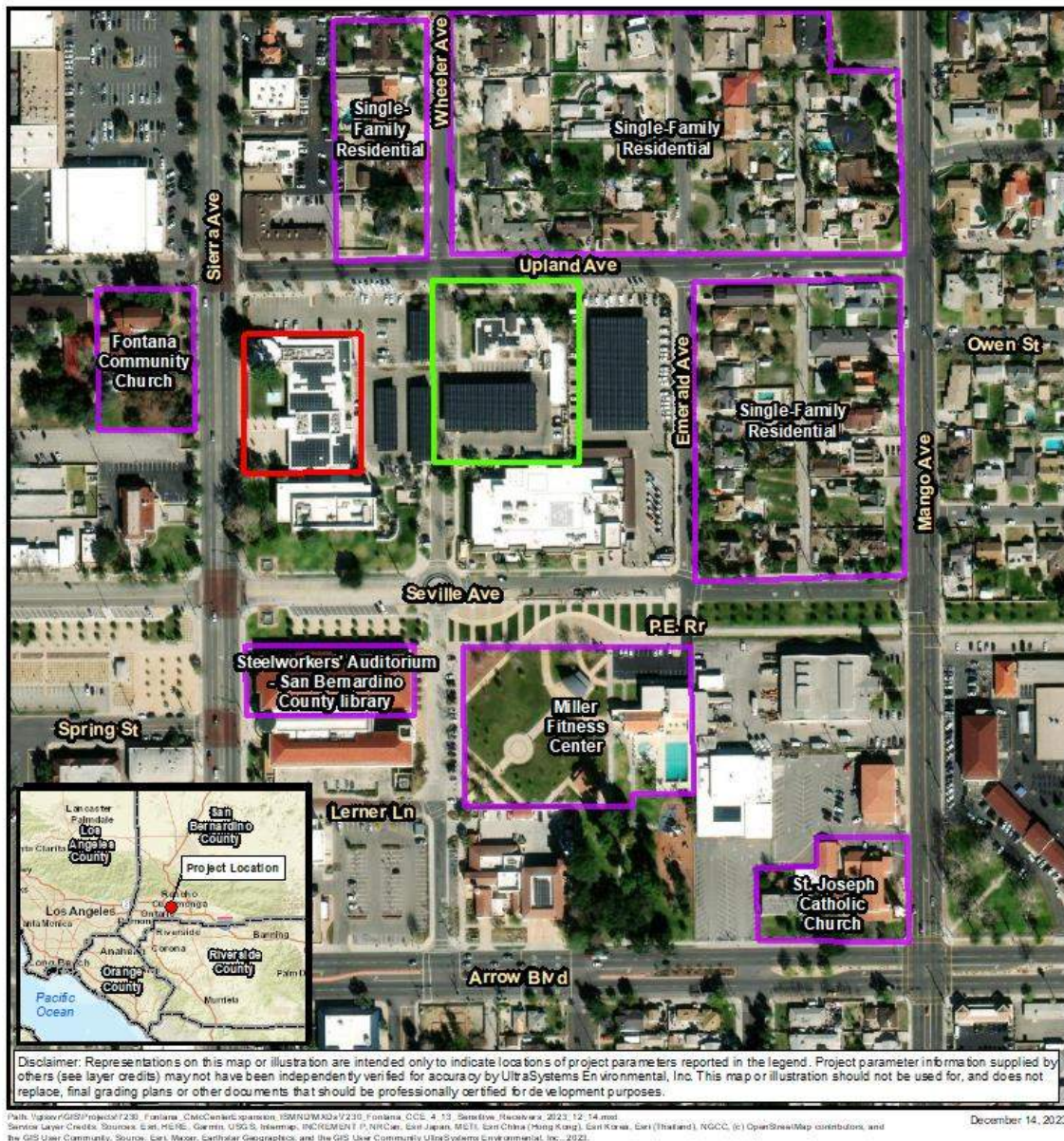
Table 4-13-1
SENSITIVE RECEIVERS IN THE PROJECT AREA

ID	Name	Type	Address	Feet From Site ^a (Phase I; Phase II)
1	Fontana Community Church	Religious	8316 Sierra Avenue	483; 144
2	Fontana Lewis Library & Technology Center	Institutional	8437 Sierra Avenue	367; 339
3	Single-family residence	Residential	8333 Emerald Avenue	258; 665
4	St. Joseph Catholic Church	Religious	17080 Arrow Boulevard	843; 1,102
5	Multi-family residence	Residential	17000 Upland Avenue	74; 335
6	Miller Park	Recreational	17004 Arrow Boulevard	376; 519

^aThese distances are from the sensitive receiver to the nearest point on the project boundary; they were not used in calculating noise exposures.

¹² The targets of adverse noise impacts are called “sensitive receivers” in this document, while those of adverse air quality impacts are termed “sensitive receptors.”

Figure 4.13-1
SENSITIVE RECEIVERS NEAR THE PROJECT SITE



4.13.5 AMBIENT NOISE LEVELS

In order to characterize existing noise levels, UltraSystems conducted ambient noise sampling at five locations near the project site, as shown in **Figure 4.13-2**. **Table 4.13-2** lists the measurement points, sampling locations, and measurement results. Details of the ambient sampling methods and results are provided in **Appendix H**.

The samples were taken between 10:20 a.m. and 2:37 p.m. on Friday, November 3, 2023. The 15-minute L_{eq} values ranged from 48.2 to 65.1 dBA. The lowest of these values was measured at Point 3, which is located in front of a single-family residence along Emerald Avenue, and east of both project sites. The maximum ambient noise level was located at Point 1, which is located in front of Fontana Community Church, and west of both project sites.

Table 4.13-2
AMBIENT NOISE MEASUREMENT RESULTS

Point	Data Set	Sampling Time	Address	Measurement Results (dBA)			Notes
				L_{eq}	L_{max}	L_{90}	
1	S006	1422-1437	8316 Sierra Avenue	65.1	79.8	51.5	West of the project sites, on the sidewalk in front of Fontana Community Church.
2	S002	1110-1125	8437 Sierra Avenue	59.1	82.5	47.4	South of the western project site on the sidewalk north of the Fontana Lewis Library & Technology Center.
3	S004	1252-1307	8333 Emerald Avenue	48.2	63.9	41.1	East of the eastern project site, on the sidewalk in front of a single-family residence.
4	S003	1209-1224	17080 Arrow Boulevard	56.9	72.3	50.3	Southeast of both project sites, in the parking lot of St. Joseph Catholic Church
5	S005	1346-1400	1700 Upland Avenue	60.4	73.8	44.0	North of the east project site, on the sidewalk at the intersection in front of a single-family residence.
6	S001	1020-1035	17004 Arrow Boulevard	49.9	69.2	44.7	South of both project sites, in Miller Park.

Source: UltraSystems, with Google Earth, 2023.

[illegible]

4.13.6 REGULATORY SETTING

State of California

The most current guidelines prepared by the state noise officer are contained in Appendix D of the General Plan Guidelines issued by the Governor’s Office of Planning and Research (OPR) in 2017 (OPR, 2017). These guidelines establish four categories for judging the severity of noise intrusion on specified land uses:

- **Normally Acceptable:** Is generally acceptable, with no mitigation necessary.
- **Conditionally Acceptable:** May require some mitigation, as established through a noise study.
- **Normally Unacceptable:** Requires substantial mitigation.
- **Clearly unacceptable:** Probably cannot be mitigated to a less-than-significant level.

The OPR noise compatibility guidelines assign ranges of CNEL values to each of these categories. The ranges differ for different types of sensitive receivers, and are shown in **Table 4.13-2**.

Table 4.13-2
CALIFORNIA LAND USE COMPATIBILITY FOR COMMUNITY NOISE SOURCES

Land Use Category	Noise Exposure (dBA, CNEL)					
	55	60	65	70	75	80
Residential – Low-Density Single-Family, Duplex, Mobile Homes						
Residential – Multiple Family						
Transient Lodging – Motel, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						

Land Use Category	Noise Exposure (dBA, CNEL)					
	55	60	65	70	75	80
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial and Professional						
Industrial, Manufacturing, Utilities, Agriculture						
	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.					
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.					
	Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.					
	Clearly Unacceptable: New construction or development should generally not be undertaken.					

Source: OPR, 2017.

City of Fontana General Plan Noise and Safety Element

The City of Fontana General Plan EIR Noise and Safety Element (Stantec, 2018a) has the following goals, policies and actions that apply to proposed project:

Goal 1: The City of Fontana protects sensitive land uses from excessive noise by diligent planning through 2035 (Stantec, 2018a, p.11.12).

Policies

- New sensitive land uses shall be prohibited in incompatible areas.
- Where sensitive uses are to be placed along transportation routes, mitigation shall be provided to ensure compliance with state-mandated noise levels.
- Noise spillover or encroachment from commercial, industrial and educational land uses shall be minimized into adjoining residential neighborhoods or noise-sensitive uses.

Actions

- A. The following uses shall be considered noise-sensitive and discouraged in areas in excess of 65 dBA CNEL (Community Noise Equivalent Level): Residential Uses; Hospitals; Rest Homes; Long Term Care Facilities; and Mental Care Facilities.

- B. The following uses shall be considered noise-sensitive and discouraged in areas in excess of 65 $L_{eq}(12)$ (Equivalent Continuous Sound Level): Schools; Libraries; Places of Worship; and Passive Recreation Uses.
- C. The State of California Office of Planning and Research General Plan Guidelines shall be followed with respect to acoustical study requirements.

Goal 2: The City of Fontana provides a diverse and efficiently operated ground transportation system that generates the minimum feasible noise on its residents through 2035 (Stantec, 2018a, p.11.13).

Actions

- A. On-road trucking activities shall continue to be regulated in the City to ensure noise impacts are minimized, including the implementation of truck-routes based on traffic studies.
- B. Development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses shall provide appropriate mitigation measures.

Goal 3: The City of Fontana's residents are protected from the negative effects of "spill over" noise (Stantec, 2018a, p.11.13).

Policy

- Residential land uses and areas identified as noise-sensitive shall be protected from excessive noise from non-transportation sources including industrial, commercial, and residential activities and equipment.

Actions

- A. Projects located in commercial areas shall not exceed stationary-source noise standards at the property line of proximate residential or commercial uses.
- B. Industrial uses shall not exceed commercial or residential stationary source noise standards at the most proximate land uses.
- C. Non-transportation noise shall be considered in land use planning decisions.
- D. Construction shall be performed as quietly as feasible when performed in proximity to residential or other noise-sensitive land uses.

City of Fontana Municipal Code

The City of Fontana's Municipal Code (City of Fontana, 2021a) contains several provisions potentially related to construction and operation of the proposed project. Prohibited noises enumerated in Chapter 18 (Nuisances), Article II. - Noise include:

- *Construction or repairing of buildings or structures.* The erection (including excavating), demolition, alteration or repair of any building or structure other than between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on

Saturdays, except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the building inspector, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues. If the building inspector should determine that the public health and safety will not be impaired by the erection, demolition, alteration or repair of any building or structure or the excavation of streets and highways within the hours of 6:00 p.m. and 7:00 a.m., and if he shall further determine that loss or inconvenience would result to any party in interest, he may grant permission for such work to be done on weekdays within the hours of 6:00 p.m. and 7:00 a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work (City of Fontana, 2021a).

- *Noise near schools, courts, place of worship or hospitals.* The creation of any loud, excessive, impulsive or intrusive noise on any street adjacent to any school, institution of learning, places of worship or court while the premises are in use, or adjacent to any hospital which unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital; provided conspicuous signs are displayed in such streets indicating that the street is a school, hospital or court street (City of Fontana, 2021a).
- *Blowers.* The operation of any noise-creating blower or power fan or any internal combustion engine other than from the hours of 7:00 a.m. and 6:00 p.m. on a weekday and the hours of 8:00 a.m. and 5:00 p.m. on a Saturday, the operation of which causes noise due to the explosion of operating gases or fluids, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler device sufficient to deaden such noise (City of Fontana, 2021a).
- *Piledrivers, hammers, etc.* The operation between the hours of 6:00 p.m. and 7:00 a.m. of any piledriver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other appliance, the use of which is attended by loud, excessive, impulsive or intrusive noise (City of Fontana, 2021a).

City of Fontana Conditions of Approval

The construction contractor shall use the following source controls at all times:

- a. Construction shall be limited to 7:00 am to 6:00 pm on weekdays, 8:00 am to 5:00 pm on Saturdays, and no construction on Sundays and Holidays unless it is approved by the building inspector for cases that are considered urgently necessary as defined in Section 18-63(7) of the Municipal Code.
- b. For all noise-producing equipment, use types and models that have the lowest horsepower and the lowest noise generating potential practical for their intended use.
- c. The construction contractor will ensure that all construction equipment, fixed or mobile, is properly operating (tuned-up) and lubricated, and that mufflers are working adequately.
- d. Have only necessary equipment onsite.

- e. Use manually-adjustable or ambient-sensitive backup alarms. When working adjacent to residential use(s), the construction contractor will also use the following path controls, except where not physically feasible, when necessary:
- f. Install portable noise barriers, including solid structures and noise blankets, between the active noise sources and the nearest noise receivers.
- g. Temporarily enclose localized and stationary noise sources.
- h. Store and maintain equipment, building materials, and waste materials as far as practical from as many sensitive receivers as practical.

4.13.7 SIGNIFICANCE THRESHOLDS

The City of Fontana has not published explicit thresholds for use in determining significance of noise impacts under CEQA. In keeping with standard practice, two criteria were used for judging noise impacts. First, noise levels generated by the proposed project must comply with all relevant federal, state, and local standards and regulations. Noise impacts on the surrounding community are limited by local noise ordinances, which are implemented through investigations in response to nuisance complaints. It is assumed that all existing applicable regulations for the construction and operation of the proposed project would be enforced. In addition, the proposed project should not produce noise levels that are incompatible with adjacent noise-sensitive land uses.

The second measure of impact used in this analysis is a significant increase in noise levels above existing ambient noise levels as a result of the introduction of a new noise source. An increase in noise level due to a new noise source has a potential to adversely impact people. The proposed project would have a significant noise impact if it would do any of the following:

- Expose persons to or generate noise levels (as CNEL) in excess of standards recommended in the state's land use compatibility table.
- Include construction activities in or within 500 feet of residential areas between 6:00 p.m. of one day and 7:00 a.m. of the next day, without a permit.
- Generate construction noise exceeding 80 dBA L_{eq} (FTA, 2018, p. 170).
- Contribute, with other local construction projects, to a significant cumulative noise impact.
- Increase operational exposures at sensitive receivers (mainly because of an increase in traffic flow) by 5 dBA L_{eq} or more.

4.13.8 IMPACT ANALYSIS

- a) **Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less than Significant Impact

Construction activities, especially with heavy equipment operation, would create noise effects on and adjacent to the construction site. Long-term noise impacts include project-generated onsite and offsite operational noise sources. Onsite noise sources from the operation of the civic center would include the use of mechanical equipment such as air conditioners and landscaping and building maintenance activities. Offsite noise would be attributable to project-induced traffic, which would cause an incremental increase in noise levels within and near the project site. Each is described below.

Short-Term Construction Noise

Noise impacts from construction activities are a function of the noise generated by the operation of construction equipment and onroad delivery and worker commuter vehicles, the location of equipment, and the timing and duration of the noise-generating activities. Using calculation methods published by the Federal Transit Administration (FTA, 2018), UltraSystems estimated the average hourly exposures at representative sensitive receivers near the project site. The distances used for the calculations were measured from the sensitive receivers to the approximate center of activity of each construction phase, since that would be the average location of construction equipment most of the time. For the purpose of this analysis, it was estimated that the construction of the proposed project would begin in December 2023 and end in January 2025.

The types and numbers of pieces of equipment anticipated in each phase and subphase of construction and development were estimated by running the California Emissions Estimator Model (CalEEMod), Version 2020.4.0, and having the model generate land use-based default values. The CalEEMod equipment default values are based on a construction survey performed by the SCAQMD (BREEZE Software, 2021). **Table 4.13-3** and **Table 4.13-4** list the equipment expected to be used. For each equipment type, the table shows an average noise emission level (in dB at 50 feet, unless otherwise specified) and a “usage factor,” which is an estimated fraction of operating time that the equipment would be producing noise at the stated level.^{13,14} Equipment use was matched to phases of the construction schedule.

13 Equipment noise emissions and usage factors are from Knauer, H. et al., 2006. *FHWA Highway Construction Noise Handbook*. U.S. Department of Transportation, Research and Innovative Technology, Administration, Cambridge, Massachusetts, FHWA-HEP-06-015 (August 2006), except where otherwise noted.

14 Scraper, crane, and cement and mortar mixer, and roller noise emissions data from County of Ventura, Construction Noise Threshold Criteria and Control Plan. Amended July 2010. This document was also source of usage factors for cranes, cement and mortar mixers, pavers, paving equipment and rollers. Rubber tired dozer noise emissions data from measurements made by Anderson (2007, p. 47) at construction sites.

Table 4.13-3
PHASE I CONSTRUCTION EQUIPMENT NOISE CHARACTERISTICS

Construction Subphase	Equipment Type	Number of Pieces	Maximum Sound Level (dBA @ 50 feet)	Usage Factor	Composite Noise (dBA @ 50 feet)
Site Demolition	Concrete/Industrial Saws	1	90	0.73	90.46
	Rubber Tired Dozers	1	79	0.40	
	Tractors/Loaders/Backhoes	3	85	0.37	
Grading	Graders	1	85	0.41	87.80
	Tractors/Loaders/Backhoes	2	85	0.37	
	Rubber Tired Dozers	1	79	0.40	
	Bore/Drill Rig	1	84	0.20	
	Off-Highway Tractors	1	85	0.37	
	Skid Steer Loaders	1	80	0.40	
Building Site Construction	Cranes	1	83	0.08	83.42
	Generator Sets	1	73	0.50	
	Welders	3	74	0.45	
	Bore/Drill Rig	1	84	0.20	
	Rubber Tired Loaders	2	79	0.40	
	Tractors/Loaders/Backhoes	1	85	0.37	
	Skid Steer Loaders	1	80	0.40	
	Rough Terrain Forklifts	2	67	0.30	
Paving	Rubber Tired Loaders	1	79	0.40	86.64
	Paving Equipment	1	85	0.50	
	Pavers	1	77	0.50	
	Rollers	1	74	0.10	
	Tractor/Loader/Backhoe	1	85	0.37	
	Cement and Mortar Mixers	1	85	0.40	
Architectural Coating	Air Compressor	1	81	0.48	77.81
Underground Building Utilities	Excavators	1	80	0.40	79.99
	Trenchers	1	83	0.30	

Source: FTA, 2018

Table 4.13-4
PHASE II CONSTRUCTION EQUIPMENT NOISE CHARACTERISTICS

Construction Subphase	Equipment Type	Number of Pieces	Maximum Sound Level (dBA @ 50 feet)	Usage Factor	Composite Noise (dBA @ 50 feet)
Demolition	Concrete/Industrial Saws	1	90	0.73	90.46
	Rubber Tired Dozers	1	79	0.40	
	Tractor/Loader/Backhoe	3	85	0.37	
Site Preparation	Graders	1	85	0.41	84.45
	Rubber Tired Dozers	1	79	0.40	
	Rubber Tired Loaders	1	79	0.40	
Grading	Graders	2	85	0.41	85.97
	Rubber Tired Dozers	1	79	0.40	
	Tractor/Loader/Backhoe	1	85	0.37	
Building Construction	Cranes	1	83	0.08	82.51
	Welders	3	74	0.45	
	Tractor/Loader/Backhoe	1	85	0.37	
	Generator Sets	1	73	0.50	
	Forklifts	1	67	0.30	
Paving	Cement and Mortar Mixers	1	85	0.50	86.33
	Paving Equipment	1	85	0.50	
	Pavers	1	77	0.50	
	Rollers	1	74	0.10	
	Tractor/Loader/Backhoe	1	85	0.37	
Architectural Coating	Air Compressor	1	81	0.48	77.81

Source: FTA, 2018

Table 4.13-5 and **Table 4.13-6** summarize the results of the construction noise analysis for both phases of the project. For sensitive receivers 2, 3, 4, and 6, noise attenuation by intervening buildings was taken into account. In Phase I, the greatest exposures would occur during the demolition phase for all sensitive receivers. In Phase II, the greatest exposures would occur during demolition for all sensitive receivers. The highest total short-term noise exposure (ambient plus construction-related) would be **79.6 dBA** L_{eq} , at residences on Upland Avenue. We therefore look to the significance criteria defined in **Section 4.13.8**. The relevant criterion is “Generate construction noise exceeding 80 dBA L_{eq} .” The criterion threshold of 80 dBA was not exceeded in this study. In addition, with implementation of the City of Fontana standard conditions of approval, noise exposures will be even less. Therefore, impacts will be less than significant.

Table 4.13-5

ESTIMATED PHASE I CONSTRUCTION NOISE EXPOSURES AT NEAREST SENSITIVE RECEIVERS

Phase	Receiver ^a	Distance (feet)	Ambient (dBA L _{eq})	Construction (dBA L _{eq}) ^b	New Total (dBA L _{eq})	Increase (dBA L _{eq})
Demolition	MF	177	60.4	79.5	79.6	19.2
Grading	MF	177	60.4	76.8	76.9	16.5
Building Site Construction	MF	177	60.4	72.4	72.7	12.3
Paving	MF	177	60.4	75.7	75.8	15.4
Architectural Coating	MF	177	60.4	66.8	67.7	7.3
Trenching	MF	177	60.4	69.0	69.6	9.2
^a Sensitive receiver type. ^b Construction-generated noise.						

Table 4.13-6

ESTIMATED PHASE II CONSTRUCTION NOISE EXPOSURES AT NEAREST SENSITIVE RECEIVER

Phase	Receiver ^a	Distance (feet)	Ambient (dBA L _{eq})	Construction (dBA L _{eq}) ^b	New Total (dBA L _{eq})	Increase (dBA L _{eq})
Demolition	Religious	319	65.1	74.4	74.9	9.8
Site Preparation	Religious	319	65.1	68.4	70.1	5.0
Grading	Religious	319	65.1	69.9	71.1	6.0
Building Construction	Religious	319	65.1	66.4	68.8	3.7
Paving	Religious	319	65.1	70.2	71.4	6.3
Architectural Coating	Religious	319	65.1	61.7	66.7	1.6
^a Sensitive receiver type. ^b Construction-generated noise.						

Operational Noise

Onsite

Onsite noise sources from the civic center would include operation of air conditioners, parking lot activities, and landscaping. Noise levels from these sources are generally lower than from the traffic on streets bordering the project site. Furthermore, § 18-63 of the City of Fontana Development Code limits onsite noise impacts of the operation of any noise-creating blower or power fan or any internal combustion engine other than from the hours of 7:00 a.m. to 6:00 p.m. on a weekday and the hours of 8:00 a.m. to 5:00 p.m. on a Saturday, the operation of which causes noise due to the explosion of

operating gases or fluids, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler device sufficient to deaden such noise. The operational noise levels would be within both the City's daytime and nighttime residential noise standards of 70 dBA and 65 dBA, respectively. Therefore, operational noise would be less than significant.

Mobile Sources

The principal noise source in the project area is traffic on local streets. The project may contribute to a permanent increase in ambient noise levels in the project vicinity due to project-generated vehicle traffic on neighborhood roadways and at intersections. A noise impact would occur if the project contributes to a permanent increase in ambient noise levels affecting sensitive receivers along roadways that would carry project-generated traffic.

Access to the project site would be available via Upland Avenue. As a worst case, it is assumed that all project traffic will travel on Upland Avenue immediately east of Sierra Avenue and west of Emerald Avenue. According to the City of Fontana General Plan, the average daily traffic (ADT) on Sierra Avenue between Arrow Boulevard and Baseline Boulevard is 19,900 (City of Fontana, 2018a, Exhibit 9.5). The Project is forecast to generate a net total of 339 daily vehicle trips (actual vehicles) (RK Engineering Group, Inc, 2023, p. 4). It would thus increase traffic by about 1.7%. Given the logarithmic nature of the decibel, traffic volume needs to be doubled in order for the noise level to increase by 3 dBA, the minimum level perceived by the average human ear (ICF Jones & Stokes, 2009). A doubling is equivalent to a 100% increase. Because the maximum increase in traffic at any intersection is far below 100%, the increase in roadway noise experienced at sensitive receivers would not be perceptible to the human ear. Therefore, roadway noise associated with project operation would not expose a land use to noise levels that are considered incompatible with or in excess of adopted standards, and impacts would be less than significant.

b) Would the project generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., subway operations, vehicles, machinery equipment, etc.) that causes the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root-mean-square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response (FTA, 2018, pp. 110-111).

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is

rarely perceptible. The range of interest is from approximately 50 VdB to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings (FTA, 2018, p. 120).

Construction Vibration

Construction activities for the project could generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagate through the ground and diminishes in intensity with distance from the source. Vibration impacts can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage of buildings at the highest levels. The construction activities associated with the project could have an adverse impact on both sensitive structures (i.e., building damage) and populations (i.e., annoyance).

The construction vibration analysis used formulas published by the Federal Transit Administration (FTA) (FTA, 2018, p. 185). For a standard reference distance of 25 feet, peak particle velocity is found from:

$$PPV = PPV_{ref} \times (25/D)^{1.5}$$

where

$$\begin{aligned} PPV_{ref} &= \text{Reference source vibration at 25 feet} \\ D &= \text{Distance from source to receiver} \end{aligned}$$

The vibration level (VdB) for a standard reference distance of 25 feet is found from:

$$VdB = L_{vref} - 30 \log(D/25)$$

where

$$\begin{aligned} L_{vref} &= \text{Reference source vibration level at 25 feet} \\ D &= \text{Distance from source to receiver} \end{aligned}$$

The FTA has published standard vibration levels for construction equipment operations, at a distance of 25 feet (FTA, 2018, p. 185). The construction-related vibration levels for the nearest sensitive receivers for major construction phases are shown in **Table 4.13-7** and **Table 4.13-8**. These calculations were based on the distances from the construction activity to the closest sensitive receivers.

Table 4.13-7
VIBRATION LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT FOR PHASE I

Equipment	PPV at 25 feet (in/sec)	Vibration Decibels at 25 feet (VdB)	PPV at 92 feet (in/sec)	Vibration Decibels at 92 feet (VdB)	PPV at 56 feet (in/sec)	Vibration Decibels at 56 feet (VdB)
Loaded trucks	0.076	86			0.031	75
Jackhammer	0.035	79	0.0084	62		
Small bulldozer	0.003	58	0.00072	41		
Large bulldozer	0.089	87	0.021	70		

Sources: Data at 25 feet from (FTA, 2006, p. 12-12); calculations by UltraSystems.

Table 4.13-8
VIBRATION LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT FOR PHASE II

Equipment	PPV at 25 feet (in/sec)	Vibration Decibels at 25 feet (VdB)	PPV at 190 feet (in/sec)	Vibration Decibels at 190 feet (VdB)	PPV at 110 feet (in/sec)	Vibration Decibels at 110 feet (VdB)
Loaded trucks	0.076	86			0.015	67
Jackhammer	0.035	79	0.0038	53		
Small bulldozer	0.003	58	0.00032	32		
Large bulldozer	0.089	87	0.0096	61		

Sources: Data at 25 feet from (FTA, 2006, p. 12-12); calculations by UltraSystems.

As shown in **Table 4.13-7**, the vibration level of construction equipment at the nearest sensitive receiver (56 feet) is at most 0.031 inch per second, which is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and 75 VdB, which is less than the FTA threshold for human annoyance of 80 VdB. Construction vibration impacts would therefore be less than significant during Phase I. As shown in **Table 4.13-8**, the vibration level of construction equipment at the nearest sensitive receiver (110 feet) is at most 0.015 inch per second, which is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and 67 VdB, which is less than the FTA threshold for human annoyance of 80 VdB. Construction vibration impacts would therefore be less than significant during Phase II.

Operational Vibration

Operation of the proposed project would not involve significant sources of ground-borne vibration or ground-borne noise. Thus, operation of the proposed project would result in a less than significant impact.

- c) **For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

No Impact

The closest public airport to the project site is the Ontario International Airport, located approximately 12.4 miles to the southwest. No portion of the project site lies within the 65-dBA CNEL noise contours of that airport (City of Ontario, 2018). Therefore, the project would not expose people residing or working in the project area to a safety hazard or excessive noise levels associated with airports and no impact would occur.

4.14 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

- a) **Would the project induce substantial unplanned growth in an area either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?**

Less Than Significant Impact

The project does not propose the development of any residential uses that would cause direct population growth. The proposed project would replace two existing municipal buildings in the City of Fontana Civic Center with the intent to improve operational inadequacies that currently exist and no increase in employment is anticipated. Should the project increase employment in the future, it is expected to be from the local workforce. Project improvements would not be of the scale to induce indirect unplanned population growth in the project area.

The project would create employment opportunities during construction but it is anticipated that workers from the local workforce would be hired during the construction phase. Employment generation from the project's construction would not be of the scope or scale to induce migration into the project region to work.

Employment during the operational phase would also be expected to be from the local workforce. Employment in the City of Fontana in 2019 was estimated at 65,087 and is forecast to increase to 79,452 in 2050, an increase of 14,365 or 18 percent (SCAG, 2022, p. 26). Estimated project employment is within the regional forecast for employment in the city and therefore, impacts on population growth in the area would be less than significant.

- b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact

No housing exists onsite, and no one currently resides on the project site. Therefore, the project would not displace any housing or people and the project would not necessitate the construction of replacement housing. No impact would occur.

4.15 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?				X
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

a) Fire protection?

No Impact

Fire prevention, emergency response, and administrative services for the city of Fontana are provided by the Fontana Fire Protection District (Fire Department) through a contract with the San Bernardino County Fire Department. The Fire Department also provides emergency medical and rescue services, investigation and mitigation of hazardous materials events, disasters, and other responses. There are seven fire stations in Fontana, a Hazardous Materials Response Team, and firefighters with special expertise in wildfires. (City of Fontana, 2018a, p. 8.6). The Fire Department is staffed with 140 full-time personnel: 124 safety employees and 16 non-safety employees. The Fire Department has a response time goal for all service calls to arrive on the scene in six minutes or less (City of Fontana, 2021a, p. 407).

The nearest station to the project site is Fire Station 71, which serves the northern areas of the city of Fontana, at 16980 Arrow Boulevard, approximately 750 south of the project site. Station 71's daily staffing includes two captains, two engineers, three firefighter medics, and one firefighter and is equipped with one medic engine, one medic truck, and one squad vehicle (City of Fontana, 2023b).

The project proposes redevelopment of two buildings (City Hall and Annex Buildings) within the Civic Center campus. Travel time to the project site from Station 71 is approximately one minute (Google Maps, 2023). The Fire Department response time for the closest fire station to the project site would be four minutes, which is under the Fire Department's goal of having a six-minute response time.

As detailed in **Section 4.11, Land Use**, the development of the project site would be consistent with the project site's General Plan land use of Public Facilities (P-PF) and a zoning designation of Downtown Core - Civic, respectively. Additionally, the proposed project would consist of improving and reconfiguring existing public facilities and improving existing conditions within and around the project site. A development such as the proposed project would have similar circulation compared to

existing conditions, which would maintain the ability of the project to be adequately served by the fire department. There would be no impact on Fire Protection.

b) Police protection?

No Impact

The City of Fontana Police Department (Police Department) provides police services in the project area. The Police Department has 310 full-time employees (207 sworn and 103 non-sworn) and is comprised of four separate divisions: Office of the Chief of Police, Administrative Services, Field Services, and Special Operations (City of Fontana, 2021a, p. 381). The nearest police station to the project is located on the Civic Center campus at 17005 Upland Avenue, directly adjacent to the project locations. The city's population was estimated on January 1, 2021, to be 213,944 (City of Fontana, 2021a, p. 30), and the Police Department has an approximate service-to-population ratio of 0.97 sworn officers per 1,000 residents. Project development would not add residents to the city, so the service-to-population ratio would remain at 0.97 sworn officers per 1,000 residents, thus not significantly affecting the existing service capacity of the Police Department.

The Police Department's target response time for Priority 1 (emergency calls like subject not breathing, shots fired, and other immediate risk to life/safety) is 4:20 (4 minutes 20 seconds) (City of Fontana, 2021a, p. 382). In May 2023, the Fontana Police Department had an average Priority 1 response time of 4:27 (City of Fontana, 2023c). As previously noted, the project proposes redevelopment of two buildings within the Civic Center campus, where the Police Station is also located. Travel and response time to the project site from the adjacent Police Station is approximately one minute, well below the target response time of 4:20.

As detailed in **Section 4.11**, the development of the project site would be consistent with the project site's General Plan land use and zoning designation of Public Facilities (P-PF) and a zoning designation of Downtown Core - Civic, respectively, and would improve existing conditions within and around the project site. A development such as the proposed project would have similar circulation compared to existing conditions, which would maintain the ability of the project to be adequately served by the police department. Therefore, no impact would occur.

c) Schools?

No Impact

The project site is in the Fontana Unified School District (FUSD), which spans most of the City of Fontana. The FUSD operates 30 elementary schools (K-5), seven middle schools (6-8), five high schools, two alternative education schools, and one adult/community education program (FUSD, p.6 2022a).

The impact on school facilities is determined by the projected increase in the number of households resulting from the proposed project. As outlined in **Section 4.13**, the project is a non-residential development, as such, will not directly contribute to a rise in the number of households. Additionally, it is expected to generate employment opportunities only for the local workforce so no indirect increase in the number of households would be created. Therefore, there would be no impact on schools.

Parks?

No Impact

The City of Fontana Department of Community Services (Community Services) provides recreation programs and maintains city parks. Community Services operates and maintains 34 parks totaling approximately 1,572 acres of Open Space (1,195 acres of parks and approximately 377 acres of additional open space and trails) (City of Fontana 2018c p. 7.6, 15.6).

Impacts on park facilities are based on the direct population increase the project would cause. The proposed replacement of two civic buildings would not induce a direct population increase; and would most likely create employment only for the local workforce, there would be no indirect population increase. Therefore, there would be no impact on parks.

d) Other Public Facilities?

No Impact

Library

Library services in the city are provided by the San Bernardino County Library System, which is comprised of 32 branch libraries. Within the city of Fontana, there are three libraries: the Fontana Lewis Library and Technology Center (Lewis Library) located at 8437 Sierra Avenue; the Summit Branch Library located at 15551 Summit Avenue; and the Kaiser High School Library located at 11155 Almond Avenue (SBCL, 2023). The nearest library to the project site is the Lewis Library located approximately 500 feet to the south.

Impacts on library facilities are based on the direct population increase the project would cause. As a non-residential development, the proposed project would not induce a direct population increase and would most likely create employment only for the local workforce, so there would be no indirect population increase. Therefore, there would be no impact on library facilities.

Hospitals

The nearest hospital to the project site is Kaiser Permanente at 9961 Sierra Ave, Fontana CA 92335 two miles south of the project site. The hospital is a 314-bed facility that includes a 51-bed emergency department (Kaiser Permanente, 2023).

Impacts on hospital facilities are based on the direct population increase the project would cause. As a non-residential development, the proposed project would not induce a direct population increase and would most likely create employment only for the local workforce, so there would be no indirect population increase. Therefore, there would be no impact on hospital facilities.

4.16 RECREATION

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or Renovation of recreational facilities which might have an adverse physical effect on the environment?				X

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Impact

Recreational services in the city of Fontana are provided by the City's Department of Facilities and Parks, which maintains over 40 parks, sports facilities, and community centers (City of Fontana, 2020a). The City's park acreage standard is five acres of public park land per 1,000 residents. The City currently has approximately 1,359 acres total in parks and land for public use, enough to meet this performance standard (Stantec, 2018a, p. 7.10).

The project proposes replacement of the City Hall and Annex Building. The residential population is not expected to increase as a result of the proposed project. Project construction would create limited employment opportunities; it is anticipated that employees from the regional workforce would be hired. Project operation is not anticipated to generate a net increase in employment.

The parks within one mile of the project site, all in the City of Fontana, include Chaparral Park at 11415 Rancherias Drive, and Oak Park at 14180 Live Oak Avenue, to the south of the project site. Also, Southridge Park at 14501 Live Oak Ave and Southridge Village Open Space Reserve are located to the southeast from the project site. Further south, just over one mile distant, is the Rancho Mira Loma Park at 3206 Wysocki Lane, Mira Loma. Project operation is not expected to increase employment onsite compared to existing conditions, and is therefore not anticipated to cause an increase in use of nearby parks. No impact would occur.

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact

As described above, the project does not propose new or expanded recreational facilities that could have adverse effects on the environment. Therefore, no impact would occur.

4.17 TRANSPORTATION

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?		X		

The following analysis is based in part on **the findings of the** Civic Center Renovation Project **Trip Generation & Vehicle Miles Traveled (VMT) Screening Analysis** (Screening Analysis) for the Proposed Project, prepared by RK Engineering Group, Inc., October 2, 2023. The trip generation assessment estimates the combination of existing and future vehicle trips from the project site based on the implementation of the proposed project. Trip generation estimates are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The Screening Analysis is available in **Appendix I** to this Initial Study.

- a) **Would the project conflict with a program plan, ordinance, or policy addressing circulation system, including transit, roadway, bicycle and pedestrian facilities?**

Less than Significant Impact

The following plans and programs address the traffic circulation system in the City of Fontana.

City of Fontana Active Transportation Plan (ATP)

The City of Fontana Active Transportation Plan, adopted in 2017, is used to implement infrastructure improvements to improve connectivity in Fontana and surrounding cities and the region by providing safe and comfortable walking and bicycling links. The ATP addresses the City's goal of becoming a healthy, engaged, economically vibrant, family-oriented, and safe community. The proposed project would not create pedestrian or bicycle linkages, and therefore the proposed project would not conflict with the ATP.

City of Fontana Development Impact Fee (DIF) Program

The City of Fontana has adopted a Development Impact Fee (DIF) program in accordance with the requirements of Government Code §66000 *et al.* The Department of Development Services oversees

the use of the DIF fees. The DIF is used to fund various projects included in the City's capital improvement program, which is periodically updated. Generally, DIF eligible intersections are those consisting of two intersecting Hierarchy of Streets Plan roadways. Fee credits and reimbursements will be available as part of the DIF program and are given to projects that are identified as a DIF program facility.

San Bernardino County Congestion Management Program (CMP)

The San Bernardino County Congestion Management Program was originally enacted in 1990 by Proposition 111 to address the increasing public concern that traffic congestion affects the quality of life and economic vitality of the State of California. However, since the City of Fontana has a standard program (Circulation Development Fees) to fund regional improvements, SANBAG considers the City exempt from CMP traffic impact analysis. Therefore, no CMP analysis is required for the modified project and no impact is anticipated.

The project does not propose the addition of roadways or public rights-of-way that would conflict with adopted transportation plans and policies. Access to the civic center campus is available through existing driveways along Upland Avenue on the north side, Emerald Avenue on the east side, and Seville Avenue on the south side, and additional proposed access to parking on the ground floor in the proposed Annex building. The site's primary connection to the nearest regional transportation corridor, the I-210 freeway, is via Sierra Avenue, which abuts the western portion of the project site; there is no direct access to the site from Sierra Avenue, which is classified as a Major Highway. Upland, Emerald, and Seville Avenues are classified as Local Street(s) by the Community Mobility and Circulation Element of the General Plan.

The project does not propose elements that would conflict with the adopted alternative transportation policies. Transit services are currently provided to the City and the project area by Omnitrans, a public transit agency serving the San Bernardino Valley. The closest transit access is from the Sierra @ Civic Center bus stop on Sierra Avenue, located on the west side of the Civic Center campus along Sierra Avenue. The Sierra @ Civic Center bus stop is served by Omnitrans bus routes 14, 67, and 82. Route 14 runs between the cities of Fontana and San Bernardino, Route 67 runs between the cities of Fontana and Rancho Cucamonga, and Route 82 runs between north and south Fontana. All routes provide direct access to the Fontana Metrolink Transit Center, located 0.5 miles south (Omnitrans, 2023). The Fontana Metrolink Transit Center is served by the San Bernardino Line, which runs between downtown Los Angeles through the San Gabriel Valley and the Inland Empire to San Bernardino, with limited express service to Redlands (Metrolink, 2023).

Long-term, the project could result in an increase in public transportation demand from local employment opportunities and the need for civic services provided by the project; however, such an increase would be insignificant given the comparatively small employment growth potential of the project.

Pedestrian circulation is provided through existing public sidewalks and walkways along Sierra and Upland Avenues and through the civic center campus. The existing sidewalk system within the project vicinity provides direct connectivity to surrounding commercial, industrial, and residential developments.

The regional Pacific Electric Trail (PET) travels 6.4 miles east to west across the City of Fontana, abutting the Civic Center campus on the south, running parallel to Seville Avenue. PET is a Class I trail that spans a total of 21 miles between the cities of Rialto and Claremont. The PET is the only fully

dedicated and buffered bicycle route in the City of Fontana. Additionally, a Class III shared bike lane runs north to south along Sierra Avenue.

As mentioned above, the project would have access along Upland, Emerald, and Seville Avenues. Per the General Plan's DEIR, sections of Sierra Avenue operate at LOS E, but the Sierra Avenue segment located directly west of the project site, between Upland Avenue and Seville Avenue, does not exceed LOS C, the City's standard for desirable LOS (City of Fontana, 2018b, pp. 5.13-8 to 5.13-9).

According to **Table 4.17-1**, the proposed project is expected to generate approximately 339 additional net daily trips, based on the ITE trip generation rates. This number falls below the 500 average daily trips (ADT) threshold set forth in the *Traffic Impact Analysis (TIA) Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment* (TIA Guidelines).

Table 4.17-1
PROJECT TRIP GENERATION RATES & FORECAST

Land Use	ITE Code	Qty.	Units ²	AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
ITE Trip Generation Rates ¹										
Government Office Building	730	--	STU	75%	25%	3.34	25%	75%	1.71	22.59
Existing Site Trip Generation Forecast										
Annex Building (Phase I)	730	13,500	TSF	34	11	45	6	17	23	305
City Hall (Phase II)	730	31,500	TSF	79	26	105	14	40	54	712
Existing Site Trip Generation Subtotal [A]				113	37	150	20	57	77	1,017
Proposed Project Trip Generation Forecast										
Annex Building (Phase I)	730	30,000	TSF	75	25	100	13	38	51	678
City Hall (Phase II)	730	30,000	TSF	75	25	100	13	38	51	678
Existing Site Trip Generation Subtotal [B]				150	50	200	26	76	102	1,356
Total Net Trip Generation Forecast [B] - [A]				37	13	50	6	19	25	339

1. Source: ITE Trip Generation Manual (11th Edition, 2021).

2. TSF = Thousand Square Feet.

Source: RK Engineering Group Inc., 2023

As specified in the TIA Guidelines, a detailed traffic impact analysis will be required if a project is expected to generate 50 or more peak hour trips to any intersection. Review of project trip generation indicates that the project is expected to generate net increases of 50 AM peak hour trips and 25 PM peak hour trips. Although the project generates one greater trip than the city threshold during the AM peak hour, this extra trip can be considered nominal. Furthermore, after project traffic is assigned to the roadway network, it is not expected that a single project driveway and/or adjacent intersection carry 50 or more project-generated trips during any peak hour. In accordance with the TIA Guidelines, the proposed project is screened from a full VMT analysis.

Given that the proposed project would not conflict with any program plan, ordinance, or policy addressing the circulation system, including the provisions of the General Plan Circulation Element, ATP, or interfere with public transit or bicycle transportation, the impacts of the project would be less than significant.

- b) **Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)**

Less than Significant Impact

CEQA Guidelines §15064.3, *Determining the Significance of Transportation Impacts*, details the criteria for evaluating the possible transportation impacts of a project. The accepted metric for the analysis of transportation under CEQA is Vehicle Miles Traveled (VMT). The VMT is a measure of the total number of miles traveled by all vehicles in a geographic region over a given period of time. The U.S. Department of Transportation defines VMT as "the *total annual miles of vehicle travel divided by the total population in a state or in an urbanized area*". The Level of Service (LOS) metric is no longer used to evaluate the performance of transportation elements to determine significant impacts under CEQA.

On June 9, 2020, the City of Fontana adopted the VMT thresholds to determine transportation impacts according to the CEQA Guidelines. This adoption was mandated by Senate Bill (SB) 743 and the recent changes to CEQA Guidelines §15064.3. For the purpose of CEQA analysis of VMT and traffic impacts associated with projects proposed in the City of Fontana, the city also adopted the TIA Guidelines to provide project screening criteria and guidance for the analysis of VMT assessments.

The VMT analysis presented above in **Section 4.17a)** satisfies the requirements of CEQA Guidelines §15064.3(b) in that the city assumes that projects generating fewer than 500 ADT would not cause a substantial increase in total VMT city-wide or regionally and therefore would have a less than significant impact on VMT. The proposed project is estimated to generate a net total of 339 ADT, which would not exceed the City's screening threshold of 500 ADT; therefore, the project would not conflict or be inconsistent with CEQA Guidelines §15064.3 and would result in a less than significant impact.

- c) **Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

Less than Significant Impact

The proposed project would not alter the surrounding roads. Vehicular access to the project would be through existing driveways along Upland Avenue on the north side, Emerald Avenue on the east side, and Seville Avenue on the south side. There is an additional proposed access to parking on the ground floor of the proposed Annex building; however, the proposed driveway would be perpendicular to existing roadways and would not cause hazards due to a geometric design feature. The project's circulation system, including driveways and parking areas, would be designed to meet city development standards and would not result in uses or design features that create traffic hazards. Therefore, the impacts regarding increases in hazards due to geometric design features or incompatible uses would be less than significant.

d) Would the project result in inadequate emergency access?

Less than Significant Impact with Mitigation Incorporated

Construction

During the construction phase of the project, the lanes and sidewalks may be temporarily closed. To ensure that circulation and emergency access during construction are adequate, the City requires the preparation and implementation of a Transportation Management Plan (TMP) for all projects that require construction in the public right of way. Therefore, the proposed project would implement the mitigation measure **TRANS-1**. With the implementation of the mitigation measure TRANS-1, the impacts regarding emergency access during construction would be less than significant.

Operation

The project would comply with applicable city regulations, such as the requirement to comply with the City's Fire Code in providing adequate emergency access. Before issuance of building permits, the Fontana Fire Protection District would review the project site plans, including the location of all buildings, fences, access driveways, and other features that can affect emergency access. The project site plan provides fire lanes for adequate emergency access. The accessibility and distance requirements at the site would be in accordance with the city's design requirements. The City's review process and compliance with applicable regulations and standards would ensure adequate emergency access at the project site at all times. Therefore, the proposed project would not result in inadequate emergency access and would have no impact in this regard.

Mitigation Measure

TRANS-1 The Transportation Management Plan (TMP) must be reviewed and approved by the City Traffic Engineer before beginning construction activity on the public right of way. The typical TMP requires items such as the installation of a K-rail between the construction area and open traffic lanes, the use of flaggers and directional signage to direct traffic where only one travel lane is available or when equipment movement creates temporary hazards, and the installation of steel plates to cover trenches under construction. The TMP shall stipulate that emergency access must be maintained at all times.

Level of Significance After Mitigation

After the implementation of the mitigation measure **TRANS-1** described above, the project would have less than significant impacts in the construction phase on emergency access.

4.18 TRIBAL CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)?				X
b) Cause a substantial adverse change in the significance of a tribal cultural resource that is determined to be a significant resource to a California Native American tribe pursuant to the criteria set forth in subdivision (c) of Public Resource Code § 5024.1(c)?		X		

Information from UltraSystems' Draft Phase I Cultural Resources Inventory, dated November 22, 2023 for the proposed project (refer to **Appendix D**) is included in the analysis below.

- a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)?**

No Impact

The Native American Heritage Commission's (NAHC) Sacred Lands File (SLF) search dated November 20, 2023 was negative (see **Section 4.2** and Attachment C in **Appendix D** to this IS/MND).

No prehistoric archaeological resources were observed during the archaeological field survey conducted November 10, 2023, by Stephen O'Neil, M.A., RPA and Mr. Rodrigo Jacobo, M.A., as part of the cultural resources investigation (**Section 4.3, Appendix D**). The results of the pedestrian assessment indicate that it is unlikely that prehistoric resources will be adversely affected by construction of the project. Cultural resource study findings at the South Central Coastal Information Center (SCCIC) (the local California Historic Resources Information System facility) indicate there are no prehistoric or historic resources within the project parcel's boundary. (Refer to **Appendix D**).

No tribal cultural resources onsite are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code § 5020.1(k). Therefore, the project would have no impact in this regard.

- b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is determined to be a significant resource to a California Native**

American tribe pursuant to the criteria set forth in subdivision (c) of Public Resource Code § 5024.1(c)?

Less than Significant Impact with Mitigation Incorporated

Assembly Bill 52 (AB 52) requires meaningful consultation with California Native American Tribes on potential impacts on Tribal Cultural Resources (TCRs), as defined in Public Resources Code § 21074. TCRs are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources (CNRA, 2007).

As part of the AB 52 process, Native American tribes must submit a written request to the lead agency to be notified of projects within their traditionally and culturally affiliated area. The lead agency must provide written, formal notification to those tribes within 14 days of deciding to undertake a project. The tribe must respond to the lead agency within 30 days of receiving this notification if they want to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the tribe's request. Consultation concludes when either (1) the parties agree to mitigation measures to avoid a significant effect on a tribal cultural resource, or (2) a party, acting in good faith and after reasonable effort, concludes mutual agreement cannot be reached.

The City of Fontana (the lead agency) initiated AB 52 outreach to local tribes for the Fontana Civic Center Renovation Project and sent letters via certified mail on November 28, 2023 to the six tribal contacts on their list for AB 52 contact, informing them of the project as indicated on the list below:

- Joseph Ontiveros, Cultural Resource Director/Soboba Band of Luiseño Indians
- Andrew Salas, Chairman/Gabrieleno Band of Mission Indians - Kizh Nation
- Alexandra McCleary, Ph.D., Sr. Mgr. Cultural Resource Management/ San Manuel Band of Mission Indians
- Alexandra McCleary, Ph.D., Cultural Resource Management Department/ San Manuel Band of Mission Indians
- Michael Mirelez, Cultural Resource Coordinator/ Torres-Martinez Desert Cahuilla Indians
- Anthony Morales, Chief/Gabrieleno Tongva San Gabriel Band of Mission Indians

The letters convey that the recipient has 30 days from the receipt of the letter to request AB 52 consultation regarding the project.

The Gabrielino – Kizh National responded via email on December 5, 2023 requesting consultation; the email and 13 attachments detailed the tribe's association with the project area as well as provided three proposed TCR mitigation measures. Further consultation will be conducted via email. (Angelica Martinez, Assistant Planner, personal communication via email December 5, 2023 and December 12, 2023; Rina Leung, Senior Planner, personal communication via mail December 12, 2023.)

The Yuhaaviatum of San Manuel Nation's Kristen Tuosto, Tribal Archaeologist, replied via email on December 5, 2023 stating that the project is situated within tribal ancestral territory but that they have no concerns with the project and did not request consultation; the tribe did provide suggestions for three cultural resource mitigation measures and two tribal cultural resource mitigation measures. (A. Martinez, personal communication, via email December 5, 2023).

There has been no response from the other three tribes.

The City will provide its standard TCR mitigation measures to the tribes for review. Further results of consultation shall be placed in an updated IS/MND.

No prehistoric or archaeological resources were observed during the field survey. No prehistoric or archaeological resources were recorded within the project boundary or within the half-mile buffer zone of the project.

Land at the project site has been highly disturbed by building activities as early as 1938. No human remains have been previously identified or recorded onsite. Therefore, while the potential for subsurface prehistoric cultural deposits is considered to be low, the disturbed nature of the land in a region known to have been heavily used for habitation and natural resource gathering by the local Gabrielino (Tongva) tribe (see **Section 2.2.2 in Appendix D**) suggests the potential for the presence of cultural material.

The project proposes grading. Grading activities associated with development of the project would involve new subsurface disturbance and could result in the unanticipated discovery of unknown human remains, including those interred outside of formal cemeteries. In the unlikely event of an unexpected discovery, implementation of mitigation measures **TCR-2** dealing with associated funerary objects and **TCR-3** dealing with human remains are recommended to ensure that impacts related to the accidental discovery of human remains would be less than significant.

Mitigation Measures

- MM TCR-1:** Upon discovery of any tribal cultural or archaeological resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All tribal cultural and archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor/consultant. If the resources are Native American in origin, interested Tribes (as a result of correspondence with area Tribes) shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request preservation in place or recovery for educational purposes. Work may continue on other parts of the project while evaluation takes place.
- MM TCR-2:** Preservation in place shall be the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavation to remove the resource along the subsequent laboratory processing and analysis. All Tribal Cultural Resources shall be returned to the Tribe. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to the Tribe or a local school or historical society in the area for educational purposes.
- MM TCR-3:** Archaeological and Native American monitoring and excavation during construction projects shall be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel shall meet the Secretary of the Interior standards

for archaeology and have a minimum of 10 years' experience as a principal investigator working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified.

Level of Significance After Mitigation

With implementation of **MM TCR-1** and **TCR-2**, potential project impacts on TCRs would be less than significant. With implementation of Mitigation Measure **MM TCR-3** above, the proposed project would result in less than significant impacts to human remains and associated funerary objects.

4.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

- a) **Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

Less than Significant Impact

As discussed in **Section 3.0** of this document, the proposed project would utilize existing connections to utility services that already service the Fontana Civic Center campus. The project, which involves the replacement and upgrading of existing facilities rather than the addition of any new capacity or facilities, will not increase off-campus usage or production of services or facilities for water, wastewater, storm water, electricity, natural gas, or telecommunications, and thus the existing off-campus utilities infrastructure should be sufficient to meet the project's needs.

Wastewater Treatment and Conveyance: The City of Fontana owns 437 miles of sewer lines and pump stations for the conveyance of wastewater. The Fontana Department of Public Works is responsible for the maintenance of the city's sewer lines and lift stations, ensuring efficient wastewater transportation throughout the city (City of Fontana, 2018a, p. 10.8).

Wastewater treatment for the City of Fontana is provided by the Inland Empire Utilities Agency (IEUA) and the City of Rialto (FWC, 2021, p. 6-15). IEUA operates four Regional Water Recycling Plants (RPs) which have a total combined design treatment capacity of approximately 86 million gallons per day (MGD). Currently, all four reclamation facilities treat a total combined average daily flow of about 48 MGD. A system of regional trunk and interceptor sewers, owned and operated by IEUA, transports wastewater to the RPs. To avoid overloading at any one facility, wastewater can be diverted from one RP to another (FWC, 2021, p. 6-15).

IEUA's RP-4 is responsible for treating local wastewater generated by the City of Fontana and is located near the intersection of Etiwanda Avenue and 6th Street in the City of Rancho Cucamonga. RP-4 treats an average flow of 10 MGD of wastewater and is operated in conjunction with RP-1 to provide recycled water to users. In 2009, RP-4 was expanded to a capacity of 14 MGD (FWC, 2021, p. 6-15).

The proposed project would not involve the installation of sewers and would connect to the existing wastewater infrastructure on site. A less than significant impact on wastewater treatment facilities would occur.

Domestic Water: As detailed in Threshold 4.19 b) below, the project site is in the Fontana Water Company (FWC) service area. FWC receives local surface water supplies from Lytle Creek which are treated at the Summit Plant. From 2016 to 2020, Lytle Creek supplies averaged approximately 3,480 acre-feet per year (afy). FWC received 5,965 acre-feet of surface water from Lytle Creek in 2020. FWC has existing water supplies from surface water diverted from Lytle Creek, treated at the Summit Plant; untreated State Water Project (SWP) surface water purchased from the IEUA and the San Bernardino Valley Municipal Water District (SBVMWD), treated at the Summit Plant; recycled water purchased from IEUA; groundwater pumped from FWC-owned and operated wells from the underlying Chino Basin, Rialto-Colton/No Man's Land Basins, and Lytle Basin.

The project would result in a nominal increase in water demand compared to existing conditions and therefore the project would have a less than significant impact regarding domestic water supply as analyzed under Threshold 4.19 b).

Fire Water: The project proposes construction using existing water mains on the project site. The final design of the water facilities would be determined based on the approved fire department plan to assess whether the existing mains are adequately sized to provide the needed fire flow. The project would result in a nominal increase in water demand compared to existing conditions and therefore the project would have a less than significant impact with respect to fire water supply.

Water Treatment: Surface water provided by FWC is treated at FWC's Sandhill Water Treatment Plant, a 29 MGD treatment plant that comprises a 12 MGD Conventional filtration treatment facility and a 17 MGD Diatomaceous Earth filtration treatment facility. The source water for this treatment plant is local Lytle Creek surface water and SWP supplies from Northern California (FWC, 2022).

Stormwater: The Santa Ana Regional Water Quality Control Board (SARWQCB) is responsible for implementing and overseeing National Pollutant Discharge Elimination System (NPDES) programs

for the City of Fontana. To receive municipal permits, the City of Fontana has prepared a Municipal Stormwater Management Plan (SWMP) to regulate local storm sewer systems. These plans contain information on structural and non-structural BMPs to manage stormwater runoff within the City of Fontana. The City has met these requirements and has obtained all required permits from SARWQCB to satisfy NPDES conditions (City of Fontana, 2018b. pp. 5.8-4 – 5.8-7). Project compliance with regulatory requirements would reduce potential erosion/siltation impacts during the construction phase of the project to a less than significant level. The proposed project would be designed in compliance with all applicable City of Fontana regulations regarding stormwater runoff, and the project would be reviewed by the City of Fontana Public Works Department to ensure that the development would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Refer to **Section 4.10**, Hydrology and Water Quality, for additional information.

Electric Power: Electric power for the City of Fontana is provided by Southern California Edison (SCE). The proposed project is situated within a well-developed civic center campus, benefiting from an already established infrastructure for electricity distribution. Additionally, SCE implements energy efficiency programs to reduce energy consumption and ensure a consistent and reliable power supply throughout the year (SCE, 2023).

Natural Gas: Natural gas is supplied to the project site by the Southern California Gas Company (SoCal Gas), which provides natural gas to the City of Fontana. Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. The operation of the project would replace existing buildings with new, more efficient, similar or marginally larger buildings constructed in compliance with Building Energy Efficiency Standards, including requirements in the Energy Code (Title 24, Part 6) and voluntary energy efficiency provisions in CALGreen (Title 24, Part 11). Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.

In the California Gas Report 2022 (CGR), SoCalGas analyzed a 15-year demand period from 2020-2035 to determine its ability to meet projected demand. Statewide natural gas demand served by utilities is projected to decrease at an average annual rate of 1.1 percent per year through 2035. The decline is 0.1 percent faster than what was projected in the 2020 California Gas Report (CGR). More aggressive energy efficiency and fuel substitution have accelerated the decline in forecast throughput for the 2022 CGR relative to the 2020 findings (CGR, 2022, p. 6).

Therefore, the anticipated natural gas supply is adequate to meet demand in the SoCalGas region, and the proposed project is not expected to impact this determination. Thus, no natural gas facilities would have to be constructed or relocated, and a less than significant impact would occur.

Telecommunications Facilities: Telecommunication services, including internet, phone, and television, for the City of Fontana are provided by AT&T, Verizon, and Frontier Communications (internet only) (City of Fontana, 2023d). The City is coordinating with the cellular companies to process a wireless application for the construction and relocation of a telecommunications facility within the project area. However, the relocation of the facility would be reviewed as a separate project for potential environmental effects. Therefore, the project would not directly interfere with the operation of the telecommunications facilities and there would be a less than significant impact.

- b) Would the project have sufficient water supplies available to serve the and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact

Water Supplies and Demands: The Fontana Water Company (FWC) supplies water for much of the City of Fontana, including the project site. According to the FWC's 2020 Urban Water Management Plan (UWMP), in 2020, there were 48,202 customer connections and supplied 39,782 acre-feet (af) of water to its customers (FWC, 2021, p. 2-1). The demand for water within the FWC service area decreased steadily from 2010 to 2015 due to permanent changes in customer water use implemented during the 2012-2016 drought, including turf removal incentives, prohibiting wasteful water practices, and other mandatory conservation practices. The actual water demand for 2020 remains lower than the pre-drought water use in 2010. The projected water demand through the year 2045 reflects a decrease of greater than 10 percent from FWC's 2015 UWMP 2040 projected potable water demand (53,562 AF) (FWC, 2021, pp. 4-2 to 4-3).

Actual water supply in 2020 was 39,831 afy, 75 percent of which came from ground water, 24 percent from Purchased or Imported Water, and one percent from Recycled Water (see **Table 4.19-1**). The projected supply in 2025 will be 45,593 afy, increasing to 51,943 afy by 2045 (see **Table 4.19-2**).

Table 4.19-1
2020 ACTUAL WATER SUPPLIES

Water Supply	Source	Volume	Water Quality
Purchased or Imported Water	IEAU	10,027	Other Non-Potable Water
Purchased or Imported Water	SBVMWD	0	Other Non-Potable Water
Groundwater (not desalinated)	Chino Basin	11,859	Drinking Water
Groundwater (not desalinated)	Rialto-Colton Basin	2,538	Drinking Water
Groundwater (not desalinated)	Lytle Basin	6,422	Drinking Water
Groundwater (not desalinated)	No Man's Land Basin	2,633	Drinking Water
Groundwater (not desalinated)	Lytle Creek	5,965	Drinking Water
Recycled Water	IEAU	387	Other Non-Potable Water
Total		39,831	

Source: FWC, 2021, Table 6-8.

Note: Volumes are in Acre Feet.

Table 4.19-2
PROJECTED WATER SUPPLIES

Water Supply	Source	2025	2030	2035	2040	2045
Purchased or Imported Water	IEAU	15,000	15,000	15,000	15,000	15,000
Purchased or Imported Water	SBVMWD	3,200	3,200	3,200	3,200	3,200
Groundwater	Chino Basin	9,278	9,983	11,128	12,293	13,183
Groundwater	Rialto-Colton/ No Man's Land	5,865	5,976	6,087	6,199	6,310
Groundwater	Lytle Basin	6,390	6,390	6,390	6,390	6,390
Groundwater	Lytle Creek	4,860	4,860	4,860	4,860	4,860
Recycled Water	IEAU	1,000	1,500	2,000	2,500	3,000
Total		45,593	46,909	48,665	50,442	51,943

Source: FWC, 2021, Table 6-9.

Note: Volumes are in Acre Feet.

On a normal year basis, FWC's projected use of potable and non-potable water in 2025 is 44,593 afy, growing to 48,943 afy in 2045. Each year there is a surplus of supply over demand. On a single dry year basis, the total demand in 2025 is projected to be 34,006 afy, while the supply will be 34,006 afy. For each five-year interval through 2045, supplies are projected to be adequate to meet the projected demands. Local groundwater supplies from the Chino Basin are assumed to provide 100 percent of FWC's remaining demand (FWC, 2021, p. 7-7).

Fontana Water Company forecasts that it will have sufficient water supply for demand in its service area through the 2025-2045 period during normal, dry and multiple dry years (FWC, 2021, p. 7-7). Project operations would connect to existing on-site connections to the water mains and would not require additional off-site improvements. Project construction would involve the temporary nominal use of water for general construction purposes and dust control. Therefore, less than significant impacts are anticipated.

- c) **Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Less than Significant Impact

As described under Threshold 4.19a above, the project will connect to the city sewer system and no new treatment facilities, or expanded entitlements will be required. There would be sufficient capacity available to meet the wastewater treatment demands of the project. The existing wastewater treatment facility could accommodate the additional wastewater estimated to be generated by the proposed project. Therefore, the project would have a less than significant impact in this regard and no mitigation is necessary.

- d) **Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

Less than Significant Impact

Solid Waste: The city contracts with Burrtec Waste Industries, Inc. for the collection and disposal of city solid waste. The Mid-Valley Sanitary Landfill serves the city. The Mid-Valley Landfill contains 498 acres with a maximum permit capacity of 101.3 million cubic yards, over 61 million of which remain unfilled. As shown below in **Table 4.19-3**, the landfill has residual daily capacity of approximately 3,913 tons per day. (CalRecycle, 2023).

Table 4.19-3
LANDFILLS SERVING FONTANA

Facility and Nearest City/Community	Remaining Capacity, cubic yards	Daily Permitted Disposal Capacity, tons	Actual Daily Disposal, tons ¹	Residual Daily Disposal Capacity, tons	Estimated Closing Date
Mid-Valley Sanitary Landfill	61,219,377	7,500	3,587	3,913	April 1, 2045

¹ Daily disposal calculated based on annual disposal tonnage assuming 300 operating days per year: that is, six days per week less certain holidays.

Source: CalRecycle, 2023. SWIS Facility/Site Activity Details

Construction

Project construction would generate solid waste requiring disposal at local landfills. Fontana-generated solid waste is disposed of at Mid-Valley Sanitary Landfill, which has a remaining disposal capacity of 3,913 tons per day. Materials generated during the construction of the project would include paper, cardboard, metal, plastics, glass, concrete, scrap lumber, and other materials. Section 5.408 of the 2022 California Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires that at least 65 percent of nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. Project construction would include the recycling and/or salvaging of at least 65 percent of construction and demolition waste according to the 2022 CALGreen. Sufficient disposal capacity would remain at the Mid-Valley Sanitary Landfill for solid waste generated by project construction. The potential impacts from construction would be less than significant.

Operation

As discussed in **Section 3.0** of this document, the proposed project involves the replacement and upgrading of existing facilities rather than the addition of any new capacity or facilities and will not increase project-generated solid waste, and thus the existing landfill should be sufficient to meet the

project needs. The potential operational impacts of the project on the solid waste disposal capacity would be less than significant.

- e) **Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

Less Than Significant Impact

The San Bernardino Countywide Integrated Waste Management Plan (SBCIWMP) outlines the goals, policies, and programs that the County and its cities would implement to create an integrated and cost-effective waste management system that complies with the provisions of AB 939 and its diversion mandates. The Infrastructure and Green Systems Element of the City of Fontana General Plan outlines programs to reduce, recycle, and properly divert solid waste from sanitary landfills (Stantec, 2018a, p. 10.8).

The solid waste generated by the project would be collected by Burrtec Waste Industries, the designated waste hauler, and transported off-site to transfer facilities and landfills for reuse, recycling, and/or disposal, as appropriate (Stantec, 2018b, p. 5.12-20). Burrtec delivers solid waste to Mid-Valley Landfill, which operates under a permit from San Bernardino County Department of Public Health, Solid Waste Management Division which requires regular reporting and monitors compliance.

Assembly Bill 341 (AB 341; Chapter 476, Statutes of 2011) increases the statewide waste diversion goal to 75 percent by 2020 and mandates recycling for commercial and multifamily residential land uses. The project would include storage areas for recyclable materials in accordance with AB 341.

Assembly Bill 1826 (AB 1826; California Public Resources Code § 42649.8 et seq.) requires recycling of organic matter by businesses and multifamily residences of five or more units, generating such wastes in amounts over certain thresholds. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. The project would include the recycling of organic waste as required under AB 1826. The proposed project would comply with applicable local, state, and federal solid waste disposal standards; therefore, the impacts would be less than significant.

4.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

- a) **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?**

No Impact

The project site is not located in a State Responsibility Area (SRA) (i.e., where the State is responsible for the costs of wildfire prevention and suppression), nor is it located in a Very High Fire Hazard Severity Zone (VHFHSZ) within a Local Responsibility Area (LRA, i.e., where cities or counties are responsible for the costs of wildfire prevention and suppression) (see **Figures 4.20-1** and **4.20-2**). The nearest VHFHSZ in LRA to the project site is about 2.5 miles to the northeast within the City of Fontana. Therefore, the proposed project would not “substantially impair an adopted emergency response plan or emergency evacuation plan” and as such would have no impact.

Figure 4.20-1
FIRE HAZARD SEVERITY ZONE - STATE RESPONSIBILITY AREA

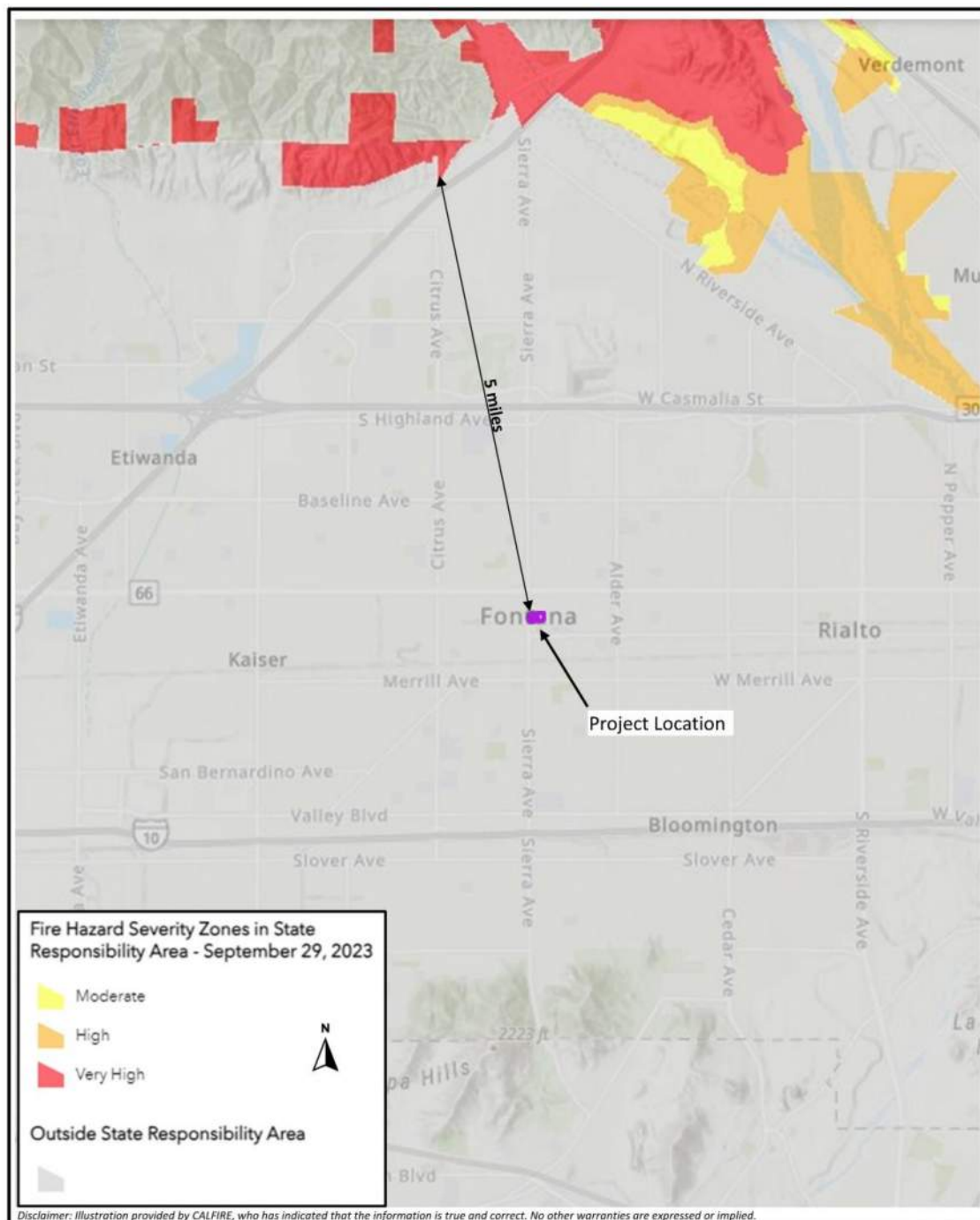
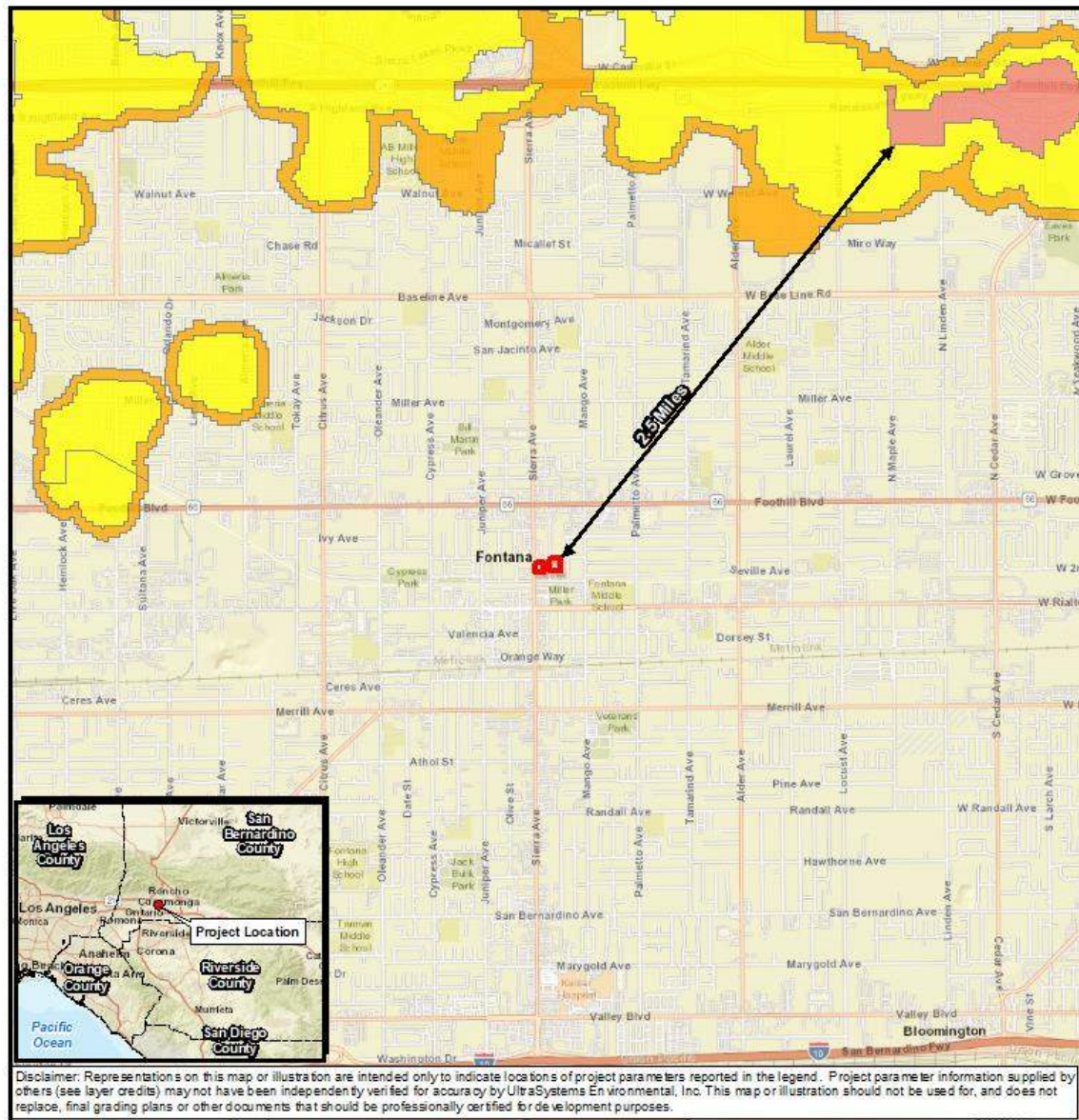


Figure 4.20-2

FIRE HAZARD SEVERITY ZONE - LOCAL RESPONSIBILITY AREA



Scale: 1:42,000

0 1,750 3,500 Feet

0 400 800 Meters

- Legend**
- Project Boundary
 - Fire Hazard Severity Zones in LRA**
 - Moderate
 - High
 - Very High

Fontana
Civic Center Renovation
Fire Hazard Severity Zone
Local Responsibility Area (LRA)



If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact

As indicated under item a), above the project site is not located in or near either an SRA or a VHFHSZ within an LRA. Therefore, the proposed project would not "due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire" and thus would have no impact.

- b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

No Impact

As indicated under item a), above the project site is not located in or near either a SRA or a VHFHSZ within a LRA. Therefore, the proposed project would not "require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment" and, therefore, would have no impact.

- c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

No Impact

As indicated under item a), above the project site is not located in or near either a SRA or a VHFHSZ within a LRA. Therefore, the proposed project would not "expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes" and thus would have no impact.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project have:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

- a) **Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Less Than Significant Impact with Mitigation Incorporated

Section 4.4 of this document addresses the potential impact on biological resources of the proposed project.

The project site is located in an urbanized setting and provides a low habitat value and low occurrence potential for species of special status plants and wildlife identified in the BSA. Based on a review of the literature and queries from publicly available databases for reported occurrences

within a 10-mile radius of the project site, 19 listed and 39 sensitive wildlife species, and eight listed and 24 sensitive plant species were identified.

The majority of the special-status wildlife species evaluated in the wildlife inventory that were determined to be in the BSA lack suitable habitat or are outside the geographic range of the special-status wildlife species. The BSA primarily contains existing developments with associated paved areas, infrastructure and areas landscaped with ornamental (non-native) vegetation. Most of the evaluated species require sufficient coverage of native vegetation for nesting and foraging. Impacts on special-status wildlife species resulting from the project are expected to be less than significant.

All evaluated special-status plant species were determined to not be expected to occur in the BSA. The BSA lacks suitable habitat or is outside the elevation or geographic range of the majority of the special-status plant species. The project site contains a high coverage of impermeable surfaces, which deters the establishment of special-status plants. No impacts are anticipated on special-status plant species or sensitive natural communities as a result of the project.

The project site and BSA lack suitable habitat for special-status wildlife and plant species, but trees onsite could offer some low-quality potential nesting habitat. A potential direct impact could result from the removal of trees on site, which may support species such as small birds. With the implementation of Project Design Feature (PDF) **BIO-1**, the project would have a less than significant impact on special-status plant and wildlife species.

Section 4.5 of this document addresses potential impacts on Cultural Resources. The project would be built on already-developed land. Based on the SCCIC cultural resources records search, it was determined that there are no prehistoric or historic cultural resources previously recorded within the project site boundary. Within the 0.5-mile buffer zone, there have been three historic-era structures and one historic water pump and distribution center. The pedestrian field survey undertaken for this project noted the remains of two mid-20th century era structures with one being built between 1959 and 1966. Because neither of the two observed demolished structures appears to meet the criteria required to qualify as a significant historic resource, there would be no substantial adverse change in the significance of a historical resource pursuant to § 15064.5, and therefore the project would have no impact in this regard.

The result of the pedestrian survey was negative for both prehistoric and historic sites and isolates on the project site. Based on the results of the record search and tribal consultation, it is unlikely that cultural resources or tribal resources would be adversely affected by the construction of the project. No human remains have been previously identified or recorded onsite. It is unlikely that there are undisturbed unique archaeological resources on the project site. However, grading activities associated with development of the project would cause new subsurface disturbance and could potentially result in the unanticipated discovery of archaeological resources. Mitigation measures **CUL 1** and **CUL 2** are recommended to reduce potential impacts on archeological resources and human remains to a less than significant level.

Section 4.7 of this document addresses potential impacts on Paleontological Resources. The Western Science Center completed a Paleontological Records Search of its archives for the project region on October 31, 2023. The Paleontological Records Search did not identify any fossil sites on or within one mile of the project site. Excavations or grading may encounter fossil remains. Any substantial excavations below the uppermost layers should be closely monitored to collect any specimens quickly and professionally. This impact would be potentially significant. However, with

implementation of mitigation measure **GEO-1**, the potential impacts to paleontological resources would be reduced to a less than significant level.

Section 4.18 of this document addresses potential impacts on Tribal Cultural Resources. Tribal cultural resources could be buried in site soils. Project site grading and project construction could damage such resources. With the implementation of mitigation measure **TCR-1**, potential project impacts on TCRs would be less than significant. With the implementation of mitigation measures **TCR-2** and **TCR-3**, the proposed project would have a less than significant impact on human remains and associated funerary objects.

As detailed above, the proposed project is not expected to harm the environment, diminish fish or wildlife habitats, cause a reduction in wildlife populations, threaten plant or animal communities, limit the range or number of endangered or rare species, or harm significant examples of California's historical or prehistorical period. Therefore, the potential cumulative impacts of the project would be less than significant with the mitigation measures implemented.

- b) Would the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Less than Significant Impact

The proposed project would be consistent with regional plans and programs that address environmental factors such as air quality, water quality, and other applicable regulations that have been adopted by public agencies with jurisdiction over the project to avoid or mitigate environmental effects.

Sections 4.3 and **4.13** of this Initial Study address potential impacts related to Air Quality and Noise, respectively. As detailed in **Section 4.3**, air quality impacts associated with the construction and operation of the project would be less than significant and do not warrant mitigation. As detailed in **Section 4.13**, potential construction and operational noise impacts associated with the project site were found to be less than significant.

The project would create employment opportunities, but employees from the local workforce would most likely be hired during both the construction and operational phases of the project. The project is not of scope or scale to induce people to move from outside of the project area in order to work on the proposed project. The proposed project would not induce direct population growth with construction of a new City Hall and Fire Annex buildings, as it does not contain a residential element. Therefore, the potential cumulative impacts of the project would be less than significant and do not warrant mitigation.

- c) Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

Less than Significant Impact with Mitigation Incorporated

Archaeological resources can be buried in site soils and could be damaged by ground disturbance activities of the project. This impact would be significant without mitigation. Implementing the CUL-1 mitigation measure would reduce this impact to less than significant. The impact on human remains

that can be buried in the soil of the site was determined to be significant without mitigation. Implementing the **CUL-2** and **TCR-3** mitigation measures would reduce this impact to less than significant.

Fossils could be buried in the soil of the site. Project ground-disturbing activities could damage fossils. Implementing the mitigation measure **GEO-1** would reduce this impact to less than significant.

During the construction phase of the project, traffic lanes and sidewalks may be temporarily closed. To ensure that circulation and emergency access during construction are adequate, the City requires the preparation and implementation of a Transportation Management Plan (TMP) for all projects that require construction in the public right-of-way. Therefore, the proposed project would implement mitigation measure **TRANS-1**. With the implementation of the **TRANS-1** mitigation measure, the impacts with regard to emergency access during construction would be less than significant.

As discussed in **Sections 4.1** through **4.20** of this document, after the implementation of mitigation measures, potential adverse environmental effects are less than significant on human beings, either directly or indirectly. Therefore, the potential cumulative impacts of the project would be less than significant with the mitigation measures implemented.

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6.3.3 SUBCONSULTANTS

RK Engineering Group, Inc. – VMT Screening

Justin Tucker, Principal Engineer

7.0 MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in conformance with § 21081.6 of the Public Resources Code and § 15097 of the CEQA Guidelines, which requires all state and local agencies to establish monitoring or reporting programs whenever approval of a project relies upon a MND or an EIR. The MMRP ensures the implementation of the measures imposed to mitigate or avoid the significant adverse environmental impacts identified through the use of monitoring and reporting. Monitoring is generally an ongoing or periodic process of project oversight; reporting generally consists of a written compliance review that is presented to the decision-making body or authorized staff person.

It is the intent of the MMRP to: (1) provide a framework for document implementation of the required mitigation; (2) identify monitoring/reporting responsibility; (3) provide a record of the monitoring/reporting; and (4) ensure compliance with those MM that are within the responsibility of the City and/or Applicant to implement.

The following table lists impacts, mitigation measures adopted by the City of Fontana in connection with approval of the proposed project, level of significance after mitigation, responsible and monitoring parties, and the project phase in which the measures are to be implemented.

Only those environmental topics for which mitigation is required are listed in this Mitigation Monitoring and Reporting Program.

In addition to the mitigation measures detailed in **Table 7.0-1**, the project description includes a project design feature (PDF) that addresses a potential environmental impact by imposing an environmental commitment in the design of the project as part of the project description, as detailed in §§ 15064(f)(2) and 15126.4(a)(1)(A) of the CEQA Statutes and Guidelines.

As discussed in **Section 4.4**, Biological Resources of this report, trees within the project site could provide suitable bird nesting sites. If construction takes place during the breeding/nesting season, direct impacts could occur through loss of nests, eggs, and young resulting from tree trimming and removal. To minimize the potential negative effect on special-status wildlife species, the project shall implement **PDF BIO-1**. This feature would minimize or avoid significant impacts to breeding and nesting birds, reducing potential impacts to a less than significant level.

Table 7.0-1
MITIGATION MONITORING AND REPORTING PROGRAM

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
4.5 Cultural Resources				
Threshold 4.5 b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	MM CUL 1 If archaeological resources are discovered during construction activities, the contractor shall halt construction activities in the immediate area and notify the City of Fontana. The project applicant shall retain an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology who will be notified and afforded the necessary time to recover, analyze, and curate the find(s). The qualified archaeologist shall recommend the extent of archaeological monitoring necessary to ensure the protection of any other resources that may be in the area. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A L) form and filed with the South Central Coastal Information Center. Construction activities may continue on other parts of the project site while evaluation and treatment of prehistoric archaeological resources takes place.	Qualified Archaeologist and Project Contractor	Field Verification	1. Fontana Planning Department 2. Fontana Planning Department 3. During construction activities
Threshold 4.5 c): Would the project disturb any human remains, including those interred outside of formal cemeteries?	MM CUL 2 If human remains are encountered during excavations associated with this project, all work shall stop within a 30-foot radius of the discovery and the San Bernardino County Coroner will be notified (§ 5097.98 of the Public Resources Code). The Coroner shall determine whether the remains are recent human origin or older Native American ancestry. If the coroner, with the aid of the supervising archaeologist, determines that the remains are prehistoric, they shall contact the NAHC. The NAHC shall be responsible for designating the Most Likely Descendant (MLD). The MLD (either an individual or sometimes a committee) shall be responsible for the ultimate disposition of the remains, as required by § 7050.5 of the California Health and Safety Code. The MLD shall make recommendations within 24 hours of notification by the NAHC. These recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials (§ 7050.5 of the Health and Safety Code).	Project Construction Contractor	Field Verification	1. Fontana Planning Department 2. Fontana Planning Department 3. During project construction activities
4.7 Geology and Soils				
Threshold 4.7 f): Would the project	MM GEO 1	Qualified Paleontologist	Field Verification	1. Fontana Planning Department

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	If paleontological resources are uncovered during project construction, the contractor shall halt construction activities in the immediate area and notify the City. The on-call paleontologist shall be notified and afforded the necessary time and funds to recover, analyze, and curate the find(s). Subsequently, the monitor shall remain onsite for the duration of the ground disturbance to ensure the protection of any other resources that are found during construction on the project site.	and Project Contractor		2. Fontana Planning Department 3. During construction activities
4.17 Traffic				
Threshold 4.17 d) Would the project result in inadequate emergency access?	MM TRANS-1 The Transportation Management Plan (TMP) shall be reviewed and approved by the City's Traffic Engineer prior to the start of construction activity in the public right-of-way (ROW). The typical TMP requires items such as the installation of K-rail between the construction area and open traffic lanes, the use of flaggers and directional signage to direct traffic where only one travel lane is available or when equipment movement creates temporary hazards, and the installation of steel plates to cover trenches under construction. The TMP shall stipulate that emergency access must be maintained at all times.	Project Applicant	Contract Specifications	1. Fontana Engineering Department 2. Fontana Engineering Department 3. During construction
4.18 Tribal Cultural Resources				
Threshold 4.18 b): Would the project cause a substantial adverse change in the significance of a tribal cultural resource that is determined to be a significant resource to a California Native American tribe pursuant to the criteria set forth in subdivision (c) of Public Resource Code § 5024.1(c)?	MM TCR-1 Upon discovery of any tribal cultural or archaeological resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All tribal cultural and archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor/consultant. If the resources are Native American in origin, interested Tribes (as a result of correspondence with area Tribes) shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request preservation in place or recovery for educational purposes. Work may continue on other parts of the project while evaluation takes place.	Tribal Monitor, Qualified Archaeologist and Project Contractor	Field Verification	1. Fontana Planning Department 2. Fontana Planning Department 3. During construction
	MM TCR-2 Preservation in place shall be the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavation to remove the resource along the subsequent laboratory processing and analysis. All Tribal Cultural Resources shall be returned to the Tribe. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials,	Tribal Monitor, Qualified Archaeologist and Project Contractor	Field Verification	

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to the Tribe or a local school or historical society in the area for educational purposes.			
	MM TCR-3 Archaeological and Native American monitoring and excavation during construction projects shall be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel shall meet the Secretary of the Interior standards for archaeology and have a minimum of 10 years' experience as a principal investigator working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified.	Tribal Monitor, Qualified Archaeologist and Project Contractor	Field Verification	



February 5, 2025

Christopher Smethurst, Senior Engineer
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VIA EMAIL

**SUBJECT: CITY OF FONTANA – CIVIC CENTER RENOVATION PROJECT
CEQA IS/MND ADDENDUM AND REVALIDATION**

Dear Mr. Smethurst:

1.0 INTRODUCTION

Pursuant to Section 15164 of the CEQA Guidelines, UltraSystems has reviewed the current plans for Phase II of the City of Fontana Civic Center Renovation Project (Project). This Technical Memorandum serves as an Addendum to the Initial Study/Mitigated Negative Declaration prepared by UltraSystems Environmental, as adopted by the City of Fontana on January 16, 2024.

In its entirety, the project consists of: (1) demolition of Annex and City Hall buildings; (2) utility improvements; (3) construct Annex (Phase I) and City Hall (Phase II) buildings, including adding parking garages on the first level of each new building; (4) reconfiguration of surface parking adjacent to the two buildings; and (5) landscaping.

At the time of adoption of the IS/MND, the Concept Plan for the Project included the following specific elements:

**Table 1.0-1
PRIOR CONCEPT PLAN**

Demolition	New Construction	Proposed Uses/Features	Square Feet	No. of Stories	Approximate Building Height (feet)
Annex Building (13,500 SF)	Annex Building/ Parking Garage	Two stories with the first floor being a garage to accommodate 56 parking spaces and the second story an office area.	30,000 (excluding parking level)	2	30
City Hall Building (31,500 SF)	City Hall Building/ Parking Garage	Two stories, first floor being a mix of garage and office space, as well as City Council chambers.	25,000 to 30,000 per floor,	2 + 3 rd story vaulted ceiling for	40

Demolition	New Construction	Proposed Uses/Features	Square Feet	No. of Stories	Approximate Building Height (feet)
		Second floor offices. 65 parking spaces would be provided.	including parking area	Council Chambers	

The Annex Building (Phase I) portion of the Project is expected to be completed in August 2025.

In anticipation of construction start for the City Hall Building (Phase II), an Entitlement Package dated December 16, 2024, was prepared by Sillman Architects. In that package, the Phase II site boundaries remain unchanged but building plans have been revised to include the following elements. (See **Table 1.0-2**, below)

Table 1.0-2
CHANGES FROM CONCEPT PLAN

Adopted IS/MND	Entitlement Package	Environmental Impact Conclusion
Single rectangular building, oriented north/south	Two buildings, one a rectangle oriented east/west (north building) and the other an irregular shape oriented diagonally from north to south (south building)	No Change
Parking on level one	Parking on level one of north building; no parking on level one of south building	No Change
Offices on level two	Offices on level two of north building and levels one and two of south building	No Change
25,000 to 30,000 square feet per floor (50,000 to 60,000 total)	42,072 square feet	Less Impact
65 parking spaces	75 parking spaces	Less than Significant Impact
3-story height, including Council Chambers	2-story height, including Council Chambers	Less Impact

Based on Initial Study findings, the proposed project would have no impact or a less than significant impact on the following environmental categories listed below in **Table 1.0-3**.

Table 1.0-3
TOPICAL ISSUES NOT REQUIRING MITIGATION

Topical Issues	Prior Conceptual Site Plan Result	Mitigation Required
Aesthetics	No Impact Considered Less than Significant	NO
Agriculture and Forestry Resource		
Air Quality		
Biological Resources		
Energy		
Greenhouse Gas Emissions		
Hazards and Hazardous Materials		

Hydrology and Water Quality		
Land Use and Planning		
Mineral Resources		
Noise		
Population and Housing		
Public Services		
Recreation		
Utilities and Service Systems		
Wildfire		

Based on Initial Study findings, the project would have a less than significant impact on the following environmental categories shown in **Table 1.0-4** and listed in Appendix G of the CEQA Guidelines when proposed Mitigation Measures are implemented.

Table 1.0-4
TOPICAL ISSUES REQUIRING MITIGATION



Topical Issues	Prior Conceptual Site Plan Result	Mitigation Required
Cultural Resources (Arch, Historical, Paleo)	Potential Impact w/o Mitigation	YES
Geology and Soils		
Greenhouse Gas Emissions		
Transportation and Traffic		
Tribal Cultural Resources		

2.0 CEQA REVALIDATION

UltraSystems has reviewed plans in the Entitlement Package dated December 16, 2024 prepared by Sillman Architects, and compared those plans to the August 2023 Conceptual Plans on which the IS/MND adopted January 16, 2024, was based.

Based on the information provided, it is our opinion that changes or additions are necessary but none of the conditions described in Section 15162 of the CEQA Guidelines calling for the preparation of a subsequent MND have occurred.

This Addendum addresses those changes and no further analysis under CEQA is required.

Betsy A. Linday, MURP	Robert Reicher, MBA
Founder/CEO	Senior Project Manager
	

APPENDIX VII
FINAL HYDROLOGY STUDY

FINAL HYDROLOGY STUDY

FOR

FONTANA CITY HALL

EDS25-00031

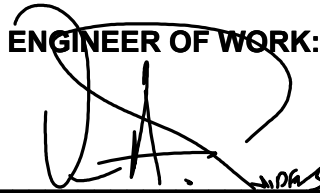
8353 SIERRA AVENUE
FONTANA, CA 92335

**ALL OF BLOCK 8, FONTANA TOWNSITE TOGETHER WITH THAT PORTION OF
THE WEST HALF OF WHEELER AVENUE**

CITY OF FONTANA

**ASSESSOR'S PARCEL NUMBER(S):
192-031-23 & 192-31-24**

ENGINEER OF WORK:



William A. Snipes, RCE 50477



PREPARED FOR:

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Dated: November 12, 2025

**CITY OF FONTANA
ENGINEERING**

- ☐ PRELIMINARILY APPROVED
- ☒ CONSTRUCTION APPROVED
- ☐ FINAL APPROVED
- ☐ CORRECTIONS
- ☐ FOR INFORMATION ONLY

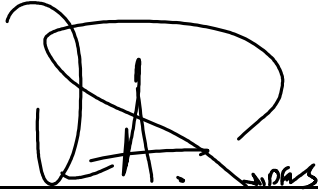


BY COM REV. No 3RD - PC DATE 12/10/2025

DECLARATION OF RESPONSIBLE CHARGE

I, HEREBY DECLARE THAT I AM THE CIVIL ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF FONTANA IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITY FOR PROJECT DESIGN.

A handwritten signature in black ink, appearing to read 'W.A. Snipes', is written over a horizontal line.

WILLIAM A. SNIPES
R.C.E. 50477
EXP. 06-30-27

11/12/2025

Date

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	Pre-Development Drainage Map	D
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HYDROLOGY STUDY FOR FONTANA CITY HALL

I. INTRODUCTION

A. PROJECT DESCRIPTION

The proposed Fontana City Hall renovation will be located at 8353 Sierra Avenue, Fontana, CA 92335, which is located in San Bernardino County. It is located approximately 1 mile south of Interstate-10 and 6.5 miles east of Interstate-15, with a latitude and longitude of 34.1023°, -117.4350°. The site is surrounded by Sierra Avenue to the west, Upland Avenue to the north, Wheeler Avenue to the east, and Seville Avenue to the south. The project will consist of the demolition of the existing one-story City Hall building, and construction of a new two-story City Hall building. The proposed building will have a footprint of 35,000 square feet for each floor. The first level will consist of parking and office spaces, and the second level will consist solely of office spaces. Along with the proposed two-story building, will be associated site improvements including concrete walkways, A.C. paved parking/drive aisles, landscape areas, and storm drain improvements. See Exhibit A for Vicinity Map.

B. CITY OF FONTANA MASTER STORM DRAIN PLAN

Per the City of Fontana Master Storm Drain Plan, the project site is located within Area of Study 1 (AOS 1), which lies in the middle of the city. The City Hall site maintains a unique location in regards to downstream receiving waters, due to its location along Sierra Avenue. The eastern portion of the site discharges towards Wheeler Avenue, while the western portion discharges onto Sierra Avenue. Flows discharging onto Sierra Avenue travel south between the East and West Fontana Channels and eventually collect in the I-10 Channel. Future plans call for the installation of a storm drain system along Sierra Avenue that will direct flows into the West Fontana Channel.

Flows discharging into the Wheeler Avenue storm drain system drain towards the East Fontana Channel and into the Rialto Channel. The Rialto Channel eventually drains into the Santa Ana River and drainage ultimately discharges into the Pacific Ocean. AOS 1 is characterized as being the oldest and most infrastructure-deficient area of the city. The area lacks major storm drainage lines, which can result in flooding during larger storms. As illustrated throughout this study, the proposed Fontana City Hall renovation will lower the runoff from the site, and therefore will positively contribute to the management of AOS 1 and the receiving storm drains/channels.

II. PRE-DEVELOPMENT SITE CONDITIONS

A. SITE USE

The existing site at 8353 Sierra Avenue currently consists of a single-story City Hall Building with a footprint of approximately 29,000 square feet. The building is surrounded by a concrete plaza with landscaping on the west, a parking lot with drive aisles on the north and east sides, and a two-story City Hall Annex building to the south.

B. TOPOGRAPHY

The site features five unique land cover types; rooftop, concrete, asphalt concrete (a.c.) pavement, landscape (grass), and landscape (mulch/dirt). In the 3.37-acre drainage area being analyzed in this study, approximately 0.56 acres consist of pervious cover, while 2.81 acres consist of impervious cover. Elevation changes approximately 7 feet across the site, with the highest point being at 1296.5 feet above mean sea level (MSL) in the northeast corner of the parking lot, and the lowest point being at 1289.5 feet above msl at the existing catch basin in the southeast corner of the parking lot.

C. SOIL TYPE

Soil type "A" is present throughout the site. The San Bernardino County Hydrology Manual characterizes Group A soils as having high infiltration rates with low runoff potential. Soil type "A" was used for all hydrology calculations. See Exhibit B for Hydrologic Soils Group Map.

D. INFILTRATION RATE

Per the Geotechnical Report prepared by Ninyo & Moore, the site features field infiltration rates between 7.2-11.2 inches/hour. The closest test value to the proposed infiltration facility is 7.2 inches/hour. With a safety factor of 2.0 applied, the design infiltration rate shall be 3.6 inches/hour. See Attachment 9 for the Geotechnical Report.

E. ANTECEDENT MOISTURE CONTENT (AMC)

Antecedent Moisture Content (AMC) III is assumed to be present at the site. AMC values are not provided for the City of Fontana per the AMC Map for the County of San Bernardino in Exhibit C. Per section C.5. of the San Bernardino Hydrology Manual, AMC I shall be used for 2- and 5-year storms, AMC II shall be used for 10-, 25-, and 50-year storms, and AMC III shall be used for 100-year storms.

This project specific analysis uses the 100-year storm event for all calculations; therefore AMC III has been selected. AMC III is classified as

having the highest runoff potential. See Exhibit C for Antecedent Moisture Condition Map.

F. DRAINAGE

Drainage in the pre-development condition consists of three drainage basins: Basin 1, Basin 2, and Basin 3. See Exhibit D for Pre-Development Drainage Map.

Basin 1 maintains 1.62 acres, consisting of the eastern portion of the A.C. paved parking lot and building rooftop, along with concrete walkways and landscape/planters. Basin 1 drainage consists primarily of sheet flow in a south to southwesterly direction across the A.C. paved parking lot and into a gutter along the western edge of the parking lot. Flows from the building rooftop are collected via roof drains and discharged via curb outlets into the aforementioned gutter. Following the gutter, flows are directed towards the southeast corner of the parking lot where they are captured by a 2'x3' catch basin. Once collected in the catch basin, the flows are discharged from the site via a 12" concrete pipe, which connects to a 24" pipe that runs south along Wheeler Avenue. Basin 1 maintains a runoff of 7.35 CFS.

Basin 2 maintains 1.61 acres, consisting of the western half of the building rooftop, landscaping and concrete walkways/plazas in front of and south of the City Hall building, the north portion of the parking lot, and offsite flows from the southern half of Upland Avenue directly north of the project site. For analysis, Basin 2 has been divided into sub-basins 2A and 2B.

Sub-Basin 2A consists of the parking lot area and Upland Avenue. Flows in Sub-Basin 2A sheet flow in a southwesterly direction towards the curb and gutter located at the south end of the parking lot. Flows from Upland Avenue, first sheet flow into an offsite curb and gutter, where they are directed into the parking lot via a curb opening. All flows from Sub-Basin 2A are then captured by another curb opening at the southwest corner of the parking lot and enter the storm drain system. Sub-Basin 2B consists of the western half of the building rooftop, and the landscaping and concrete walkways/plazas in front of and south of the City Hall building. Sub-Basin 2B flows are collected via area drains and roof drains before entering the storm drain system.

Inside the storm drain system, flows from Sub-Basin 2A and Sub-Basin 2B combine and are routed southwest towards an existing curb outlet along Sierra Avenue, where they are discharged into the Sierra Avenue curb and gutter system. Basin 2 maintains a runoff of 6.55 CFS.

Basin 3 maintains 0.14 acres along the western edge of the property. This basin consists primarily of the sidewalk along Sierra Avenue, which is located within the property line, and a landscaped planter at the northwest corner. Basin 3 drainage consists of sheet flow in a southwesterly direction along the

sidewalk and into the curb and gutter system along Sierra Avenue. Basin 3 maintains a runoff of 0.85 CFS.

The overall runoff in pre-development conditions is 14.75 CFS. See Exhibit D for Pre-Development Drainage Map.

III. POST-DEVELOPMENT SITE CONDITIONS

A. SITE USE

The post-development site will maintain the same site use as the existing site. The proposed site will consist of a new two-story City Hall building with approximately 35,000 square feet per floor. The first level will include a covered parking lot and office spaces, while the second level will be solely office space. The renovated building will be surrounded by landscaping and concrete walkways similar to the existing site.

B. TOPOGRAPHY

The site will feature the same five unique land cover types as the existing site; rooftop, concrete, asphalt concrete pavement, landscape (grass), and landscape (mulch/dirt). In the 3.18-acre drainage area being analyzed in this study, approximately 0.44 acres will consist of pervious cover, a 0.12 acre decrease from the pre-development site. Elevation will change approximately 7 feet across the site, with the highest point being at 1296.5 feet above mean sea level (MSL) in the northeast corner of the parking lot, and the lowest point being at 1289.5 feet above msl at the proposed catch basin in the southeast corner of the parking lot.

C. DRAINAGE

Drainage in the post-development condition will consist of three drainage basins: Basin 1, Basin 2, and Basin 3. See Exhibit E for Post-Development Drainage Map.

Basin 1 will maintain 1.57 acres and have roughly the same boundary as Basin 1 in the pre-development conditions. Basin 1 drainage will consist primarily of sheet flow in a south-southwesterly direction across the A.C. paved parking lot and into a gutter along the western edge of the parking lot. Following the gutter, flows will be directed towards the southeast corner of the parking lot where they will be captured by a new 3'x3' catch basin. Flows from the building rooftop will be collected via roof drains, then into storm drain pipes located beneath the parking lot. The rooftop flows and surface level flows will then come together within the proposed catch basin. A 12" pipe will then route the flows into a Modular Wetlands System (MWS-L-8-12) for treatment before discharging into an existing 24" pipe along Wheeler Avenue. Basin 1

will maintain a runoff of 7.24 CFS. This represents a 0.11 CFS decrease from the pre-developed condition.

Basin 2 will maintain 1.50 acres and have roughly the same boundary as Basin 2 in the pre-development conditions, excluding the offsite run-on area from Upland Avenue. The proposed site will redirect flows from Upland Avenue to the west and around the site. The post-development Basin 2 will consist of the western half of the building rooftop, surrounding walkways/plazas, landscaping, and the northern portion of the parking lot. In the proposed condition, Basin 2 will maintain 0.11 less acres than in the pre-development condition due to the rerouting of flows from Upland Avenue. For analysis, Basin 2 has been divided into sub-basins 2A, 2B, and 2C.

Sub-Basin 2A will maintain 0.40 acres and consist of the northern parking lot. Flows from the parking lot will sheet flow southwest into a curb & gutter along the southern edge of the parking lot. The gutter will then route the flows westerly into a curb opening at the southwest corner of the parking lot. Once captured by the curb opening, all flows will enter the storm drain system.

Sub-Basin 2B will maintain 0.50 acres and consist of a portion of the building rooftop, landscape, and a concrete plaza. Flows from the rooftop will be collected by roof drains and directed into the storm drain system. Flows from the landscape and plaza areas will be collected by a series of catch basins, and be routed into the storm drain system. All flows from Sub-Basin 2B will comeingle with flows Sub-Basin 2A inside the storm drain.

Sub-Basin 2C will maintain 0.60 acres and consist of the entire southwest corner of the site, as well as 400 SF of the building rooftop from the existing building to the south. Flows from the rooftops will be collected by roof drains and directed into the storm drain system. Flows from the landscape and plaza areas will be collected by a series of catch basins, and be routed into the storm drain system and into a Contech CDS Hydrodynamic Separator (CDS1515-3-C) for pre-treatment. Overall, the Basin 2 storm drain system will maintain 5.24 CFS of runoff.

All flows from Basin 2 will be pre-treated by a CDS Hydrodynamic Separator located in the southwest corner of the site. The CDS unit will remove pollutants from the flows and discharge into a specially designed storm drain cleanout (Storm Drain Cleanout #1) with two outlets pipes: Outlet #1 and Outlet #2. Outlet #1 will be a 12" HDPE pipe located at the bottom of the cleanout box and have an IE of 1284.25'. Outlet #2 will be a 15" PVC pipe with an IE of 1285.75'. See Figure 1 below:

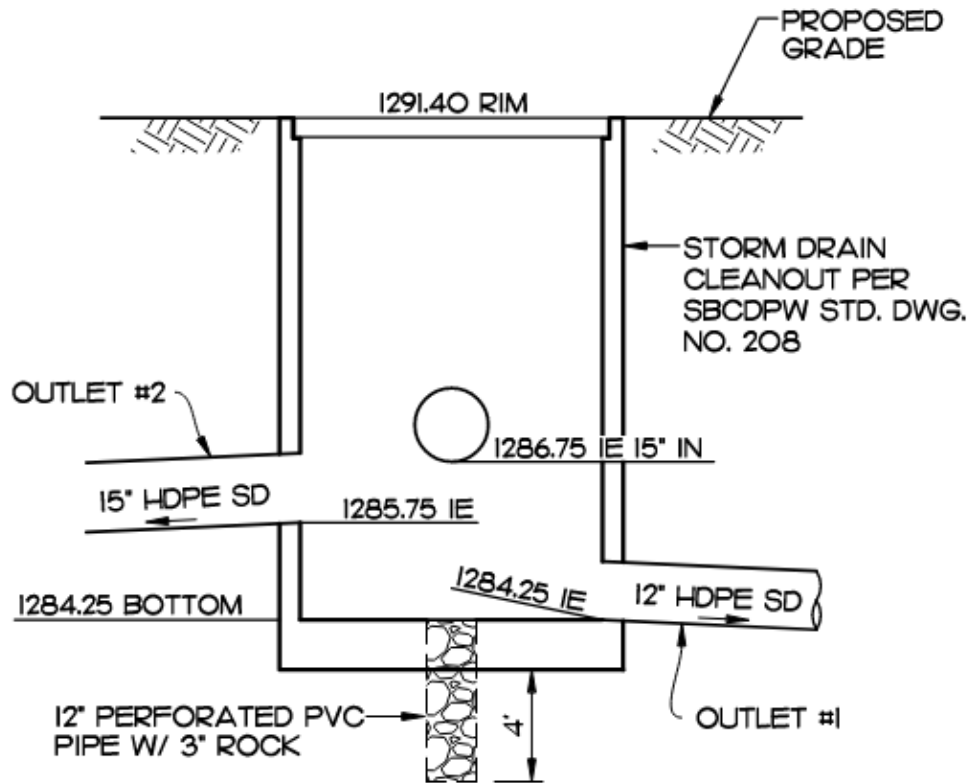


Figure 1: Storm Drain Cleanout #1

Outlet #1 will be the first outlet to receive flows. Outlet #1 will utilize the 12" HDPE pipe to direct flows into a proposed Contech Chambermaxx Retention System located below the concrete plaza in front of the building entrance. The retention system will be approximately 2,759 square feet with a total volume of 6,107 cubic feet. The retention system will have an open bottom to allow for infiltration, which is required by the City of Fontana. With flows entering the 6,107 CF retention system at a rate of 5.24 CFS, the system will reach capacity after 19.42 minutes. Once the retention system reaches capacity, the 12" HDPE will no longer be able to convey flows and the water level in the storm drain cleanout will rise. Once the water level rises 1.50' to an elevation of 1285.75', Outlet #2 will begin to convey flows.

The 15" HDPE pipe with an IE out of 1285.75' will direct the overflow flows west, into a second storm drain cleanout box (Storm Drain Cleanout #2) located at the southwest corner of the property, adjacent to the Sierra Avenue parkway drain. This cleanout will be used to direct flows into a proposed parkway drain to be discharged onto Sierra Avenue. The cleanout box will have an inlet IE of 1285.34' and outlet IE of 1289.77'. In order to push flows into the adjacent parkway drain, a sump pump will be located at the bottom of the cleanout box, 3' below the IE of the 15" HDPE inlet. The pump sump will be designed with a float switch which will activate the pump once the water level inside the box reaches 3.25', and will stay on until the water level drops below 1'. If the water level in the cleanout reaches 7.43' (1289.77' IE), the

flows will spill out of the cleanout via a 3' wide x 4" tall slot opening, and into the parkway drain. See Figure 2 below:

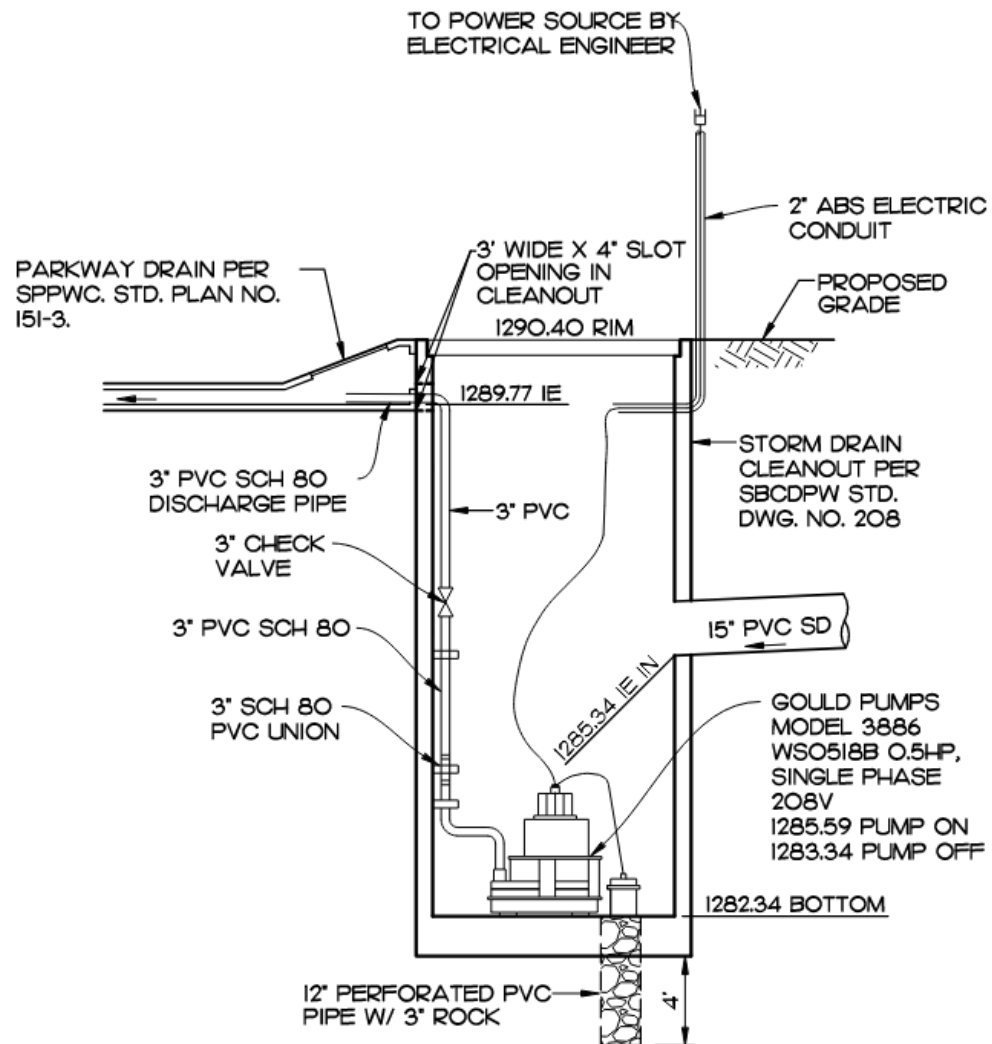


Figure 2: Storm Drain Cleanout #2

Basin 3 will maintain 0.11 acres along western edge of the property, similar to Basin 3 in the pre-development condition. This basin will consist solely of the sidewalk along Sierra Avenue, which is located within the property line. Basin 3 drainage will consist of sheet flow in a southwesterly direction along the sidewalk and into the curb and gutter system along Sierra Avenue. Basin 3 will maintain a runoff of 0.68 CFS. This represents a 0.17 CFS decrease from the pre-developed condition.

The overall runoff in post-development conditions is 13.16 CFS, which represents a decrease of 1.59 CFS from pre-development conditions. See Exhibit E for Post-Development Drainage Map.

D. SUMP PUMP

A sump pump will be required in order to properly discharge runoff from Basin 2 during large storm events. The ChamberMaxx Retention System is designed to infiltrate a runoff volume for water quality control, which is produced from a 24-hour, 85th percentile storm event. In the event of a larger storm event, such as the 100-year storm, the retention system will reach capacity after 19.42 minutes. At this point, flows will be directed into Storm Drain Cleanout #2 (shown in Figure 2) at an invert elevation of 1285.34'. Due to the inlet of the Parkway Drain having an IE of 1289.77, a sump pump will be required to cover the 4.43' difference.

The selected sump pump located inside Storm Drain Cleanout #2 will be a Gould Pumps Model 3886 WS0518B 0.5HP, Single Phase 208V. See Attachment 5 for the Pump Information.

IV. HYDROLOGIC METHODOLOGY

A. RATIONAL METHOD

The Rational method was used in this study to calculate the stormwater runoff from each basin, pre-development and post-development. Advanced Engineering Software (AES) was used to compute the values of intensity, time of concentration, and peak flow rate. All rational method calculations were based on 1986 San Bernardino County Hydrology Criterion. See Attachments 3 and 4 for Rational Method calculations.

B. AES INPUT

As mentioned above, AES was used to calculate the peak flow rate for each basin. To obtain a peak flow rate value for each basin, certain parameters were required to be inputted into the software. Below is a list of parameters and an explanation of the chosen input for each one:

- User Specified Storm Event: 100-year
 - The 100-year storm event was selected, as all onsite drainage will be sized to convey runoff from a 100-year storm event
- User Specified 1-hour intensity (in./hr.): 1.55 in/hr.
 - 1.55 in/hr. was selected per the site-specific NOAA Atlas 14 Point Precipitation Frequency Estimates table located in Attachment 1
- Slope of Intensity Duration Curve: 0.6
 - 0.6 was selected for the slope of the intensity duration curve because Section D.4 of the San Bernardino Hydrology Manual states that 0.6 shall be used for watersheds in the southwest portion of the County.

- Antecedent Moisture Condition: III
 - See Section II.D above for explanation
- Initial sub-area flow length: Varies per Basin
 - The initial sub-area flow length was individually calculated for each basin. The starting point for each flow path was selected based on the point furthest away from the selected end point. The end point of each basin was selected as the point where sheet flows are fully captured and enter into either the storm drain system or offsite curb & gutter. The initial sub-area flow length is the length of the flow path between the start and end points.
- Elevation Data (Upstream & Downstream): Varies per Basin
 - Elevation data was individually calculated for each basin's longest flow path. The upstream elevation was selected for the starting point of the flow path and the downstream elevation was selected for the end point of the flow path.
- Soil Type: A
 - See Section II.C above for explanation
- % Pervious: Varies per Basin
 - The percentage of pervious cover was individually calculated for each basin.

C. STORM FREQUENCY

The 100-year, 1-hour storm frequency was used for all rational method calculations. Per the NOAA Atlas 14 Point Precipitation Frequency Estimates chart, the 100-year, 1-hour storm located at the site of the Fontana City Hall Building (Latitude 34.1023°, Longitude -117.435°) is 1.55". See Attachment 1 for NOAA Atlas 14 Point Precipitation Frequency Estimates.

V. HYDRAULICS

A. PIPE SIZING

Storm drain pipes were sized based on the calculated flow from the post-development rational method calculations and Manning's Equation for non-pressurized flow. Pipe sizes consist of 6", 8", 12", and 15" pipes. For consistency, all pipes 8" or less will be PVC pipes, while all pipes 12" or greater will be HDPE pipes. See Attachment 6 for Pipe Size Calculations.

B. CATCH BASIN SIZING

Catch basins were sized based on two factors; the required inlet flow and/or the size of the connecting pipes. For inflow capacity calculations, the effective area of Old Castle Welded Steel Grates with 77% openings was used. The site primarily utilizes 24" x 24" catch basins with an in-flow capacity of 7.406 CFS. The site also utilizes two 36" x 36" catch basins with an in-flow capacity of 16.663 CFS. Catch basins located inside landscape/planter areas have been upsized to account for debris and mulch causes blockages to the inlet grates. See Attachment 7 for Catch Basin Sizing Calculations.

C. PARKWAY DRAIN SIZING

The Parkway Drain along Sierra Avenue was sized based on the 100-year peak discharge for Basin 2. Based on an inlet flow of 5.24 CFS, a 48" wide parkway drain has been selected. See Attachment 8 for Parkway Drain Sizing Calculations.


VI. CONCLUSION

A. SUMMARY

1. Hydrology

- Project Site contains Soil Type A and AMC III conditions
- 100-year, 1-hour storm frequency of 1.55" was used for calculations
- Rational Method was used for runoff calculations
- Post-Development Conditions present a 1.59 CFS decrease of runoff discharging from the site due to the rerouting of flows from Upland Avenue

Table 1 below is a summary of the 100-year peak discharges for the pre- and post-development conditions:

PRE & POST DEVELOPMENT 100-YR. PEAK DISCHARGES								
BASIN 	PRE-DEVELOPMENT				POST-DEVELOPMENT			
	TIME OF CONCENTRATION T _c (IN MINUTES)	AREA A (IN ACRES)	NRCS HYDROLOGIC SOIL TYPE	DISCHARGE Q ₁₀₀ (IN CFS)	TIME OF CONCENTRATION T _c (IN MINUTES)	AREA A (IN ACRES)	NRCS HYDROLOGIC SOIL TYPE	DISCHARGE Q ₁₀₀ (IN CFS)
1	8.20	1.62	A	7.35	8.02	1.57	A	7.24
2	9.47	1.61	A	6.55	12.19	1.50	A	5.24
3	5.00	0.14	A	0.85	5.00	0.11	A	0.68
TOTAL	--	3.37*	A	14.75	--	3.18*	A	13.16

*THE DIFFERENCE IN TOTAL AREA BETWEEN PRE- AND POST-DEVELOPMENT IS DUE TO THE REROUTING OF FLOWS FROM UPLAND AVENUE AROUND THE SITE PER THE REQUEST OF THE CITY OF FONTANA.

Table 1: Summary of 100-year, 1- hour Storm Event

2. Hydraulics

- Proposed storm drain pipe sizes include 6", 8", 12", and 15".
- Pipes 8" or less will be PVC and pipes 12" or greater will be HDPE.
- Proposed catch basin sizes include 24" x 24" and 36" x 36".
- Proposed Parkway Drain will be 48" wide.

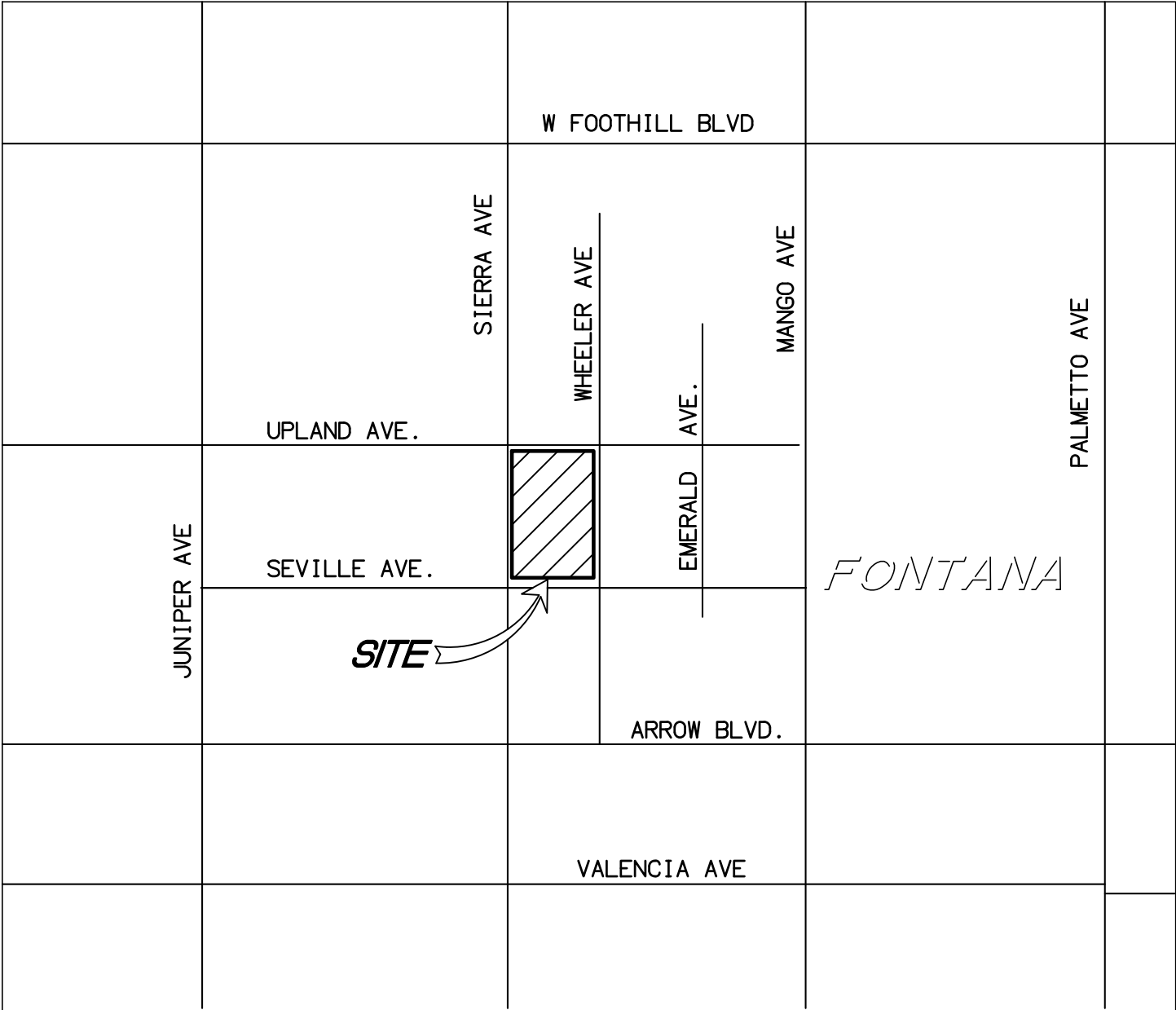
B. REFERENCES

1. County of San Bernardino, Hydrology Manual, dated August 1986.
2. NOAA Atlas 14, Volume 6, Version 2.
3. City of Fontana, Master Storm Drain Plan, dated January 2025
4. Advanced Engineering Software (aes), RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE, © 1983-2016, Version 23.0.

EXHIBITS

EXHIBIT A

Vicinity Map



VICINITY MAP
NO SCALE

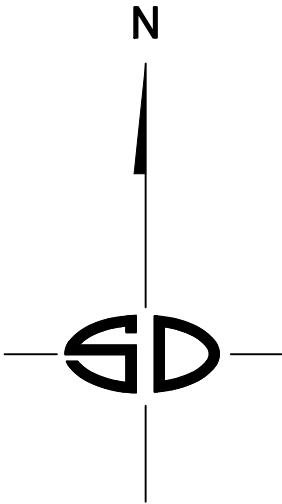


EXHIBIT B

Hydrologic Soils Group Map - City of Fontana
Water Quality Management Plan Handbook

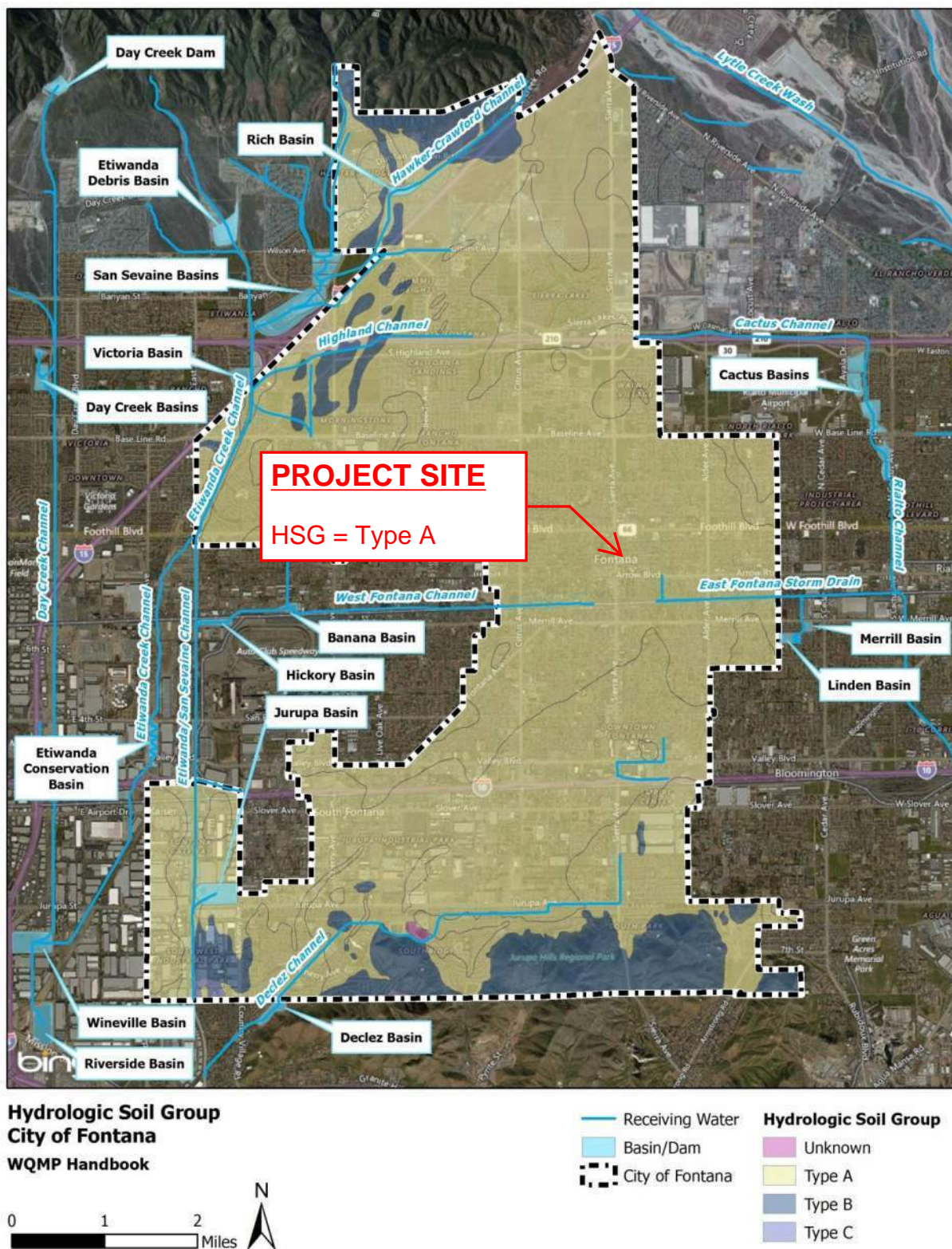


Figure 2-1 Hydrologic Soil Group

EXHIBIT C

Antecedent Moisture Condition Map

Figure ADD-1

Antecedent Moisture

Condition (AMC)

5-day Rainfall - NOAA Atlas 14

(50% of Total Rainfall Prior to Peak)*

*1/2 (11-day - 1-day) =

1/2 ((([10-day] + (1/10 ([20-day] - [10-day])))) - [1-day])

5

0

5

10

15

Miles

N

W

E

S

Growing Season

AMC I

AMC II

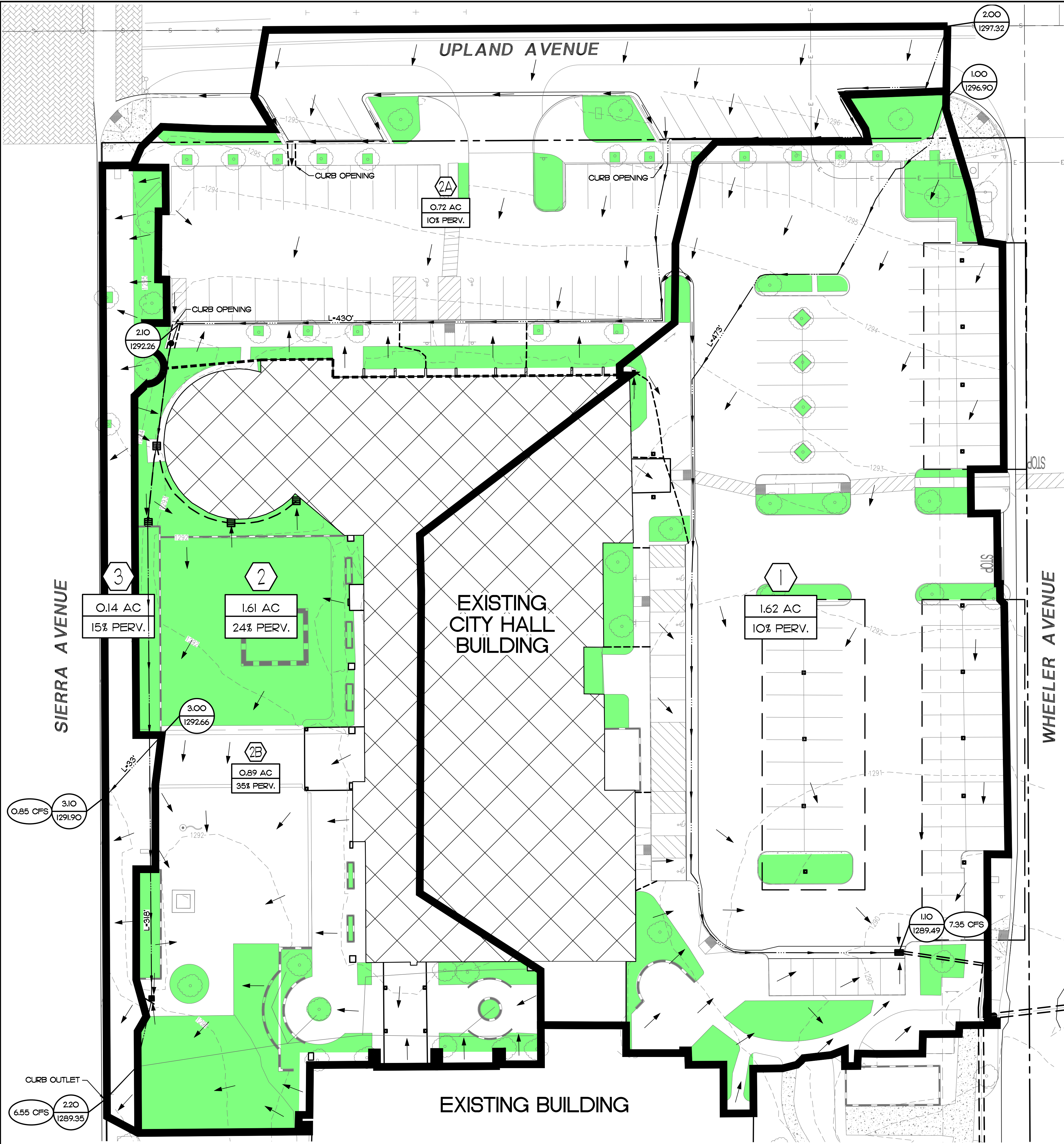
AMC III

FONTANA CITY HALL
- AMC III USED FOR ALL CALCS
(100 YEAR-STORM)

EXHIBIT D

Pre-Development Drainage Map

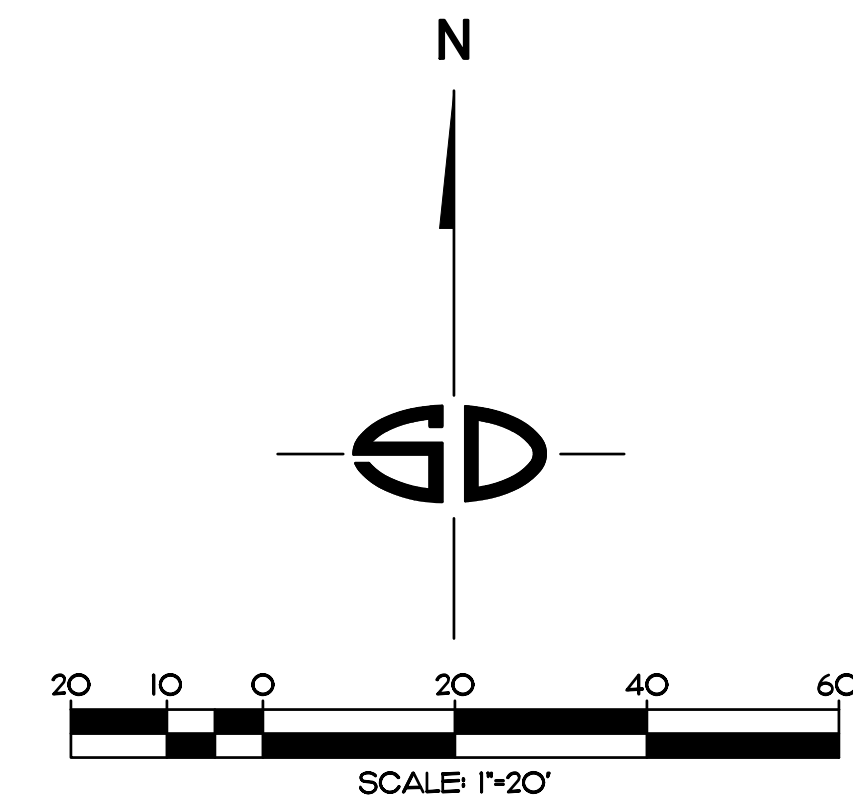
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LEGEND	
BASIN BOUNDARY	
SUB-BASIN BOUNDARY	
NODE ID	
ELEVATION	
BASIN ID NO.	
SUB-BASIN ID NO.	
DRAINAGE AREA (ACRES)	
% PERVIOUS COVER	
100-YR PEAK DISCHARGE	
FLOW PATH LENGTH	
LONGEST FLOW PATH	
DRAINAGE ARROW	
IMPERVIOUS AREA	
PERVIOUS AREA	

PRE & POST DEVELOPMENT 100-YR. PEAK DISCHARGES								
BASIN	PRE-DEVELOPMENT				POST-DEVELOPMENT			
	TIME OF CONCENTRATION Tc (IN MINUTES)	AREA A (IN ACRES)	NRCS HYDROLOGIC SOIL TYPE	DISCHARGE Q100 (IN CFS)	TIME OF CONCENTRATION Tc (IN MINUTES)	AREA A (IN ACRES)	NRCS HYDROLOGIC SOIL TYPE	DISCHARGE Q100 (IN CFS)
1	8.20	1.62	A	7.35	8.02	1.57	A	7.24
2	9.47	1.61	A	6.55	12.19	1.50	A	5.24
3	5.00	0.14	A	0.85	5.00	0.11	A	0.68
TOTAL	--	3.37*	A	14.75	--	3.18*	A	13.16

*THE DIFFERENCE IN TOTAL AREA BETWEEN PRE- AND POST-DEVELOPMENT IS DUE TO THE REROUTING OF FLOWS FROM UPLAND AVENUE AROUND THE SITE PER THE REQUEST OF THE CITY OF FONTANA.



PRE-DEVELOPMENT
DRAINAGE MAP
FONTANA CITY HALL

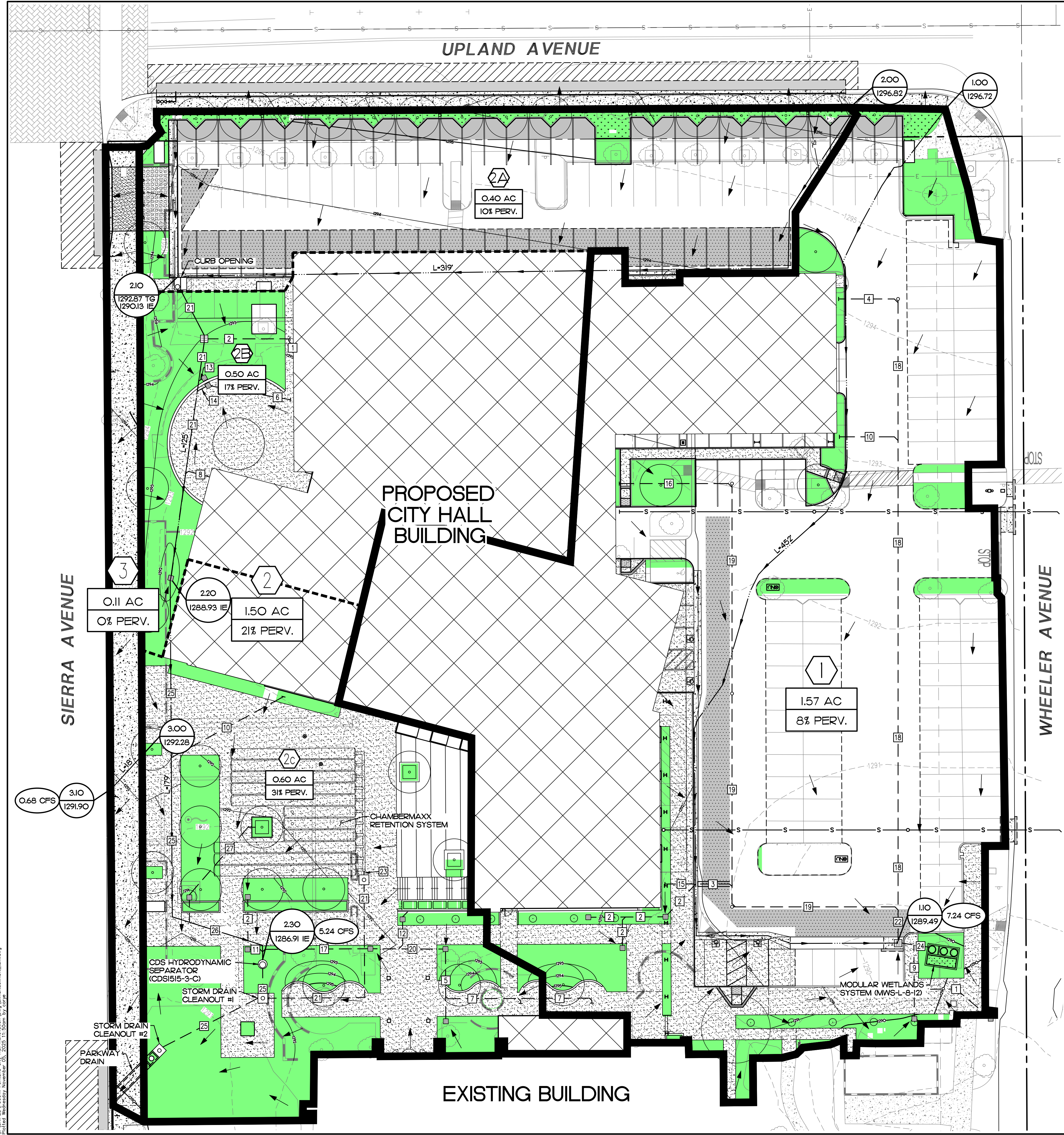
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SNIPES-DYE ASSOCIATES 8348 CENTER DRIVE, SUITE G, LA MESA, CA 91942-2910 (619) 697-9234, FAX (619) 460-2033


EXHIBIT E

Post-Development Drainage Map

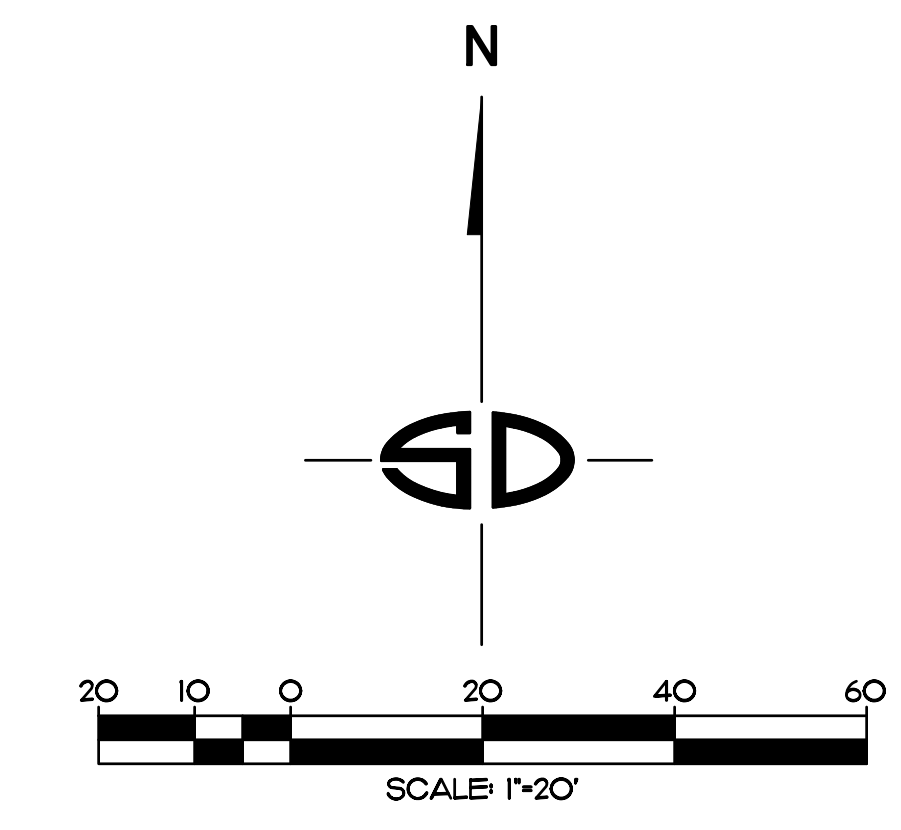
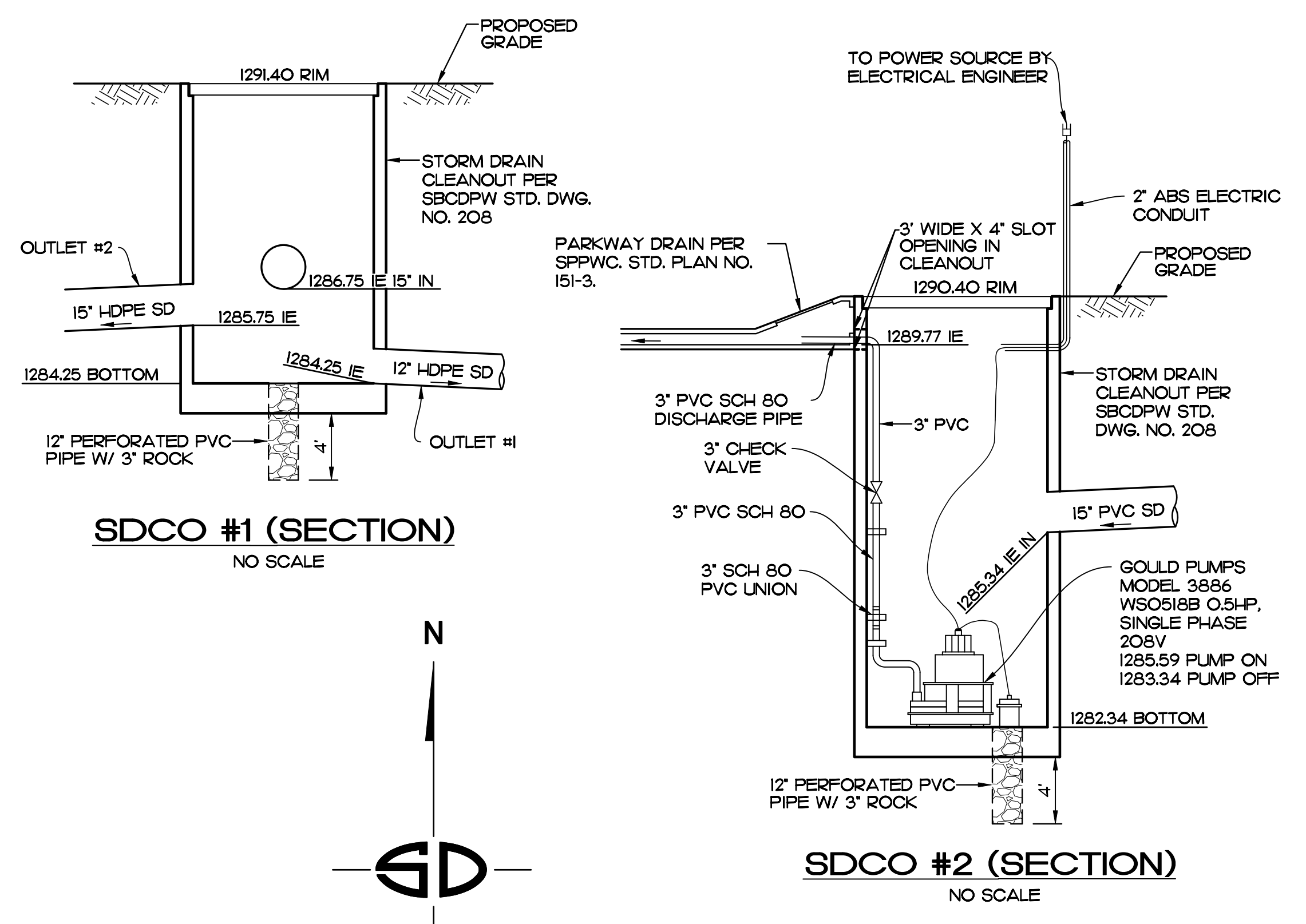
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LEGEND	
BASIN BOUNDARY	---
SUB-BASIN BOUNDARY	----
NODE ID	1.00
ELEVATION	1296.90
BASIN ID NO.	2
SUB-BASIN ID NO.	2B
DRAINAGE AREA (ACRES)	0.50 AC
% PERVIOUS COVER	17% PERV.
100-YR PEAK DISCHARGE	7.35 CFS
FLOW PATH LENGTH	L= 430'
PIPE SEGMENT NODE (CORRESPONDS TO ATTACHMENT 6)	1
LONGEST FLOW PATH	→
DRAINAGE ARROW	→
IMPERVIOUS AREA	CONCRETE A.C. PAVEMENT ROOFTOP
PERVIOUS AREA	LANDSCAPE

PRE & POST DEVELOPMENT 100-YR. PEAK DISCHARGES								
PRE-DEVELOPMENT					POST-DEVELOPMENT			
BASIN 	TIME OF CONCENTRATION Tc (IN MINUTES)	AREA A (IN ACRES)	NRCS HYDROLOGIC SOIL TYPE	DISCHARGE Q100 (IN CFS)	TIME OF CONCENTRATION Tc (IN MINUTES)	AREA A (IN ACRES)	NRCS HYDROLOGIC SOIL TYPE	DISCHARGE Q100 (IN CFS)
1	8.20	1.62	A	7.35	8.02	1.57	A	7.24
2	9.47	1.61	A	6.55	1219	1.50	A	5.24
3	5.00	0.14	A	0.85	5.00	0.11	A	0.68
TOTAL	--	3.37*	A	14.75	--	3.18*	A	13.16

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POST-DEVELOPMENT
DRAINAGE MAP
FONTANA CITY HALL

PRE-DEVELOPMENT DRAINAGE MAP

DESIGNER WAS

DRAWN CPE

CHECKED WAS

DATE 11/12/2025

BY

REVISION DESCRIPTION

NO

DATE

NO

DATE

NO

DATE

SHEET 2

OF 2

SHEETS

FOOO12

SNIPES-DYE ASSOCIATES

8348 CENTER DRIVE, SUITE G, LA MESA, CA 91942-2910 (619) 697-9234, FAX (619) 460-2033

FONTANA CITY HALL

8353 SIERRA AVENUE

FONTANA, CA 92335

ATTACHMENTS

ATTACHMENT 1

NOAA ATLAS 14

Point Precipitation Frequency Estimates



NOAA Atlas 14, Volume 6, Version 2
Location name: Fontana, California, USA*
Latitude: 34.1023°, Longitude: -117.435°
Elevation: 1295 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.118 (0.099-0.144)	0.155 (0.129-0.189)	0.205 (0.170-0.250)	0.247 (0.203-0.303)	0.305 (0.243-0.388)	0.352 (0.274-0.458)	0.401 (0.304-0.535)	0.454 (0.334-0.623)	0.528 (0.373-0.756)	0.589 (0.401-0.874)
10-min	0.170 (0.141-0.206)	0.223 (0.185-0.270)	0.294 (0.244-0.358)	0.354 (0.291-0.434)	0.438 (0.348-0.556)	0.505 (0.393-0.656)	0.575 (0.436-0.767)	0.651 (0.479-0.892)	0.757 (0.535-1.08)	0.845 (0.575-1.25)
15-min	0.205 (0.171-0.249)	0.269 (0.224-0.327)	0.355 (0.295-0.433)	0.428 (0.352-0.525)	0.529 (0.421-0.673)	0.611 (0.475-0.793)	0.696 (0.528-0.927)	0.787 (0.580-1.08)	0.916 (0.646-1.31)	1.02 (0.696-1.52)
30-min	0.307 (0.256-0.373)	0.403 (0.335-0.489)	0.532 (0.441-0.648)	0.640 (0.527-0.786)	0.792 (0.630-1.01)	0.914 (0.711-1.19)	1.04 (0.790-1.39)	1.18 (0.868-1.62)	1.37 (0.968-1.96)	1.53 (1.04-2.27)
60-min	0.458 (0.381-0.555)	0.600 (0.499-0.728)	0.792 (0.657-0.964)	0.953 (0.784-1.17)	1.18 (0.937-1.50)	1.36 (1.06-1.77)	1.55 (1.18-2.07)	1.75 (1.29-2.40)	2.04 (1.44-2.92)	2.28 (1.55-3.38)
2-hr	0.689 (0.574-0.836)	0.894 (0.743-1.08)	1.16 (0.966-1.42)	1.39 (1.14-1.70)	1.69 (1.35-2.15)	1.93 (1.50-2.51)	2.18 (1.65-2.90)	2.44 (1.80-3.34)	2.80 (1.98-4.00)	3.08 (2.10-4.58)
3-hr	0.878 (0.732-1.06)	1.14 (0.944-1.38)	1.47 (1.22-1.79)	1.74 (1.44-2.14)	2.12 (1.68-2.69)	2.40 (1.87-3.12)	2.70 (2.05-3.60)	3.00 (2.21-4.12)	3.42 (2.42-4.90)	3.75 (2.56-5.56)
6-hr	1.28 (1.06-1.55)	1.65 (1.37-2.00)	2.12 (1.76-2.59)	2.51 (2.06-3.08)	3.02 (2.40-3.84)	3.41 (2.65-4.43)	3.81 (2.88-5.07)	4.21 (3.10-5.77)	4.75 (3.35-6.80)	5.17 (3.52-7.66)
12-hr	1.72 (1.43-2.08)	2.23 (1.85-2.70)	2.87 (2.38-3.50)	3.39 (2.79-4.16)	4.06 (3.23-5.16)	4.57 (3.55-5.93)	5.07 (3.84-6.75)	5.57 (4.10-7.64)	6.24 (4.40-8.93)	6.75 (4.60-10.0)
24-hr	2.33 (2.06-2.68)	3.06 (2.71-3.53)	3.98 (3.51-4.60)	4.70 (4.12-5.49)	5.65 (4.78-6.81)	6.35 (5.27-7.81)	7.04 (5.70-8.86)	7.72 (6.09-10.0)	8.62 (6.52-11.6)	9.30 (6.80-13.0)
2-day	2.83 (2.51-3.26)	3.81 (3.37-4.39)	5.05 (4.45-5.84)	6.04 (5.28-7.04)	7.34 (6.22-8.85)	8.33 (6.91-10.2)	9.31 (7.54-11.7)	10.3 (8.12-13.3)	11.6 (8.79-15.7)	12.6 (9.23-17.6)
3-day	3.04 (2.69-3.51)	4.16 (3.68-4.80)	5.60 (4.94-6.48)	6.77 (5.92-7.89)	8.34 (7.06-10.0)	9.54 (7.92-11.7)	10.8 (8.71-13.6)	12.0 (9.46-15.5)	13.7 (10.4-18.5)	15.0 (11.0-20.9)
4-day	3.26 (2.89-3.76)	4.51 (3.98-5.20)	6.13 (5.41-7.09)	7.46 (6.52-8.70)	9.26 (7.84-11.2)	10.7 (8.84-13.1)	12.1 (9.77-15.2)	13.5 (10.7-17.5)	15.5 (11.7-20.9)	17.1 (12.5-23.8)
7-day	3.71 (3.28-4.27)	5.20 (4.60-6.01)	7.18 (6.33-8.30)	8.80 (7.70-10.3)	11.0 (9.34-13.3)	12.8 (10.6-15.7)	14.5 (11.8-18.3)	16.4 (12.9-21.2)	18.9 (14.3-25.5)	20.9 (15.3-29.2)
10-day	4.01 (3.55-4.62)	5.68 (5.02-6.56)	7.90 (6.96-9.14)	9.73 (8.51-11.3)	12.3 (10.4-14.8)	14.2 (11.8-17.5)	16.3 (13.2-20.5)	18.4 (14.5-23.9)	21.4 (16.2-28.8)	23.7 (17.4-33.1)
20-day	4.80 (4.24-5.53)	6.87 (6.07-7.92)	9.66 (8.52-11.2)	12.0 (10.5-14.0)	15.3 (12.9-18.4)	17.9 (14.8-22.0)	20.6 (16.7-26.0)	23.5 (18.6-30.5)	27.6 (20.9-37.3)	31.0 (22.6-43.2)
30-day	5.63 (4.99-6.49)	8.06 (7.13-9.30)	11.4 (10.0-13.2)	14.2 (12.4-16.5)	18.2 (15.4-21.9)	21.4 (17.7-26.3)	24.7 (20.0-31.2)	28.4 (22.4-36.8)	33.6 (25.4-45.3)	37.8 (27.6-52.7)
45-day	6.73 (5.96-7.75)	9.52 (8.42-11.0)	13.4 (11.8-15.5)	16.7 (14.6-19.4)	21.4 (18.1-25.8)	25.3 (20.9-31.1)	29.4 (23.8-37.0)	33.9 (26.7-43.8)	40.3 (30.5-54.4)	45.7 (33.4-63.7)
60-day	7.89 (6.99-9.10)	11.0 (9.73-12.7)	15.3 (13.5-17.7)	19.1 (16.7-22.3)	24.5 (20.8-29.5)	29.0 (24.0-35.6)	33.8 (27.4-42.6)	39.1 (30.8-50.6)	46.7 (35.4-63.0)	53.2 (38.9-74.2)
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.										

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PF graphical

ATTACHMENT 2

Curve Numbers of Hydrologic Soil for AMC II

Curve (I) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group			
		A	B	C	D
<u>NATURAL COVERS -</u>					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparral, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	71	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent.)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	25	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
<u>URBAN COVERS -</u>					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
<u>AGRICULTURAL COVERS -</u>					
Fallow (Land plowed but not tilled or seeded)		77	86	91	94

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

**CURVE NUMBERS
FOR
PERVIOUS AREAS**

Curve Number Adjustment for AMC III

TABLE C.1. CURVE NUMBER RELATIONSHIPS

CN for AMC Condition II	Corresponding CN for AMC Condition	
	I	III
100	100	100
95	87	99
90	78	98
85	70	97
80	63	94
75	57	91
70	51	87
65	45	83
60	40	79
55	35	75
50	31	70
45	27	65
40	23	60
35	19	55
30	15	50
25	12	45
20	9	39
15	7	33
10	4	26
5	2	17
0	0	0

C.6. ESTIMATION OF LOSS RATES

In estimating loss rates for design hydrology, a watershed curve number (CN) is determined for each soil-cover complex within the watershed using Figure C-3. The working range of CN values is between 0 and 98, where a low CN indicates low runoff potential (high infiltration), and a high CN indicates high runoff potential (low infiltration). Selection of a CN takes into account the major factors affecting loss rates on pervious surfaces including the hydrologic soil group, cover type and quality, and antecedent moisture condition (AMC).

Also included in the CN selection are the effects of "initial abstraction" (Ia) which represents the combined effects of other effective rainfall losses including depression storage, vegetation interception, evaporation, and transpiration, among other factors.

ATTACHMENT 3

Pre-Development Runoff Calculations

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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Ver. 23.0 Release Date: 07/01/2016 License ID 1305

Analysis prepared by:

Snipes-Dye associates
civil engineers & land surveyors

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(619) 697-9234 (619) 460-2033 fax
www.snipesdye.com

***** DESCRIPTION OF STUDY *****
* FONTANA CITY HALL *
* PRE-DEVELOPMENT RATIONAL METHOD CALCULATIONS *
* 100-YEAR STORM EVENT *

FILE NAME: FOPRE.DAT

TIME/DATE OF STUDY: 12:07 07/17/2025

=====

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

=====

--*TIME-OF-CONCENTRATION MODEL*--

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 3.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.5500

ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

	HALF- WIDTH NO.	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH LIP HIKE (FT) (FT) (FT)	MANNING FACTOR (n)
=====	=====	=====	=====	=====	=====	=====
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00 0.0313 0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

BASIN 1

```
*****
FLOW PROCESS FROM NODE      1.00 TO NODE      1.10 IS CODE =   21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) =    473.00
ELEVATION DATA: UPSTREAM(FEET) =    1296.90  DOWNSTREAM(FEET) =    1289.49

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.200
* 100 YEAR RAINFALL INTENSITY(INCH/HR) =    5.116
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
LAND USE              GROUP   (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
USER-DEFINED          -         1.62     0.74     0.100    -    8.20
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =    0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =    0.100
SUBAREA RUNOFF(CFS) =          7.35
TOTAL AREA(ACRES) =          1.62  PEAK FLOW RATE(CFS) =    7.35
```

BASIN 2

BASIN 2A

```
*****
FLOW PROCESS FROM NODE      2.00 TO NODE      2.10 IS CODE =   21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) =    430.00
ELEVATION DATA: UPSTREAM(FEET) =    1297.32  DOWNSTREAM(FEET) =    1292.26

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.358
* 100 YEAR RAINFALL INTENSITY(INCH/HR) =    5.058
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
LAND USE              GROUP   (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
USER-DEFINED          -         0.72     0.74     0.100    -    8.36
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =    0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =    0.100
SUBAREA RUNOFF(CFS) =          3.23
TOTAL AREA(ACRES) =          0.72  PEAK FLOW RATE(CFS) =    3.23
```

```
*****
FLOW PROCESS FROM NODE      2.10 TO NODE      2.20 IS CODE =   41
-----
>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) =    1292.26  DOWNSTREAM(FEET) =    1289.35
FLOW LENGTH(FEET) =    318.00  MANNING'S N =    0.010
ASSUME FULL-FLOWING PIPELINE
PIPE-FLOW VELOCITY(FEET/SEC.) =    4.78
(PIPE FLOW VELOCITY CORRESPONDING TO NORMAL-DEPTH FLOW
AT DEPTH = 0.82 * DIAMETER)
```

GIVEN PIPE DIAMETER(INCH) = 8.00 NUMBER OF PIPES = 1
 PIPE-FLOW(CFS) = 3.23
 PIPE TRAVEL TIME(MIN.) = 1.11 Tc(MIN.) = 9.47
 LONGEST FLOWPATH FROM NODE 2.00 TO NODE 2.20 = 748.00 FEET.

BASIN 2B

```
*****
FLOW PROCESS FROM NODE      2.20 TO NODE      2.20 IS CODE = 81
-----
>>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 9.47
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 4.693
SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL      AREA      Fp      Ap      SCS
    LAND USE          GROUP    (ACRES) (INCH/HR) (DECIMAL) CN
USER-DEFINED            -        0.89      0.74    0.350    -
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.350
SUBAREA AREA(ACRES) = 0.89 SUBAREA RUNOFF(CFS) = 3.55
EFFECTIVE AREA(ACRES) = 1.61 AREA-AVERAGED Fm(INCH/HR) = 0.18
AREA-AVERAGED Fp(INCH/HR) = 0.74 AREA-AVERAGED Ap = 0.24
TOTAL AREA(ACRES) = 1.6 PEAK FLOW RATE(CFS) = 6.55
```

BASIN 3

```
*****
FLOW PROCESS FROM NODE      3.00 TO NODE      3.10 IS CODE = 21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(Feet) = 33.00
ELEVATION DATA: UPSTREAM(Feet) = 1292.66 DOWNSTREAM(Feet) = 1291.90

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 5.000
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 6.884
SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL      AREA      Fp      Ap      SCS      Tc
    LAND USE          GROUP    (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
USER-DEFINED            -        0.14      0.74    0.150    -      5.00
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.150
SUBAREA RUNOFF(CFS) = 0.85
TOTAL AREA(ACRES) = 0.14 PEAK FLOW RATE(CFS) = 0.85
=====
END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 0.1 TC(MIN.) = 5.00
EFFECTIVE AREA(ACRES) = 0.14 AREA-AVERAGED Fm(INCH/HR) = 0.11
AREA-AVERAGED Fp(INCH/HR) = 0.74 AREA-AVERAGED Ap = 0.150
PEAK FLOW RATE(CFS) = 0.85
=====
END OF RATIONAL METHOD ANALYSIS
```


ATTACHMENT 4

Post-Development Runoff Calculations

RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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Ver. 23.0 Release Date: 07/01/2016 License ID 1305

Analysis prepared by:

Snipes-Dye associates
civil engineers & land surveyors

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(619) 697-9234 (619) 460-2033 fax
www.snipesdye.com

***** DESCRIPTION OF STUDY *****
* FO0012 FONTANA CITY HALL *
* POST-DEVELOPMENT RATIONAL METHOD CALCULATIONS *
* 100-YEAR STORM EVENT *

FILE NAME: FOPST.DAT
TIME/DATE OF STUDY: 14:56 09/09/2025

=====

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

=====

--*TIME-OF-CONCENTRATION MODEL*--

USER SPECIFIED STORM EVENT(YEAR) = 100.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 3.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.5500

ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD

USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL

NO.	HALF- WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER-GEOMETRIES: WIDTH LIP HIKE (FT) (FT) (FT)	MANNING FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00 0.0313 0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)*(Velocity) Constraint = 6.0 (FT*FT/S)

*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

BASIN 1

```
*****
FLOW PROCESS FROM NODE      1.00 TO NODE      1.10 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) =   452.00
ELEVATION DATA: UPSTREAM(FEET) =   1296.72  DOWNSTREAM(FEET) =   1289.49

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.019
* 100 YEAR RAINFALL INTENSITY(INCH/HR) =   5.185
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
LAND USE              GROUP   (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
USER-DEFINED          -         1.57     0.74     0.080    -    8.02
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =   0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =   0.080
SUBAREA RUNOFF(CFS) =       7.24
TOTAL AREA(ACRES) =       1.57  PEAK FLOW RATE(CFS) =       7.24
```

BASIN 2

BASIN 2A

```
*****
FLOW PROCESS FROM NODE      2.00 TO NODE      2.10 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) =   319.00
ELEVATION DATA: UPSTREAM(FEET) =   1296.82  DOWNSTREAM(FEET) =   1292.87

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   11.327
* 100 YEAR RAINFALL INTENSITY(INCH/HR) =   4.214
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
LAND USE              GROUP   (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
USER-DEFINED          -         0.40     0.74     0.100    -   11.33
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =   0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =   0.100
SUBAREA RUNOFF(CFS) =       1.49
TOTAL AREA(ACRES) =       0.40  PEAK FLOW RATE(CFS) =       1.49
```

BASIN 2B

```
*****
FLOW PROCESS FROM NODE      2.10 TO NODE      2.20 IS CODE =  41
-----
>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) =   1290.13  DOWNSTREAM(FEET) =   1288.93
FLOW LENGTH(FEET) =   125.00  MANNING'S N =   0.010
DEPTH OF FLOW IN 12.0 INCH PIPE IS   4.8 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) =    5.09
GIVEN PIPE DIAMETER(INCH) =   12.00  NUMBER OF PIPES =    1
```

PIPE-FLOW(CFS) = 1.49
PIPE TRAVEL TIME(MIN.) = 0.41 Tc(MIN.) = 11.74
LONGEST FLOWPATH FROM NODE 2.00 TO NODE 2.20 = 444.00 FEET.

FLOW PROCESS FROM NODE 2.20 TO NODE 2.20 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<

=====

MAINLINE Tc(MIN.) = 11.74
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 4.126
SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
USER-DEFINED	-	0.50	0.74	0.170	-

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.170
SUBAREA AREA(ACRES) = 0.50 SUBAREA RUNOFF(CFS) = 1.80
EFFECTIVE AREA(ACRES) = 0.90 AREA-AVERAGED Fm(INCH/HR) = 0.10
AREA-AVERAGED Fp(INCH/HR) = 0.74 AREA-AVERAGED Ap = 0.14
TOTAL AREA(ACRES) = 0.9 **PEAK FLOW RATE(CFS) = 3.26**

BASIN 2C

FLOW PROCESS FROM NODE 2.20 TO NODE 2.30 IS CODE = 41

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 1288.93 DOWNSTREAM(FEET) = 1286.91
FLOW LENGTH(FEET) = 179.00 MANNING'S N = 0.010
DEPTH OF FLOW IN 15.0 INCH PIPE IS 6.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.58
GIVEN PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 3.26
PIPE TRAVEL TIME(MIN.) = 0.45 Tc(MIN.) = 12.19
LONGEST FLOWPATH FROM NODE 2.00 TO NODE 2.30 = 623.00 FEET.

FLOW PROCESS FROM NODE 2.30 TO NODE 2.30 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<

=====

MAINLINE Tc(MIN.) = 12.19
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 4.033
SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
USER-DEFINED	-	0.60	0.74	0.310	-

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.310
SUBAREA AREA(ACRES) = 0.60 SUBAREA RUNOFF(CFS) = 2.05
EFFECTIVE AREA(ACRES) = 1.50 AREA-AVERAGED Fm(INCH/HR) = 0.15
AREA-AVERAGED Fp(INCH/HR) = 0.74 AREA-AVERAGED Ap = 0.21
TOTAL AREA(ACRES) = 1.5 **PEAK FLOW RATE(CFS) = 5.24**

BASIN 3

```
*****
FLOW PROCESS FROM NODE      3.00 TO NODE      3.10 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) = 18.00
ELEVATION DATA: UPSTREAM(FEET) = 1292.28 DOWNSTREAM(FEET) = 1291.90

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 5.000
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 6.884
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
LAND USE              GROUP   (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
USER-DEFINED          -        0.11    0.74    0.001    -    5.00
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.001
SUBAREA RUNOFF(CFS) = 0.68
TOTAL AREA(ACRES) = 0.11 PEAK FLOW RATE(CFS) = 0.68
=====
END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 0.11 TC(MIN.) = 5.00
EFFECTIVE AREA(ACRES) = 0.11 AREA-AVERAGED Fm(INCH/HR) = 0.00
AREA-AVERAGED Fp(INCH/HR) = 0.74 AREA-AVERAGED Ap = 0.001
PEAK FLOW RATE(CFS) = 0.68
=====
END OF RATIONAL METHOD ANALYSIS
```

ATTACHMENT 5

Pump Information



WS_B Series

Model 3886

SUBMERSIBLE SEWAGE PUMP



FEATURES

Impeller: Cast iron, semi-open, dynamically balanced, non-clog with pump out vanes for mechanical seal protection. Optional Silicon bronze impeller available.

Casing: Cast iron volute type for maximum efficiency. Designed for easy installation on A10-20 guide rail or base elbow rail systems.

Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces for superior abrasive resistance, stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

AGENCY LISTINGS



Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Sewage systems
- Dewatering/Effluent
- Water transfer

SPECIFICATIONS

Pump

- Solids handling capabilities: 2" maximum
- Discharge size: 2" NPT
- Capacities: up to 185 GPM
- Total heads: up to 38 feet TDH
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent

MOTORS

- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer. All ratings are within the working limits of the motor.
- Class B insulation

Single phase (60 Hz):

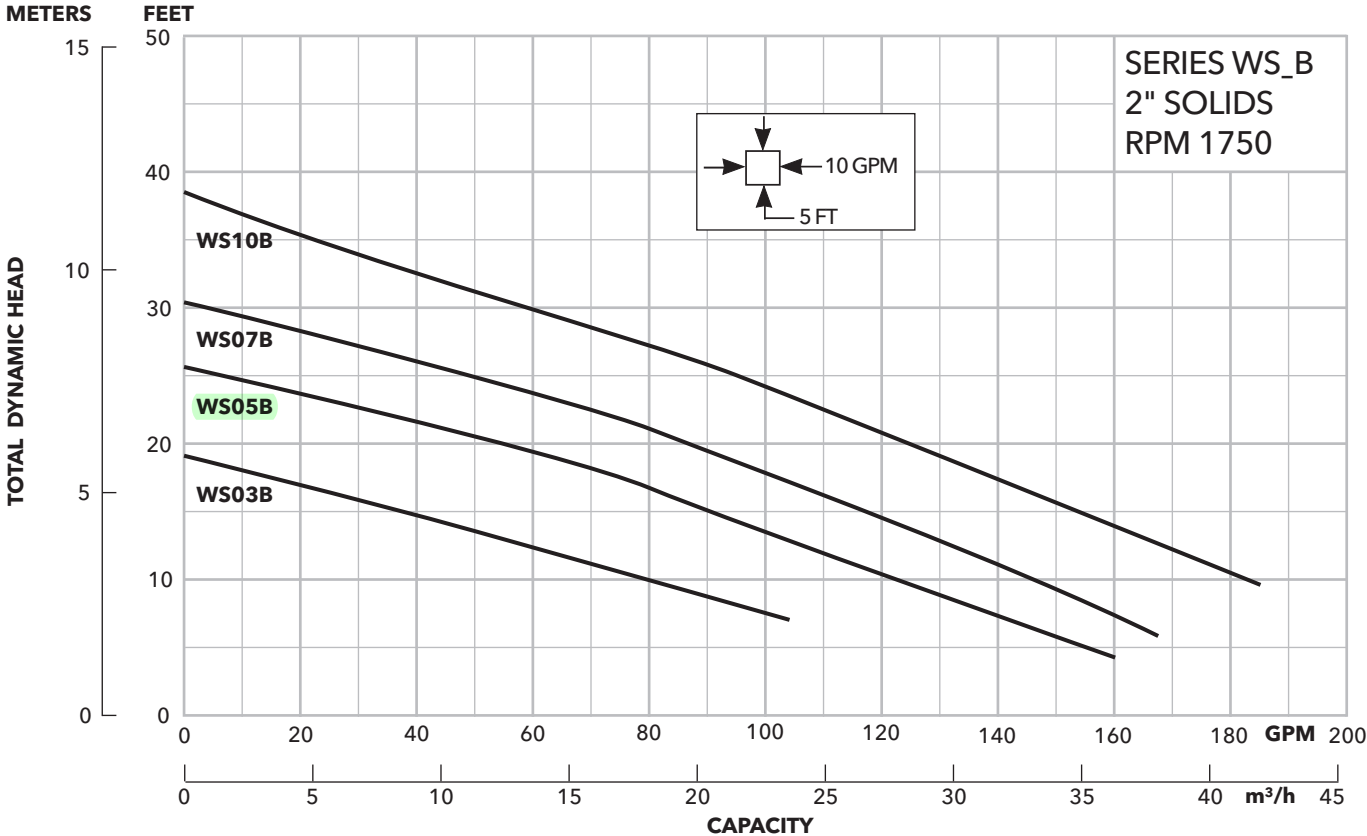
- All single phase models feature capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- 1/3 - 1 HP models have NEMA three prong ground-ing plugs.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- **Bearings:** Upper and lower heavy duty ball bearing construction.
- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- **Motor Cover O-ring:** Assures positive sealing against contaminants and oil leakage.

MODELS

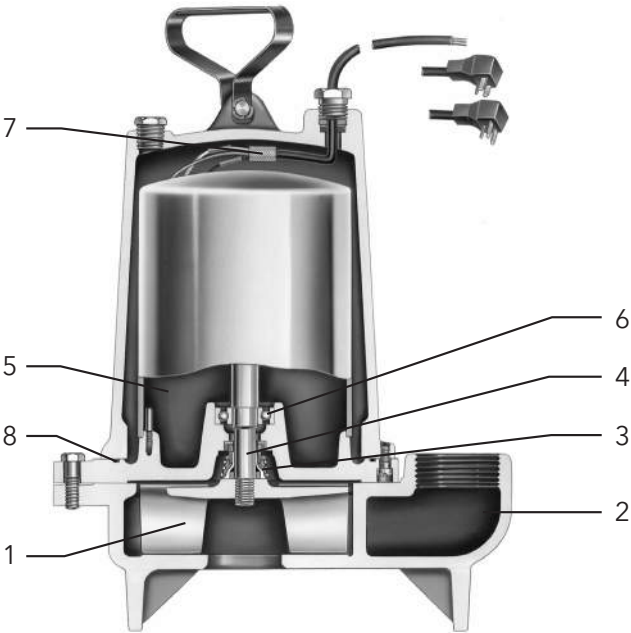
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency	Resistance		Weight (lbs.)
										Start	Line-Line	
WS0311B	0.33	1	115	1750	4.69	10.7	30.0	M	54	11.9	1.7	63
WS0318B			208			6.8	19.5	K	51	9.1	4.2	
WS0312B			230			4.9	14.1	L	53	14.5	8.0	
WS0511B	0.5	1	115		5.00	14.5	31.1	J	55	9.3	1.4	65
WS0518B			208			8.0	19.5	K	51	9.1	4.2	
WS0512B			230			7.3	16.5	J	54	11.7	5.6	
WS0538B		3	200			3.8	12.3	K	75	NA	6.7	
WS0532B			230			3.3	9.7	K	75	NA	9.9	
WS0534B			460			1.7	4.9	K	75	NA	39.4	
WS0537B			575			1.4	4.3	K	68	NA	47.8	
WS0718B	0.75	1	208		5.38	11.0	39.0	K	65	2.6	1.4	85
WS0712B			230			9.4	24.8	J	57	4.8	2.3	
WS0738B		3	200			4.1	21.2	H	74	NA	4.3	
WS0732B			230			3.6	17.3	J	76	NA	5.6	
WS0734B			460			1.8	8.9	J	76	NA	22.4	
WS0737B			575			1.5	7.3	J	71	NA	29.2	
WS1018B	1	1	208		5.75	14.0	39.0	K	65	2.6	1.4	
WS1012B			230			12.3	30.5	H	60	4.3	1.8	
WS1038B		3	200			6.0	21.2	H	74	NA	4.3	
WS1032B			230			5.8	17.3	J	76	NA	5.6	
WS1034B			460			2.9	8.9	J	76	NA	22.4	
WS1037B			575			2.4	7.3	J	71	NA	29.2	



COMPONENTS (for reference only)

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring

NOTE: For specific parts breakdown, see repair parts.

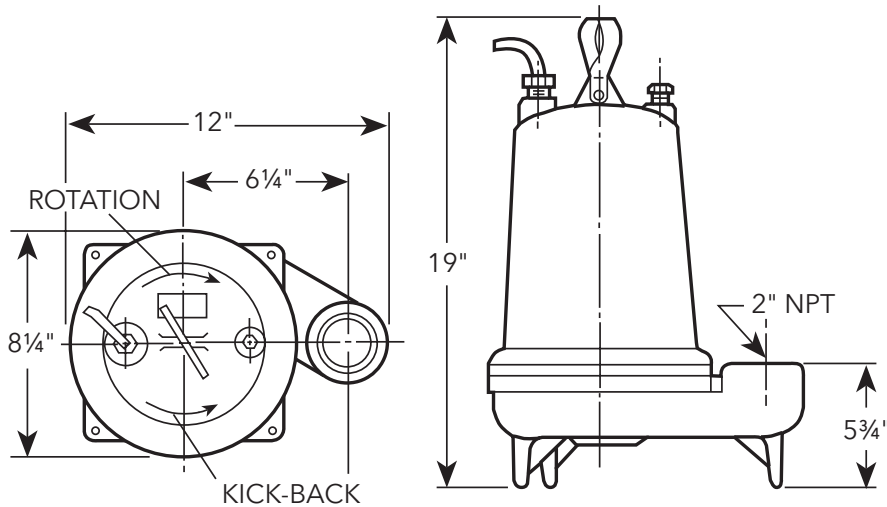


PERFORMANCE RATINGS (gallons per minute)

Order No.		WS03B	WS05B	WS07B	WS10B
Total Head Feet of Water	HP	1/3	1/2	3/4	1
	RPM	1750	1750	1750	1750
	10	80	122	145	183
	15	36	90	116	152
	20	-	50	86	123
	25	-	-	48	95
	30	-	-	-	58
	35	-	-	-	20

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WS0311B	KS19020WF	KD19020WF	S10020	D10020
WS0318B	KS19020WF	KD19020WF	S10020	D10020
WS0312B	KS19020WF	KD19020WF	S10020	D10020
WS0511B	KS19020WF	KD19020WF	S10020	D10020
WS0518B	KS19020WF	KD19020WF	S10020	D10020
WS0512B	KS19020WF	KD19020WF	S10020	D10020
WS0538B	KS31255WF	KD31255WF	S32540	D32540
WS0532B	KS31255WF	KD31255WF	S32540	D32540
WS0534B	KS31255WF	KD31255WF	S31615	D31615
WS0537B	N/A	N/A	S31615	D31615
WS0718B	KS19020WF	KD19020WF	S10020	D10020
WS0712B	KS19020WF	KD19020WF	S10020	D10020
WS0738B	KS31255WF	KD31255WF	S34063	D34063
WS0732B	KS31255WF	KD31255WF	S32540	D32540
WS0734B	KS31255WF	KD31255WF	S31625	D31625
WS0737B	N/A	N/A	S31625	D31625
WS1018B	KS19020WF	KD19020WF	S10020	D10020
WS1012B	KS19020WF	KD19020WF	S10020	D10020
WS1038B	KS34518WF	KD34518WF	S34063	D34063
WS1032B	KS34518WF	KD34518WF	S34063	D34063
WS1034B	KS31255WF	KD31255WF	S32540	D32540
WS1037B	N/A	N/A	S32540	D32540

Note: Boulay Series part numbers have additional available features, see page 7 for more information.

Note: K Series panel part numbers include floats, to order without float switches, remove the 'WF' suffix. Boulay Series panels do not include float switches.



K-SERIES

- NEMA 4X dead front outdoor rated enclosure
- Red LED alarm beacon
- HOA selector switch
- Field wiring terminal block
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230 and 460V service
- Requires separate control/alarm power feed
- See brochure "BCPKSDPANELS" for additional information

BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xyleminc.com



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Seneca Falls, NY 13148
Phone: (866) 325-4210
Fax: (888) 322-5877
www.xylem.com/goulds

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ATTACHMENT 6

Pipe Sizing Calculations

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.005 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

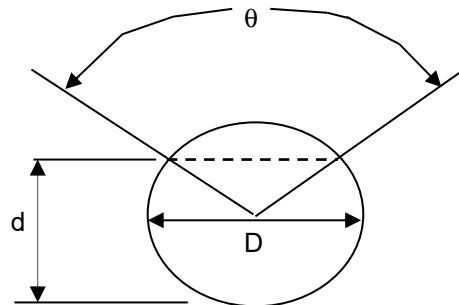
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	2.91	0.55	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

1

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

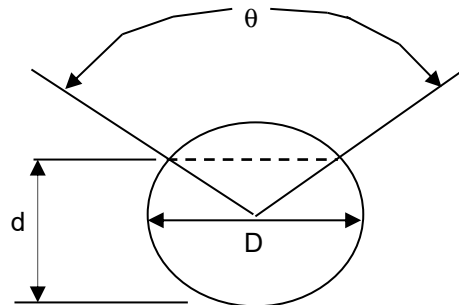
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
theta= 59.9 degrees
S= 0.01 slope in/in

$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

			Solution to Mannings Equation		Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	4.11	0.78	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

2

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 6" PVC

By: CPE Date: 11/3/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.013 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

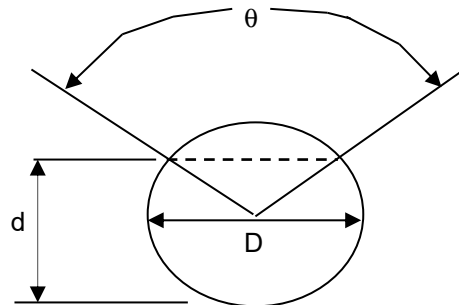
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	4.69	0.89	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

3

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 11/3/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

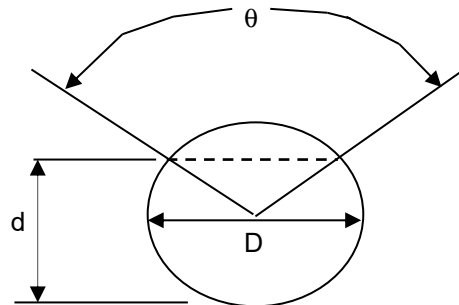
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.0157 slope in/in

$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	5.15	0.98	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

4

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

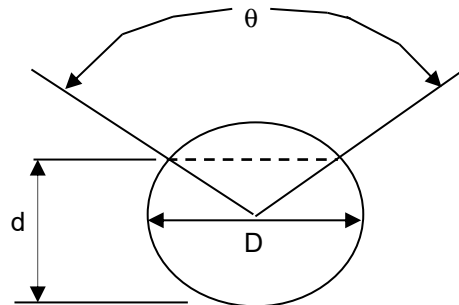
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
theta= 59.9 degrees
S= 0.021 slope in/in

$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	5.96	1.14	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

5

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.031 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

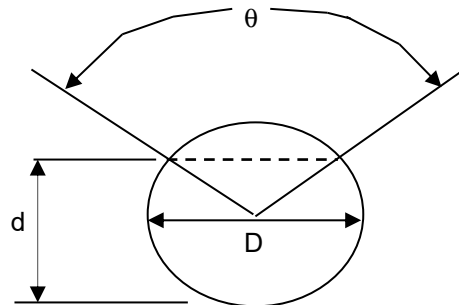
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	7.24	1.38	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

6

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 11/3/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.036 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

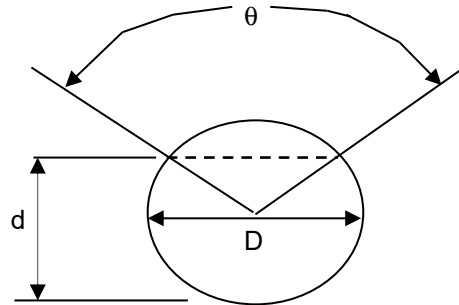
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	7.80	1.49	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

7

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 11/3/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.037 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

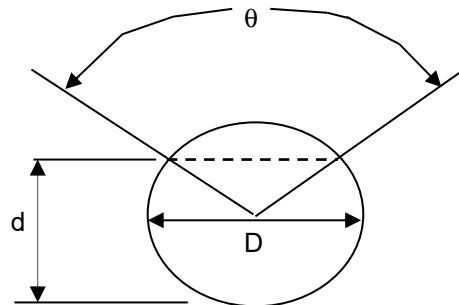
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	7.91	1.51	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

8

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 6" PVC

By: CPE Date: 11/3/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.053 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

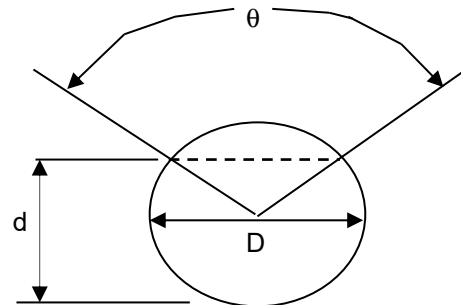
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	9.47	1.81	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

9

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.054 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

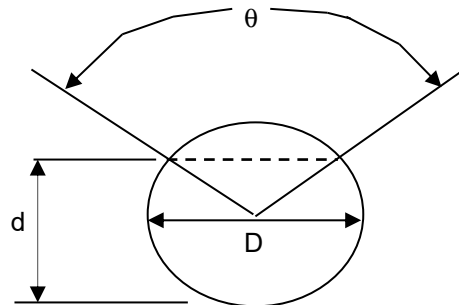
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	9.56	1.82	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

10

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 11/3/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

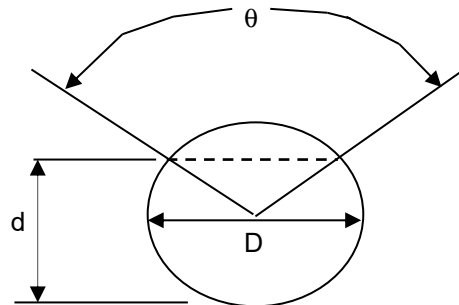
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.112 slope in/in

$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

			Solution to Mannings Equation		Manning's n-values	
Area,ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	13.76	2.63	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

11

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 6" PVC

By: CPE

Date: 11/3/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.152 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

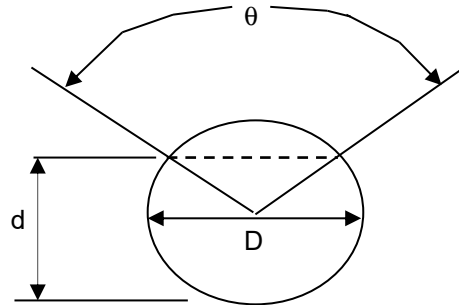
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

			Solution to Mannings Equation		Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	16.04	3.06	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 12

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 6" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.154 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

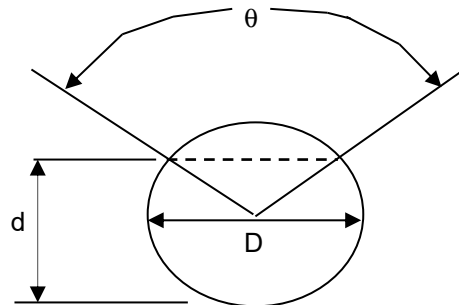
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	16.14	3.08	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 13

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 6" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.221 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

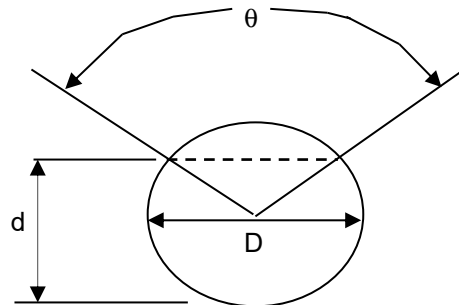
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

			Solution to Mannings Equation		Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	19.34	3.69	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 14

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 6" PVC

By: CPE Date: 11/3/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 6 inches
d= 5.6 inches
n= 0.01 mannings coeff
θ= 59.9 degrees
S= 0.2243 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

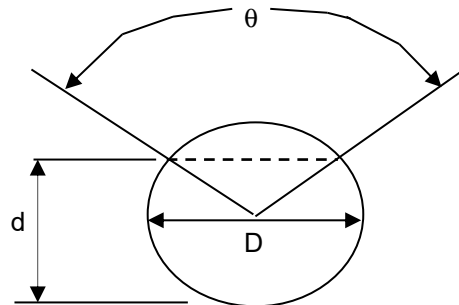
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

			Solution to Mannings Equation		Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.19	1.31	0.15	19.48	3.72	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 15

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 8" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 8 inches
d= 7.4 inches
n= 0.01 mannings coeff
θ= 63.6 degrees
S= 0.006 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

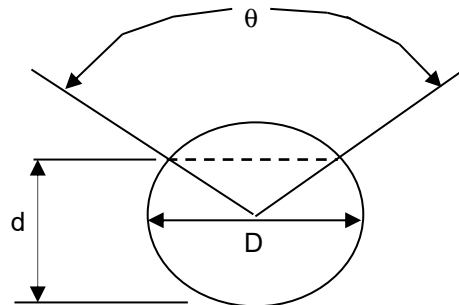
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.34	1.72	0.20	3.88	1.31	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 16

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 8" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 8 inches
d= 7.4 inches
n= 0.01 mannings coeff
θ= 63.6 degrees
S= 0.014 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

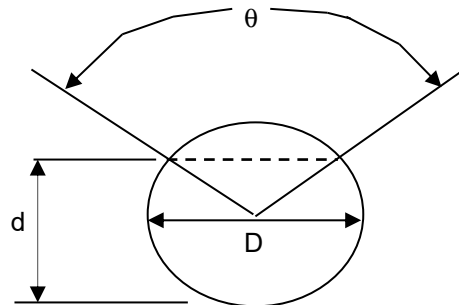
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.34	1.72	0.20	5.92	2.00	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

17

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 8" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 8 inches
d= 7.4 inches
n= 0.01 mannings coeff
θ= 63.6 degrees
S= 0.016 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

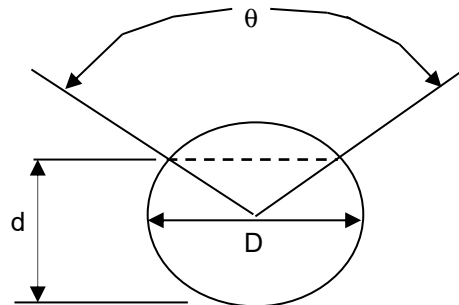
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

			Solution to Mannings Equation		Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.34	1.72	0.20	6.33	2.13	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE -

18

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 8" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 8 inches
d= 7.4 inches
n= 0.01 mannings coeff
θ= 63.6 degrees
S= 0.017 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

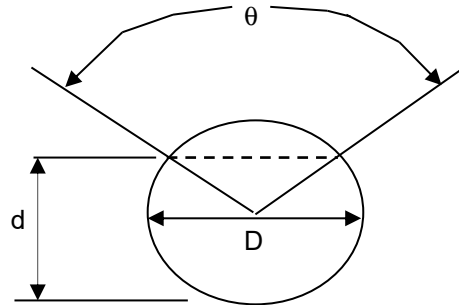
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.34	1.72	0.20	6.53	2.20	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 19

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 8" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 8 inches
d= 7.4 inches
n= 0.01 mannings coeff
θ= 63.6 degrees
S= 0.019 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

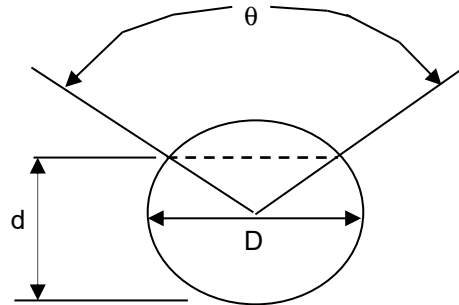
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.34	1.72	0.20	6.90	2.33	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 20

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 12" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 12 inches
d= 11.5 inches
n= 0.012 mannings coeff
θ= 47.1 degrees
S= 0.01 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

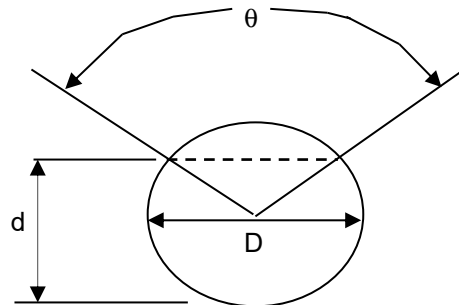
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.77	2.73	0.28	5.34	4.14	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 21

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 12" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 12 inches
d= 11.5 inches
n= 0.012 mannings coeff
θ= 47.1 degrees
S= 0.016 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

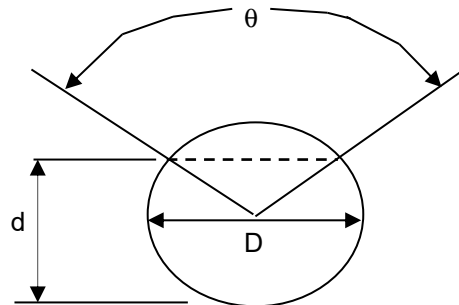
R=A/P

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.77	2.73	0.28	6.76	5.23	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 22

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 12" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 12 inches
d= 11.5 inches
n= 0.012 mannings coeff
θ= 47.1 degrees
S= 0.025 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

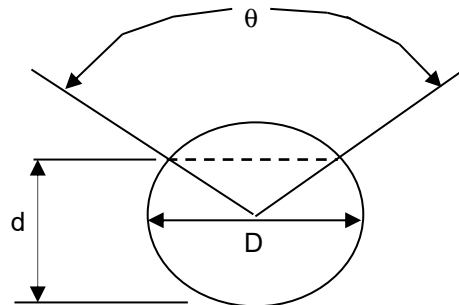
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.77	2.73	0.28	8.45	6.54	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 23

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 12" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 12 inches
d= 11.5 inches
n= 0.012 mannings coeff
θ= 47.1 degrees
S= 0.098 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

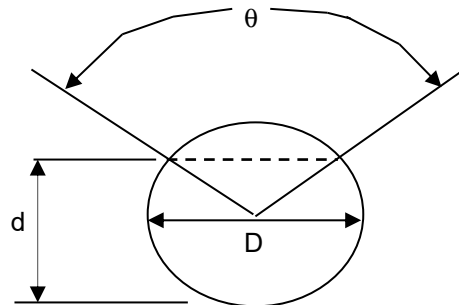
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.77	2.73	0.28	16.73	12.95	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 24

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall

Location: 15" PVC

By: CPE

Date: 9/18/2025

Chk. By:

Date:

mdo version 12.8.00

Clear Data Entry
Cells

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

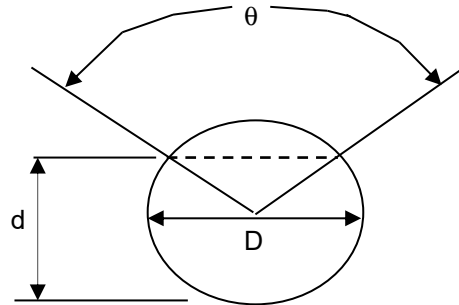
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



INPUT

D= 15 inches
d= 14.2 inches
n= 0.012 mannings coeff
θ= 53.4 degrees
S= 0.01 slope in/in

$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
1.20	3.34	0.36	6.26	7.52	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 25

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 12" PVC

By: CPE Date: 9/18/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 15 inches
d= 14.2 inches
n= 0.012 mannings coeff
θ= 53.4 degrees
S= 0.0252 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

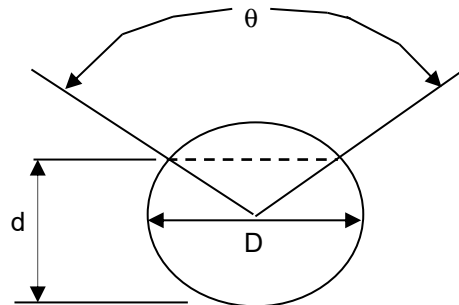
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
1.20	3.34	0.36	9.94	11.94	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 26

MANNING'S EQUATION FOR PIPE FLOW

Project: Fontana City Hall Location: 4" PVC

By: CPE Date: 11/5/2025

Chk. By: Date: mdo version 12.8.00

Clear Data Entry
Cells

INPUT

D= 4 inches
d= 3.5 inches
n= 0.01 mannings coeff
θ= 82.8 degrees
S= 0.025 slope in/in

Mannings Formula

$$Q = (1.486/n) A R_h^{2/3} S^{1/2}$$

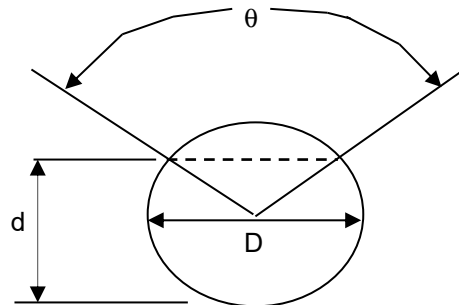
$$R = A/P$$

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient



$$V = (1.49/n) R_h^{2/3} S^{1/2}$$

$$Q = V \times A$$

Solution to Mannings Equation					Manning's n-values	
Area, ft ²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs		
0.08	0.81	0.10	5.08	0.41	PVC	0.01
					PE (<9"dia)	0.015
					PE (>12"dia)	0.02
					PE(9-12"dia)	0.017
					CMP	0.025
					ADS N12	0.012

POST-DEVELOPMENT EXHIBIT PIPE SEGMENT NODE - 27

ATTACHMENT 8

Parkway Drain Sizing Calculations

HYDRAULIC ELEMENTS - I PROGRAM PACKAGE
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TIME/DATE OF STUDY: 11:48 10/30/2025
=====

Problem Descriptions:
FONTANA CITY HALL

48" PARKWAY DRAIN HYDRAULICS CALCULATIONS

>>>>CHANNEL INPUT INFORMATION<<<<

CHANNEL Z1 (HORIZONTAL/VERTICAL) = 0.00
Z2 (HORIZONTAL/VERTICAL) = 0.00
BASEWIDTH (FEET) = 4.00
CONSTANT CHANNEL SLOPE (FEET/FEET) = 0.020000
UNIFORM FLOW (CFS) = 5.24
MANNINGS FRICTION FACTOR = 0.0130
=====

NORMAL-DEPTH FLOW INFORMATION:

>>>> NORMAL DEPTH (FEET) = **0.23**
FLOW TOP-WIDTH (FEET) = 4.00
FLOW AREA (SQUARE FEET) = 0.92
HYDRAULIC DEPTH (FEET) = 0.23
FLOW AVERAGE VELOCITY (FEET/SEC.) = **5.68**
UNIFORM FROUDE NUMBER = 2.082
PRESSURE + MOMENTUM (POUNDS) = 64.29
AVERAGED VELOCITY HEAD (FEET) = 0.500
SPECIFIC ENERGY (FEET) = 0.731
=====

CRITICAL-DEPTH FLOW INFORMATION:

CRITICAL FLOW TOP-WIDTH (FEET) = 4.00
CRITICAL FLOW AREA (SQUARE FEET) = 1.50
CRITICAL FLOW HYDRAULIC DEPTH (FEET) = 0.38
CRITICAL FLOW AVERAGE VELOCITY (FEET/SEC.) = 3.49
CRITICAL DEPTH (FEET) = 0.38
CRITICAL FLOW PRESSURE + MOMENTUM (POUNDS) = 53.02
AVERAGED CRITICAL FLOW VELOCITY HEAD (FEET) = 0.189
CRITICAL FLOW SPECIFIC ENERGY (FEET) = 0.564
=====

ATTACHMENT 9

Geotechnical Report

Geotechnical Evaluation City Hall Renovation Phase II 8353 Sierra Avenue Fontana, California

City of Fontana
8353 Sierra Avenue | Fontana, California 92335

March 5, 2025 | Project No. 212823001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

Geotechnical Evaluation
City Hall Renovation Phase II
8353 Sierra Avenue
Fontana, California

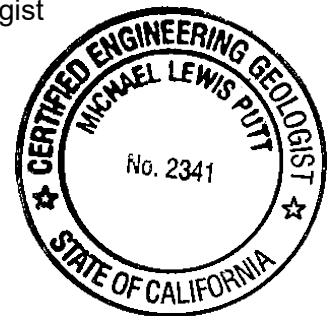
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1 INTRODUCTION

In accordance with your request and authorization, Ninyo & Moore has performed a geotechnical evaluation for the proposed City Hall Renovation Phase II project located at 8353 Sierra Avenue in Fontana, California (Figure 1). The purpose of our study was to evaluate the soil and geologic conditions at the site in order to provide geotechnical recommendations for the design and construction of the proposed structure and associated improvements. This report presents our geotechnical findings, conclusions, and recommendations regarding the project improvements.

2 SCOPE OF SERVICES

The scope of our geotechnical services included the following:

- Project coordination, planning, and scheduling for the subsurface exploration.
- Review of readily available background information, including in-house published geotechnical literature and geologic maps, fault and seismic hazard maps, topographic maps, and stereoscopic aerial photographs.
- Acquisition of a San Bernardino County Environmental Health Services well permit for drilling borings deeper than 20 feet.
- Preparation of a site-specific health and safety plan to support our field exploration activities.
- Geotechnical site reconnaissance to observe the general site conditions, mark the boring locations, and coordinate with Underground Service Alert for utility clearance.
- Performance of a geophysical survey to clear the boring locations of underground utilities and obstructions prior to drilling.
- Subsurface exploration consisting of drilling, logging, and sampling of nine hollow-stem auger borings with a truck-mounted drill rig to depths ranging from approximately 1.4 to 80.3 feet below the ground surface. The borings were logged by a representative from our firm, and bulk and relatively undisturbed soil samples were collected at selected depth intervals for laboratory testing. In accordance with the San Bernardino County requirements, borings deeper than 20 feet were backfilled with cement-bentonite grout and soil cuttings were drummed and disposed of offsite. Borings shallower than 20 feet were backfilled with soil cuttings.
- Field percolation testing in four of the borings in order to evaluate the infiltration rate of the site soils.
- Laboratory testing on selected representative soil samples to evaluate in-situ moisture content and dry density, percentage of soil particles finer than the No. 200 sieve, Proctor density, direct shear strength, consolidation, R-value, and corrosivity.
- Data compilation and engineering analysis of the information obtained from our background review, subsurface evaluation, and laboratory testing.
- Preparation of this geotechnical report presenting our findings, conclusions, and geotechnical recommendations pertaining to this project.

3 SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The project site is located at the existing Fontana City Hall at 8353 Sierra Avenue in Fontana, California (Figure 1). The site is bounded by Upland Avenue to the north, Sierra Avenue to the west, an existing building to south, and a parking lot to the east. The site is relatively flat with elevations ranging from approximately 1,290 to 1,295 feet above the mean sea level (Valued Engineering, 2024). The site is currently developed with the existing single-story City Hall Building and an asphalt-concrete (AC) parking lot. Based on our review of historical aerial photographs, a small building was previously located on the eastern to southeastern sides of the project site. The building appears to have been constructed between 1938 and 1948 and demolished between 1959 and 1966 (Historical Aerials, 2024).

We understand that the project consists of demolishing the existing single-story City Hall building and constructing a two-story municipal building to serve as office space for city staff as well as public and employee parking. The proposed building will have parking and office spaces on the first floor and office spaces on the second floor. Each floor will have a footprint of approximately 35,000 square feet. The parking structure portion of the building is anticipated to have approximately 40 parking spaces. A pedestrian bridge is proposed to connect the new City Hall building to the existing Development Services Building to the south. The bridge will be a second-floor walkway with a canopy structure and will be located over an at-grade walkway. We anticipate that additional improvements associated with the project will include new utilities, pavements, and landscaping adjacent to the new structure. Additionally, we understand that the City of Fontana is planning to incorporate stormwater infiltration at the site. We understand that the stormwater infiltration features may consist of an underground infiltration tank, surface bioswales, or deeper infiltration using drywells. Site plans were not available at the time of this report.

We previously performed a geotechnical evaluation for the City Hall Renovation Phase I project and presented our results in our report dated March 19, 2024 (Ninyo & Moore, 2024b). The two-story municipal building is under construction at the time of this report and is located on the adjacent property east of the City Hall building.

4 SUBSURFACE EXPLORATION AND LABORATORY TESTING

Our subsurface evaluation was performed on October 14 through 18, 2024, and consisted of drilling, logging, and sampling of nine small-diameter borings (B-1 through B-3 and P-1 through P-4B) to depths ranging from approximately 1.4 to 80.3 feet. The exploratory borings were drilled using truck and track-mounted drill rigs fitted with 8-inch-diameter augers. The borings were logged by a representative from our firm and bulk and relatively undisturbed soil samples were obtained at selected depths for laboratory testing.

In-situ percolation testing was performed in borings P-1, P-2, P-3B, and P-4B to evaluate the infiltration rates of the on-site soils. Borings P-3A and P-4A encountered a flat concrete surface and were halted to avoid damage and were relocated. Details regarding the percolation testing are provided in the Field Percolation Testing Section of this report. The approximate locations of the borings and percolation tests are presented on Figure 2. The boring logs are presented in Appendix A.

Laboratory testing of representative soil samples included tests to evaluate in-situ moisture content and dry density, percentage of soil particles finer than the No. 200 sieve, Proctor density, direct shear strength, consolidation, R-value, and corrosivity. The results of our in-situ moisture content and dry density tests are presented on the boring logs in Appendix A. The remaining laboratory tests are presented in Appendix B.

5 GEOLOGY AND SUBSURFACE CONDITIONS

5.1 Regional Geology

The subject site is located in the northern margin of the Perris Block subunit of the Peninsular Ranges geomorphic province of southern California (Norris and Webb, 1990). The Peninsular Ranges Geomorphic Province encompasses an area that extends approximately 125 miles from the Transverse Ranges and the Los Angeles Basin south to the Mexican border, and beyond another approximately 775 miles to the tip of Baja California. The Peninsular Ranges province varies in width from approximately 30 to 100 miles and is characterized by northwest-trending mountain range blocks separated by similarly trending northwest-trending faults. The Perris Block lies between the Los Angeles Basin and the San Jacinto Mountains to the east. The site lies within the relatively deep alluvial portion of the San Bernardino drainage basin. Geologic mapping by Morton and Miller (2006) indicates that the site is underlain by late Holocene-age young alluvial-fan deposits consisting of unconsolidated to slightly consolidated coarse-grained sand to bouldery deposits. A regional geologic map for the site vicinity is shown on Figure 3.

5.2 Site Geology

Materials encountered during our subsurface exploration consisted of pavement sections, fill, and alluvium. AC was encountered in borings B-1 through B-3, P-3B, and P-4B and ranged in thickness from approximately 4 to 5 inches. Portland Cement Concrete (PCC) was encountered in borings P-1 through P-3A and P-4A and ranged in thickness from approximately 3.5 to 6 inches. Aggregate base was encountered beneath the PCC in boring P-1 and consisted of approximately 1 inch of moist, dense, poorly graded gravel with silt and sand.

Fill was encountered beneath the pavement sections in each boring to depths ranging from approximately 2 to 8 feet below the ground surface. The fill generally consisted of moist, medium dense to dense poorly graded gravel with silt and sand, poorly graded sand with silt, and silty sand. Variable amounts of gravel and cobbles were encountered in the fill. In borings P-3A through P-4B, concrete and asphalt debris were encountered in the fill. In borings P-3A and P-4A, a flat concrete surface was encountered at depths of approximately 1.4 and 2 feet, respectively, which resulted in drilling refusal. The borings were moved approximately 9 feet to the east and were drilled to the planned depths (borings P-3B and P-4B). Based on our review of historical aerial photographs, borings P-3A through P-4B are located within the footprint of a previous building on the site. The concrete surfaces encountered in borings P-3A and P-4A may be foundation remnants from the previous building. Additionally, the 8 feet of fill encountered in boring P-4B may be associated with the demolition of the previous building.

Alluvium was encountered beneath the fill to the explored depths of up to approximately 80.3 feet. The alluvium generally consisted of moist, loose to very dense poorly graded gravel with silt and sand, silty gravel with sand, poorly graded sand, poorly graded sand with silt, silty sand, and sandy silt. Variable amounts of gravel and cobbles were encountered in the alluvium. More detailed descriptions of the subsurface materials encountered during our exploration are presented on the boring logs in Appendix A.

5.3 Groundwater

Groundwater was not encountered in our exploratory borings during drilling to the explored depths of up to approximately 80.3 feet. Groundwater well data from the California Department of Water Resources' Water Data Library (2024) website indicates that groundwater was measured at a depth of approximately 614 feet below the ground surface in 2024 in a groundwater supply well located approximately 0.8 miles north of the site. Additionally, in a groundwater supply well located approximately 1.5 miles southeast of the site, groundwater was measured at a depth of approximately 400 feet below the ground surface in 2000. Fluctuations in groundwater levels will occur due to variations in precipitation, ground surface topography, subsurface stratification, irrigation, groundwater pumping, and other factors that may not have been evident at the time of our field evaluation.

6 FIELD PERCOLATION TESTING

Percolation testing was performed on October 16 and 17, 2024 in borings P-1, P-2, P-3B, and P-4B in general accordance with the San Bernardino County Technical Guidance Document for Water Quality Management Plans (San Bernardino County, 2013). The testing was performed to evaluate the infiltration rate of the on-site soils for use in the design of the proposed infiltration

improvements. The percolation tests were performed at the locations and depths provided by the client. The approximate locations of the percolation test borings are shown on Figure 2.

A 2-inch-diameter slotted polyvinyl chloride (PVC) pipe was placed in the borehole and the annulus between the borehole wall and pipe was backfilled with clean gravel to avoid caving in the test zone. In borings P-1 and P-4B, the depths of the infiltration zone were from approximately 6 to 11 feet. In borings P-2 and P-3B, the depths of the infiltration zone were from approximately 20 to 26 feet. The infiltration zone was pre-soaked with water prior to performing percolation testing. Falling-head percolation testing was conducted by placing clean water in the PVC pipe to establish a head of water and the rate at which the water level dropped in the pipe at consecutive time intervals (approximately 10 minutes) was measured. The test readings were repeated for a minimum of one hour and the test was concluded when a stabilized rate of drop was obtained, which is considered when the highest and lowest of three consecutive readings are within 10 percent of each other. The percolation rate during the last reading was utilized for the calculation of the field infiltration rate. The field infiltration rates are presented in Table 1.

In accordance with Appendix D of the San Bernardino County guidelines, a Suitability Assessment Safety Factor, S_A , of 1.25 is recommended based on the geotechnical considerations. This safety factor should be multiplied by the Design Safety Factor, S_B , to obtain the Combined Safety Factor (S_{TOT}). The S_B safety factor should be determined by the design engineer. The combined safety factor should not be less than 2.0, but may be higher at the discretion of the design engineer. The combined safety factor should be applied to the field infiltration rate to obtain the Design Infiltration Rate. For the purposes of this evaluation, we have assumed a combined safety factor of 2; however, this value should be adjusted as needed by the design engineer during the detailed design phase. The design infiltration rates based on a safety factor of 2 are presented in Table 1.

Table 1 – Percolation Test Results				
Test Boring	Approximate Depth Tested (feet)	Field Infiltration Rate (inches/hour)	Safety Factor	Design Infiltration Rate (inches/hour)
P-1	6.0 – 11.3	10.0	2.0	5.0
P-2	20.0 – 26.1	7.2	2.0	3.6
P-3B	20.0 – 26.0	11.2	2.0	5.6
P-4B	6.0 – 11.0	10.1	2.0	5.1

7 FLOOD HAZARDS

Based on our review of flood insurance rate maps for the project area (Federal Emergency Management Agency [FEMA], 2008), the project site is not located in the 100-year Flood Hazard Zone, A99. Zone A99 includes areas to be protected from a 100-year flood by the Federal Flood

Protection System under construction at the time of publication of the FEMA map; no base flood elevations are given. The site is located within Zone X, an area of minimal flood hazard.

8 FAULTING AND SEISMICITY

The project site is located in a seismically active area, as is the majority of southern California. The numerous faults in California include active, potentially active, and inactive faults. As defined by the California Geological Survey (CGS), active faults are faults that have ruptured within Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years) but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years. The approximate locations of major active faults in the region and their geographic relationship to the project sites are shown on Figure 4. The nearest mapped active faults to the site are the Cucamonga and San Jacinto faults, located approximately 5.0 and 5.4 miles northwest and northeast of the site, respectively (USGS, 2024a). The active San Andreas fault is located approximately 9.0 miles northeast of the site. The potentially active Fontana fault is located approximately 0.9 miles northwest of the site.

Based on our review of seismic hazard maps, geologic literature, and geologic maps, the site is not located within a State of California Earthquake Fault Zone, formerly known as the Alquist-Priolo Special Studies Zone (CGS, 2018), and no active faults are known to cross the subject site. The principal seismic hazards evaluated at the subject site are surface fault rupture, ground motion, and liquefaction, and landslides. A brief description of these hazards and the potential for their occurrences on site are discussed in the following sections.

8.1 Surface Fault Rupture

Based on our review of the referenced literature and our site reconnaissance, no active faults are known to cross the project site. Therefore, the probability of damage from surface ground rupture is considered to be low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

8.2 Site-Specific Ground Motion

Considering the proximity of the site to active faults capable of producing a maximum moment magnitude of 6.0 or more, the project area has a high potential for experiencing strong ground motion. The 2022 California Building Code (CBC) specifies that the risk-targeted maximum considered earthquake (MCE_R) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. Based on our review of CGS's shear wave velocity map, the average shear wave velocity in the upper 30 meters (i.e., 100 feet) of the

subsurface profile (V_{s30}) is estimated to be approximately 294 meters per second (i.e., 965 feet per second) (CGS, 2015). In accordance with Chapter 20 of the American Society of Civil Engineers (ASCE) Publication 7-16 (2016) for the Minimum Design Loads and Associated Criteria for Building and Other Structures, the site classification is Site Class D.

Per the 2022 CBC, a site-specific ground motion hazard analysis shall be performed in accordance with Section 21.2 of ASCE 7-16 for structures on Site Class D with a mapped MCE_R , 5 percent damped, spectral response acceleration parameter at a period of 1 second (S_1) greater than or equal to 0.2g. We calculated that the S_1 for the site is equal to 0.694g using the 2024 Applied Technology Council (ATC) seismic design tool (web-based); therefore, a site-specific ground motion hazard analysis was performed for the project area.

The site-specific ground motion hazard analysis consisted of the review of available seismologic information for nearby faults and performance of probabilistic seismic hazard analysis (PSHA) and deterministic seismic hazard analysis (DSHA) to develop acceleration response spectrum (ARS) curves corresponding to the MCE_R for 5 percent damping. Prior to the site-specific ground motion hazard analysis, we obtained the mapped seismic ground motion values and developed the mapped MCE_R response spectrum for 5 percent damping in accordance with Section 11.4 of ASCE 7-16 using the 2024 ATC seismic design tool. The depths to $V_s = 1,000$ m/s and $V_s = 2,500$ m/s are assumed to be 200 meters and 450 meters, respectively. These values were evaluated using the Open Seismic Hazard Analysis (OpenSHA) software developed by USGS (2021).

The 2014 new generation attenuation (NGA) West-2 relationships were used to evaluate the site-specific ground motions. The NGA relationships that we used for developing the probabilistic and deterministic response spectra are by Chiou and Youngs (2014), Campbell and Bozorgnia (2014), Boore, Stewart, Seyhan, and Atkinson (2014), and Abrahamson, Silva, and Kamai (2014). The OpenSHA software (USGS, 2021) was used for performing the PSHA. The Calculation of Weighted Average 2014 NGA Models spreadsheet by the Pacific Earthquake Engineering Research Center was used for performing the DSHA (Seyhan, 2014).

PSHA was performed for earthquake hazards having a 2 percent chance of being exceeded in 50 years multiplied by the risk coefficients per Section 21.2.1.1 of ASCE 7-16. The maximum rotated components of ground motions were considered in PSHA with 5 percent damping. For the DSHA, we analyzed accelerations from characteristic earthquakes on active faults within the region using the hazard curves and deaggregation plots at the site obtained from the USGS Unified Hazard Tool application (USGS, 2024b). A magnitude 8.0 event on the San Jacinto fault with a rupture distance of 5.4 miles (8.7 kilometers) from the site was evaluated to be the controlling earthquake.

Hence, the DSHA was performed for the site using this event and corrections were made to the spectral accelerations for the 84th percentile of the maximum rotated component of ground motion with 5 percent damping.

The site-specific MCE_R response spectrum was taken as the lesser of the spectral response acceleration at any period from the PSHA and DSHA, and the site-specific general response spectrum was determined by taking two-thirds of the MCE_R response spectrum with some conditions in accordance with Section 21.3 of ASCE 7-16. Figure 5 presents the site-specific MCE_R response spectrum and the site-specific design response spectrum. The mapped design response spectrum calculated in accordance with Section 11.4 of ASCE 7-16 is also presented on Figure 5 for comparison. The site-specific spectral response acceleration parameters, consistent with the 2022 CBC, are provided in Section 10.2 for the evaluation of seismic loads on buildings and other structures.

8.3 Liquefaction Potential

Liquefaction is the phenomenon in which loosely deposited granular soils and cohesionless fine-grained soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure. This causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

According to the geologic hazard map for San Bernardino County, the site is not located within a mapped area subject to seismically induced liquefaction hazards (San Bernardino County, 2009). Groundwater was not encountered in our exploratory borings to the explored depths of up to approximately 80.3 feet and nearby groundwater data indicate that the regional groundwater table is located at depths of 400 feet or more. Based on the depth to groundwater and the relatively dense granular soils encountered at the site, it is our opinion that liquefaction and liquefaction-related seismic hazards (e.g., dynamic settlement, ground subsidence, and/or lateral spread) are not design considerations for this project.

8.4 Landslides

The site is located in an area of relatively flat terrain. There are no mapped landslides on site or in the vicinity (San Bernardino County, 2009). Landslides are not considered to be a potential hazard at the site.

9 CONCLUSIONS

Based on the results of our evaluation, it is our opinion that the proposed project is feasible from a geotechnical standpoint, provided that the following recommendations are incorporated into the design and construction of the project. In general, the following conclusions were made:

- Based on our exploratory borings, the site is underlain by fill and alluvial soils generally consisting of moist, loose to very dense poorly graded gravel with silt and sand, silty gravel with sand, poorly graded sand, poorly graded sand with silt, silty sand, and sandy silt. Variable amounts of gravel and cobbles were encountered in the fill and alluvium.
- Undocumented fill was encountered during our subsurface exploration to depths ranging from approximately 2 to 8 feet below the ground surface. Concrete and asphalt debris were encountered in the fill. In borings P-3A and P-4A, a flat concrete surface was encountered at depths of approximately 1.4 and 2 feet, respectively. The concrete surfaces encountered may be foundation remnants from a previous building. Additionally, the 8 feet of fill encountered in boring P-4B may be associated with the demolition of the previous building. Additional undocumented fill and construction debris from the previous structure on site may be encountered during construction. Undocumented fill soils should be removed and recompacted to provide suitable support for the proposed building or other structural improvements. Obstructions such as existing foundations that extend below the finished grade should be removed and the resulting holes filled with compacted soil or slurry.
- Excavation of the fill and alluvial soils should be achievable with heavy earthmoving equipment in good operating condition. However, contractors should anticipate difficulty excavating due to very dense gravel and cobbles. Difficult drilling and sheet pile driving conditions, if used, should be anticipated during construction of shoring, including encountering very dense gravel and cobbles. Boulders may be present in the alluvial sediments and should be anticipated and planned for by the contractor.
- We anticipate that the on-site sandy soils should be suitable for use as compacted fill following moisture-conditioning, provided they are free of trash, debris, roots, vegetation, deleterious materials, and cobbles or hard lumps of materials in excess of 4 inches in diameter.
- Granular soils encountered at the site are anticipated to have little cohesion and may be subject to caving. These soils should be considered Type C soils in accordance with the Occupational Safety and Health Administration (OSHA) soil classifications.
- Groundwater was not encountered in our exploratory borings during drilling to the explored depths of up to approximately 80.3 feet. Fluctuations in the groundwater level will occur as a result of variations in seasonal precipitation, irrigation practices, groundwater pumping and other factors.
- The site is not located within a mapped Seismic Hazards Zone considered susceptible to liquefaction. Based on the significant depth to groundwater and the occurrence of relatively dense soils, liquefaction is not a design consideration for the project.

- The site is not located in a State of California Earthquake Fault Zone (Alquist-Priolo Special Studies Zone). Based on our review of the published geologic maps and aerial photographs, no known active or potentially active faults transect the site. The potential for surface fault rupture at the site is considered to be low.
- The site is not located in an area considered susceptible to landslides.
- The site is not located within a designated flood inundation zone.
- Our limited laboratory corrosivity testing indicates that the on-site earth materials can be classified as non-corrosive based on the California Department of Transportation corrosion guidelines (Caltrans, 2021).

10 RECOMMENDATIONS

The recommendations presented in the following sections provide geotechnical criteria regarding the design and construction of the proposed site improvements. The recommendations are based on the results of our subsurface evaluation, geotechnical analysis, and project understanding. When grading and foundation plans are available, they should be reviewed by Ninyo & Moore. Additional and/or revised recommendations may be appropriate. The proposed work should be performed in conformance with the recommendations presented in this report, project specifications, and requirements of the applicable governing agencies.

10.1 Earthwork

Earthwork at the site is anticipated to consist of remedial grading of the near-surface soils, fill placement, foundation excavations, trenching and backfilling for new utilities, pavement construction, and finish grading for establishment of site drainage. Earthwork may also involve excavations to install stormwater infiltration features such as an underground infiltration chamber system. Earthwork should be performed in accordance with the requirements of the applicable governing agencies and the recommendations presented in the following sections.

10.1.1 Pre-Construction Conference

We recommend that a pre-construction conference be held. The owner and/or their representative, the governing agencies' representatives, the civil engineer, Ninyo & Moore, and the contractor should attend to discuss the work plan, project schedule, and earthwork requirements.

10.1.2 Clearing and Site Preparation

Prior to excavation and fill placement, the site should be cleared of existing site improvements, pavements, surface obstructions and other deleterious materials, and abandoned utilities. Existing utilities to remain in place (if any) should be located and

protected from damage by construction activities. Obstructions such as existing foundations that extend below the finished grade should be removed and the resulting holes filled with compacted soil. The materials generated from the clearing operations should be removed from the site and disposed of at a legal dump site.

10.1.3 Excavation Characteristics

Based on the subsurface exploration data, we anticipate that excavations should be feasible with heavy earthmoving equipment in good working order. The on-site fill and alluvial deposits generally consist of moist, loose to very dense poorly graded gravel with silt and sand, silty gravel with sand, poorly graded sand, poorly graded sand with silt, silty sand, and sandy silt with variable amounts of gravel and cobbles. Boulders may be also present in the subsurface soils. Additionally, asphalt and concrete construction debris were encountered in the fill. A flat concrete surface was also encountered in borings P-3A and P-4A at depths of approximately 1.4 and 2 feet, respectively, that may be remnants of a previous building that occupied the eastern to southeastern portions of the site. Difficult excavating should be anticipated in materials containing dense to very dense gravel, cobbles, boulders, and concrete. Trench excavations may be particularly difficult where large boulders are encountered and may involve over-excavation or chipping with breaker bars or other specialized excavating equipment. Excavations for foundations may result in disturbed bottoms due to removal of large cobbles and boulders. Loose disturbed materials should be removed from foundation excavation bottoms. Holes resulting from removal of boulders may be filled with compacted fill or concrete. Our representative should check foundation excavations prior to the placement of reinforcing steel and concrete.

Oversize materials (larger than 4 inches in the longer dimension), including cobbles, are not considered suitable for backfill and should be disposed of off-site. Contractors should make their own independent evaluation of the excavatability of the on-site materials prior to submitting their bids.

10.1.4 Temporary Excavations and Shoring

Soils at the project site include sand and gravel with little cohesion that are considered to be prone to caving. In particular, bedding materials for existing pipelines, if encountered, may be prone to caving. Temporary slopes in the site soils should be stable at inclinations of approximately 1:1 (horizontal to vertical) up to a depth of about 4 feet below the existing grade and stable at inclinations of approximately 1.5:1 (horizontal to vertical) for excavations deeper than 4 feet but not exceeding the depth of 20 feet below the existing grade. Temporary excavations should be evaluated in the field and constructed in accordance with applicable

OSHA guidelines. The site soils should be considered as OSHA Soil Type C. Onsite safety of personnel is the responsibility of the contractor.

Temporary shoring may be needed if there are boundary constraints with existing streets and existing buildings or other improvements that will be kept in-place. Shoring systems, if used, should be designed for the anticipated soil conditions using the lateral earth pressure values shown on Figures 6 and 7 for braced and cantilevered excavations, respectively. The recommended design earth pressures are based on the assumption that the shoring system will be constructed without raising the ground surface elevation behind the shored sidewalls of the excavation, that there will be no surcharge loads, such as soil stockpiles and construction materials, and that no loads will act above a 1:1 (horizontal to vertical) plane ascending from the base of the shoring system. For a shoring system subjected to the above-mentioned surcharge loads, the contractor should include the effect of these loads on the lateral earth pressures acting on the shored walls. Spoils should not be placed near the edge of the open cut excavation. For open cut excavations, the spoil pile should be placed at a distance more than the depth of excavation from the top of the excavation.

We anticipate that settlement of the ground surface will occur behind shored excavations. The amount of settlement depends heavily on the type of shoring system, the contractor's workmanship, and soil conditions. To reduce the potential for distress to adjacent improvements, we recommend that the shoring system be designed to limit the ground settlement behind the shoring system to 0.5 inch or less. Possible causes of settlement that should be addressed include settlement during installation of the shoring elements, excavation for structure construction, construction vibrations, and removal of the support system. We recommend that shoring installation be evaluated carefully by the contractor prior to construction. Ground vibration and settlement monitoring may be appropriate during construction depending on the depths of the shored excavations.

The contractor should retain a qualified and experienced engineer to design the shoring system. The shoring parameters presented in this report are minimum requirements, and the contractor should evaluate the adequacy of these parameters and make the appropriate modifications for their design. We recommend that the contractor take appropriate measures to protect workers. OSHA requirements pertaining to worker safety should be observed.

10.1.5 Treatment of Near-Surface Soils

Based on our subsurface evaluation, it is our opinion that suitable foundation support for the proposed at-grade structure and other site improvements may be provided by remedial grading consisting of the excavation and recompaction of the near-surface soils.

Undocumented fill was encountered to depths ranging from approximately 2 to 8 feet below the ground surface. Undocumented fill soils should be removed and recompacted to provide suitable support for settlement-sensitive improvements. Remedial grading should include the removal of any concrete foundations and slab remnants from the previous building that was located in the eastern to southeastern portions of the site.

We recommend that excavation and recompaction extend to a depth that will provide 2 feet or more of compacted fill below the bottom of the proposed structure footings, or to the depth of the undocumented fill, whichever is deeper. The limits of excavation should extend laterally beyond the outside edge of footings to a distance equivalent to the depth of excavation. The excavation should remove existing loose surficial soils and expose relatively dense alluvial deposits. The removal and recompaction work should consist of 1) excavating to the depths discussed above, 2) scarifying, moisture-conditioning, and compacting the exposed subgrade soils to a depth of 8 inches or more, and 3) replacing the excavated materials as engineered fill. The fill soils should be moisture-conditioned to generally above the optimum moisture content and should be compacted to a relative compaction of 90 percent as evaluated by the ASTM International (ASTM) test method D 1557.

Structural pavement sections and exterior flatwork may be supported on compacted, low-expansion potential soil. Subgrades for non-vehicular exterior flatwork areas should be prepared by scarifying the upper approximately 8 inches of exposed subgrade, moisture-conditioning to slightly over the optimum moisture content and compacting to 90 percent relative compaction as evaluated by ASTM D 1557. Subgrade for vehicular pavements should be prepared by excavating the upper approximately 12 inches of exposed subgrade, moisture-conditioning to slightly over the optimum moisture content and compacting to 95 percent relative compaction as evaluated by ASTM D 1557.

10.1.6 Subgrade Preparation for Underground Infiltration

We understand that the proposed stormwater infiltration feature may consist of an underground infiltration chamber system, surface bioswales, or deeper infiltration using drywells. Details about the type of system and invert depth were not available at the time of preparation of this report. The excavation bottom for underground infiltration systems should be evaluated by our representative during the excavation work. In the event that unsuitable materials are encountered along the bottom of the infiltration system excavation, including undocumented fill and/or waste or low-permeability silt and clay materials, the unsuitable materials should be removed and replaced with loosely-packed clean sand or gravel, such as additional drainage rock. The actual recommendations for removal and replacement

should be based on our field observations. We recommend that minimal compaction be performed on the exposed subgrade, suitable on-site materials be used to replace unsuitable materials (if needed), and/or rock blanket be placed beneath the infiltration system. We recommend that the rock blanket consist of open-graded gravel of 0.75-inch- to 1.5-inch-diameter rock underlain by filter fabric consisting of Mirafi 140N or equivalent. Compaction of the subgrade could potentially reduce the infiltration rate. If the subgrade of the infiltration system is compacted, we recommend that additional percolation testing be performed.

10.1.7 Fill Material

Oversize cobbles and boulders are not considered suitable to use as fill and should be screened out of material for use as fill. After removal of oversize material, we anticipate that the on-site granular soils should be suitable for re-use as fill and trench backfill. Non-granular silt and clay materials, if encountered, may be used as general fill, but should not be used as structure backfill. Fill should generally be free of rocks or lumps of material in excess of 4 inches in diameter. Rocks or hard lumps larger than approximately 4 inches in diameter should be broken into smaller pieces or should be removed from the site. Structure backfill should be comprised of granular, non-expansive soil that conforms to the “Greenbook” Standard Specifications for Public Works Construction (Public Works Standard, Inc., 2024) for structural backfill. “Non-expansive” can be defined as soil having an expansion index (EI) of 20 or less in accordance with ASTM D 4829. The site soils will involve moisture-conditioning to bring the soils near the optimum moisture content prior to placement and compaction.

Imported materials, if used, should consist of clean, non-expansive, granular material, which conforms to the “Greenbook” for structure backfill. The imported materials should also meet the Caltrans (2021) criteria for non-corrosive soils (i.e., soils having a chloride concentration of less than 500 parts per million [ppm], a soluble sulfate content of less than approximately 0.15 percent [1,500 ppm], a pH value of more than 5.5, and an electrical resistivity of more than 1,500 ohm-centimeters [ohm-cm]). Imported materials for use as fill should be evaluated by the geotechnical consultant prior to importing. The contractor should be responsible for the uniformity of imported materials brought to the site.

10.1.8 Fill Placement and Compaction

Fill soils placed should be compacted in horizontal lifts to a relative compaction of 90 percent as evaluated by ASTM D 1557. The lift thickness for fill soils will vary depending on the type of compaction equipment used but should generally be placed in horizontal lifts not exceeding 8 inches in loose thickness. Fill soils should be placed at slightly above the optimum moisture

content as evaluated by ASTM D 1557. Special care should be taken to avoid damage to utility lines when compacting fill and subgrade materials.

10.1.9 Pipe Bedding

We recommend that pipes be supported on 6 inches or more of granular bedding material. Bedding material should be placed around pipe zones to 12 inches or more above the top of the pipes in accordance with the current “Greenbook”. The bedding material should be classified as sand, should be free of organic material, and have a sand equivalent (SE) of 30 or more. Special care should be taken not to allow voids beneath and around the pipe. Bedding material and compaction requirements should be in accordance with the recommendations of this report, the project specifications, and applicable requirements of the appropriate governing agencies.

10.1.10 Modulus of Soil Reaction

The modulus of soil reaction is used to characterize the stiffness of soil backfill placed on the sides of buried flexible pipelines for the purpose of evaluating lateral deflection caused by the weight of the backfill above the pipe. We recommend that a modulus of soil reaction of 1,000 pounds per square inch (psi) be used for design provided that the granular bedding material is placed adjacent to the pipe, as recommended in this report.

10.2 Site-Specific Seismic Design Considerations

Design of the proposed improvements should be performed in accordance with the requirements of governing jurisdictions and applicable building codes. Table 2 presents the site-specific spectral response acceleration parameters in accordance with the 2022 CBC guidelines.

Table 2 – 2022 California Building Code Seismic Design Criteria	
Spectral Response Acceleration Parameters	Values
Site Classification	D
Mapped MCE_R Spectral Response Acceleration at Short Periods, S_s	2.068g
Mapped MCE_R Spectral Response Acceleration at 1.0-Second Period, S_1	0.694g
Site-Specific Spectral Response Acceleration at Short Periods, S_{MS}	1.784g
Site-Specific Spectral Response Acceleration at 1.0-second Period, S_{M1}	1.665g
Site-Specific Design Spectral Response Acceleration at Short Periods, S_{DS}	1.189g
Site-Specific Design Spectral Response Acceleration at 1.0-second Period, S_{D1}	1.110g
Site-Specific Maximum Considered Earthquake Geometric Mean (MCE_G) Peak Ground Acceleration, PGA_M	0.753g

10.3 Foundations

The proposed structure may be supported on shallow spread footings bearing on compacted fill material prepared in accordance with the recommendations presented in the Earthwork section

of this report. The pedestrian bridge may be supported on drilled pier foundations. Foundations should be designed in accordance with the structural considerations and the following recommendations. In addition, requirements of the appropriate governing jurisdictions and applicable building codes should be considered in the design of the structure.

10.3.1 Spread Footings

Spread footings should extend 24 inches or more below the lowest adjacent finished grade. Continuous and isolated pad footings should have a width of 24 inches or more. Spread footings should be reinforced and detailed in accordance with the recommendations of the structural engineer.

Footings, as described above and bearing on compacted fill soils with very low to low expansion potential, may be designed using a net allowable bearing capacity of 3,000 pounds per square foot (psf). The net allowable bearing capacity may be increased by 500 and 1,000 psf for every additional foot increase in width and depth, respectively, up to a value of 4,000 psf. Total and differential settlements for footings designed and constructed in accordance with the above recommendations are estimated to be on the order of 1 inch and 0.5 inch over a horizontal span of 40 feet, respectively.

Footings bearing on compacted fill may be designed using a coefficient of friction of 0.40, where the total frictional resistance equals the coefficient of friction times the dead load. Footings may be designed using a passive resistance of 350 psf per foot of depth for level ground condition up to a value of 3,500 psf. The allowable lateral resistance can be taken as the sum of the frictional resistance and passive resistance provided the passive resistance does not exceed one-half of the total allowable resistance. The net allowable bearing capacity and passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces.

10.3.2 Slab-On-Grade

Building floor slabs should be designed by the project structural engineer based on the anticipated loading conditions. Building floor slabs should be underlain by compacted soil with very low expansion potential, prepared with the recommendations presented in this report. The floor slabs should be 5 inches thick and reinforced in accordance with the recommendations of the structural engineer. The placement of reinforcement in the slab is vital for satisfactory performance. The floor slab and foundations should be tied together by extending the slab reinforcement into the footings. The slab should be underlain by a 4-inch-thick capillary break (consisting of either sand, crushed rock, or gravel) overlain by a

polyethylene vapor retarder (with a thickness of 10 mils or more). The steel reinforcements for the floor slab shall be placed on the vapor retarder using chairs, as appropriate. The vapor retarder is recommended in areas where moisture-sensitive floor coverings are anticipated. Soils underlying the slabs should be moisture-conditioned and compacted in accordance with the recommendations presented in this report prior to concrete placement. Joints should be constructed at intervals designed by the structural engineer to help reduce random cracking of the slab.

10.3.3 Drilled Piers

Drilled piers for the pedestrian bridge walkway should have a diameter of 18 inches or more and may be designed using an allowable unit side friction value of 120 psf in compression under static loading conditions starting at a depth of 1 foot below the ground surface. End bearing should be ignored for these drilled piers. In addition, an allowable unit side friction value of 70 psf in tension (for uplift) can also be used in design. The lateral capacity of drilled piers may be evaluated using a passive resistance of 350 psf per foot of depth, up to a value of 3,500 psf. The passive resistance may be considered to act on an area equal to the product of the effective width (two times the pier diameter) and the embedded length of the pier. The passive resistance may be increased by one-third when considering loads of short duration such as wind or seismic forces. These calculations assume that the piers have a minimum spacing of three times the pier diameter. The project structural engineer should evaluate the design depth of the piers based on the recommendations provided above.

10.3.4 Drilled Pier Construction Considerations

The drilled pier drilling contractor should mobilize equipment of sufficient size and operating capability to achieve the recommended embedment length. The excavation technique chosen by the contractor should not adversely affect the quality or strength of the shaft side or end bearing materials. If refusal is encountered in these materials during actual installation, Ninyo & Moore should be retained to evaluate the subsurface condition to establish that refusal has been met with adequate drilling equipment.

Groundwater is not expected to be encountered during drilling; however, seepage and perched water conditions could be encountered that could result in caving of the drilled holes. The fill and alluvial soils at the site also have low fines content and may be subject to caving. The contractor should be prepared to mitigate such conditions. A temporary casing may be used in the drill-hole to reduce water infiltration and caving potential. While pouring concrete, the casing should be withdrawn gradually. In addition, cobbles were encountered during our

subsurface exploration and boulders may also be present. Difficult drilling conditions should be anticipated by the contractor.

The concrete should be placed in the annular space between the steel reinforcing cage and the drill-hole surface using the tremie method. Concrete utilized in the drilled pier should be a fluid mix with sufficient slump so that it will fill the void between the steel reinforcing cage and the drill-hole wall. The contractor should take care to reduce enlargement of the excavation at the tops of the drilled pier, which could result in mushrooming of the drilled pier top.

The drilled pier hole should be cleaned prior to placement of concrete. Care should be taken to check that the soils at the drilled pier bottom have not been disturbed. The successful advancement of the drill hole for the construction of drilled pier will depend largely on the suitability of the drilling equipment and the skill of the operator. The drilled foundation contractor should make an effort to reduce the time during which the excavation remains open. The contractor should schedule the sequence of operations so that the excavation can be finished, the steel reinforcing cage placed, and the concrete placed within the same work day. The drilled pier excavation should not be left open overnight. In case of delay in placing concrete within the drill hole due to equipment breakdown or other unforeseen circumstances, casing may be used to maintain the integrity of the hole. While placing concrete, the casing should be withdrawn gradually.

The drilled pier installation should be observed by Ninyo & Moore or a qualified representative to check that, among other things: 1) subsurface conditions are as anticipated from the borings, 2) the drilled piers are constructed to the specified size and penetration, 3) drill-hole bottom is clean and competent, 4) drilled piers are within allowable tolerances for plumbness, and 5) reinforcements are placed per project specifications. These items are fundamental to the installation and behavior of the drilled piers. Furthermore, we recommend the following for the installation of drilled piers:

- The clear spacing between the rebar cage and the drill-hole surface should be three times the maximum size of the coarse aggregate used in the concrete.
- Centralizers should be installed to keep the rebar cage positioned per project specifications.
- If casing is used, a sufficient head of concrete that fills the casing should be used before pulling the casing.

10.4 Lateral Earth Pressures for Underground Structures

We understand that stormwater infiltration features may consist of an underground infiltration tank. Underground structures may be designed for lateral earth pressures presented on Figure 8. To reduce the potential for pipe-to-wall differential settlement, which could cause pipe shearing, we recommend that a flexible pipe joint be located close to the exterior of the wall. The type of joint should be such that minor relative movement can be accommodated without distress.

10.5 Infiltration Setback

We recommend that proposed underground infiltration systems be placed at a distance of 15 feet or more from new or existing buildings and outside of an imaginary 1:1 (horizontal to vertical) plane projected upward and outward from the bottom of the lowest foundation element of any existing or new structure.

10.6 Preliminary Pavement Recommendations

Preliminary pavement design was performed based on our evaluation of the subgrade soil conditions and laboratory testing. The R-value characteristics of the subgrade soils were evaluated from representative near-surface soil samples obtained from our exploratory borings. Laboratory R-value testing indicates that the R-value of the materials encountered ranges from 75 to 80. Due to the variability of the on-site soils, an R-value of 60 was used for the pavement design.

Our AC pavement analysis utilized the methodology outlined by the Highway Design Manual (Caltrans, 2020) and the computer software program CalME (Caltrans, 2022). For the design of Portland cement concrete (PCC) pavements, we used the methodology presented in the Navy Pavement Design Manual (1979) assuming a 28-day concrete compressive strength of 2,500 psi. We have evaluated pavement structural sections for Traffic Indices (TI) of 5.0, 6.0, and 7.0. The analysis assumes an approximately 20-year design life for the new pavements. Based on the R-value and TIs considered, preliminary recommendations for new pavement sections are provided in Table 3.

Table 3 – Preliminary Structural Pavement Sections			
Traffic Index	AC over CAB or AC over CMB (inches)	Full Depth AC (inches)	PCC (inches)
≤5.0	3.0 over 4.0	4.0	5.5
6.0	3.5 over 4.0	5.0	6.0
7.0	4.0 over 4.0	6.0	8.0
Notes: AC – Asphalt Concrete CAB – Crushed Aggregate Base CMB – Crushed Miscellaneous Base PCC – Portland Cement Concrete with a 28-day compressive strength of 2,500 pounds per square inch.			

We recommend that approximately 4 inches of crushed aggregate base (CAB) or crushed miscellaneous base (CMB) be placed under the PCC. Prior to placement of the new structural pavement section presented above, the subgrade soils should be prepared in accordance with the recommendations provided in the Earthwork section of this report. If full-depth AC pavement is used, we recommend that the subgrade soils be recompacted to a relative compaction of 95 percent.

Aggregate base material should conform to the specifications in Section 200-2.2 for CAB or Section 200-2.4 for CMB of the “Greenbook” and should be compacted to a relative compaction of 95 percent in accordance with ASTM D 1557. Grinding and recycling existing AC and existing base material may be considered as a potential source of CMB material provided that those meet the requirements in the “Greenbook.” AC should conform to Section 203-6 of the “Greenbook” and should be compacted to a relative compaction of 95 percent in accordance with ASTM D 1560 or California Test (CT) method 304.

Pavement sections should be selected based on actual anticipated traffic loading conditions and evaluation of the subgrade materials, including R-value testing, at the time of construction. We recommend that the paving operations be observed and tested by Ninyo & Moore. We further recommend that mix designs for the various pavements be made by an engineering company specialized in this type of work.

10.7 Hardscape

We recommend that new exterior concrete sidewalks and flatwork (hardscape) have a minimum thickness of 4 inches. The hardscape should be underlain by 4 inches of granular material such as CAB or CMB and installed with crack-control joints at an appropriate spacing as designed by the structural engineer to reduce the potential for shrinkage cracking. Positive drainage should be established and maintained adjacent to flatwork. To reduce the potential for differential offset, joints between the new hardscape and adjacent curbs, existing hardscape, building walls, and/or other structures, and between sections of new hardscape, should be doweled.

10.8 Corrosivity

Laboratory testing was performed on representative samples of near-surface soils to evaluate soil pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content. The soil pH and electrical resistivity tests were performed in general accordance with CT 643. Chloride content testing was performed in general accordance with CT 422. Sulfate testing was performed in general accordance with CT 417. The laboratory test results are presented in Appendix B.

The pH of the tested samples was measured to range from approximately 6.1 to 6.4. The electrical resistivity was measured to range from approximately 7,831 to 15,988 ohm-cm. The chloride content was measured to range from approximately 10 to 20 ppm, and the sulfate content was approximately 0.001 percent (i.e., 10 ppm). Based on the laboratory test results and Caltrans (2021) corrosion criteria, the project site would be classified as a non-corrosive site, which is defined as having earth materials less than 500 ppm chlorides, less than 0.15 percent sulfates (i.e., 1,500 ppm), a pH of more than 5.5, and an electrical resistivity of more than 1,500 ohm-cm. If corrosion susceptible improvements are planned on site, we recommend that a corrosion engineer be consulted for further evaluation and recommendations, if needed.

10.9 Concrete Placement

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. Based on the American Concrete Institute criteria (2022), the potential for sulfate attack is negligible for water-soluble sulfate contents in soil ranging from 0.00 to 0.10 percent by weight and moderate for water-soluble sulfate contents ranging from 0.10 to 0.20 percent by weight. The potential for sulfate attack is severe for water-soluble sulfate contents ranging from 0.20 to 2.00 percent by weight and very severe for water-soluble sulfate contents over 2.00 percent by weight. The soil samples tested for this evaluation, using Caltrans Test Method 417, indicate a water-soluble sulfate content of approximately 0.001 percent by weight. Accordingly, the on-site soils are considered to have a negligible potential for sulfate attack. However, due to the potential variability of the on-site soils, consideration should be given to using Type II/V cement for the project.

In order to reduce the potential for shrinkage cracks in the concrete during curing, we recommend that the concrete for the proposed structure be placed with a slump of 4 inches based on ASTM C 143. The slump should be checked periodically at the site prior to concrete placement. We further recommend that concrete cover over reinforcing steel for foundations be provided in accordance with CBC (2022). The structural engineer should be consulted for additional concrete specifications.

10.10 Drainage

Positive surface drainage is imperative for satisfactory site performance. Positive drainage should be provided and maintained to transport surface water away from foundations and other site improvements. Positive drainage is defined as a slope of 5 percent or more (2 percent or more if paved) for a distance of 10 feet or more away from the foundations. Surface water should not be allowed to pond adjacent to the footings. Concentrated runoff should not be allowed to flow over

asphalt pavement as this can result in early deterioration of the pavement. Area drains for landscaped and paved areas are recommended.

11 CONSTRUCTION OBSERVATION

The recommendations provided in this report are based on our understanding of the proposed project and on our evaluation of the data collected based on subsurface conditions disclosed by widely spaced exploratory borings. It is imperative that the interpolated subsurface conditions be checked by our representative during construction. Observation and testing of compacted fill and backfill should also be performed by our representative during construction. We further recommend that the project plans and specifications be reviewed by this office prior to construction. It should be noted that, upon review of these documents, some recommendations presented in this report might be revised or modified.

During construction, we recommend that the duties of the geotechnical consultant include, but not be limited to:

- Observing site clearing, grubbing, and removals.
- Observing excavation bottoms and the placement and compaction of fill and trench backfill.
- Evaluating on-site soil for suitability of its use as engineered fill/structural backfill prior to placement.
- Evaluating imported materials prior to their use as fill, if any.
- Performing field tests to evaluate fill compaction.
- Observing foundation excavations for bearing materials and cleaning prior to placement of reinforcing steel or concrete.
- Performing material testing services including concrete compressive strength and steel tensile strength tests and inspections.

The recommendations provided in this report are based on the assumption that Ninyo & Moore will provide geotechnical observation and testing services during construction. In the event that the services of Ninyo & Moore are not utilized during construction, we request that the selected consultant provide the owner with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this report.

12 LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty,

expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

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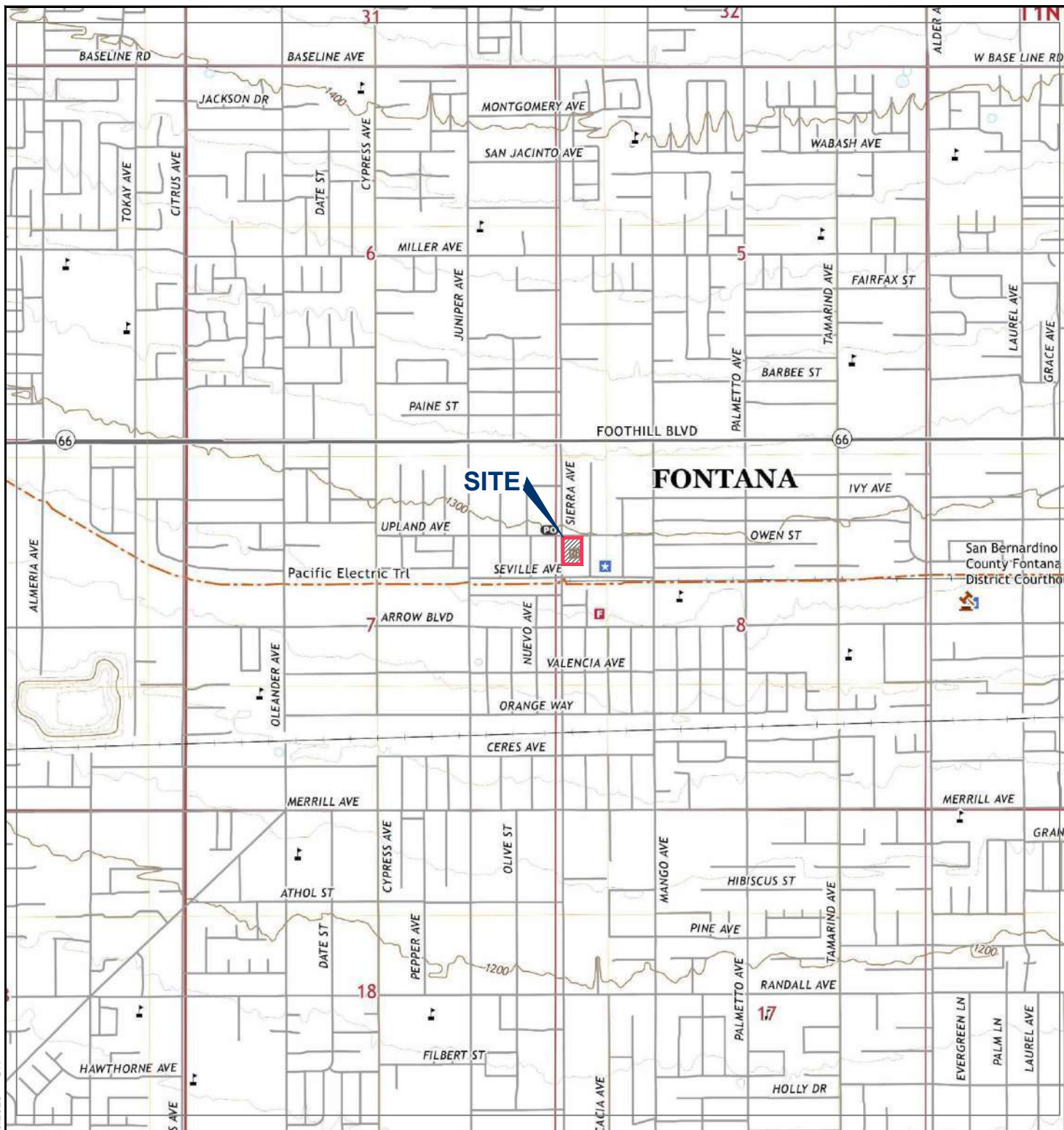
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FIGURES

212823001.dwg_SL 03/05/2025 GK



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: USGS, 2021.

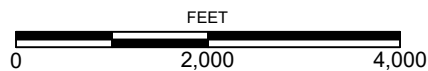
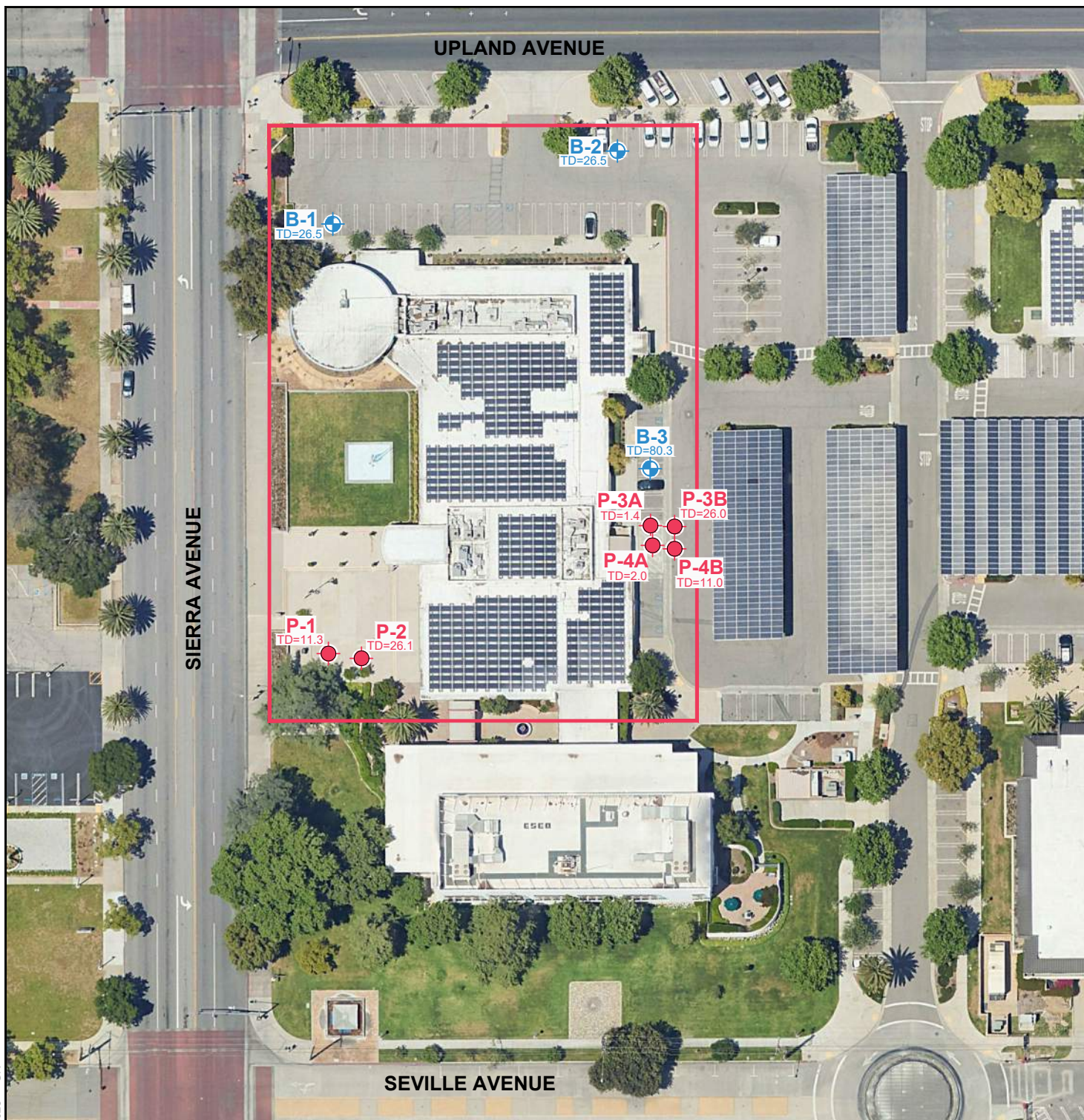


FIGURE 1

SITE LOCATION

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE
FONTANA, CALIFORNIA
212823001 | 3/25



LEGEND

- B-3**
TD=80.3
- BORING;**
TD=TOTAL DEPTH IN FEET
- P-4B**
TD=11.0
- PERCOLATION TEST;**
TD=TOTAL DEPTH IN FEET
- SITE BOUNDARY**

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: GOOGLE EARTH, 2024.

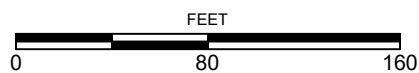
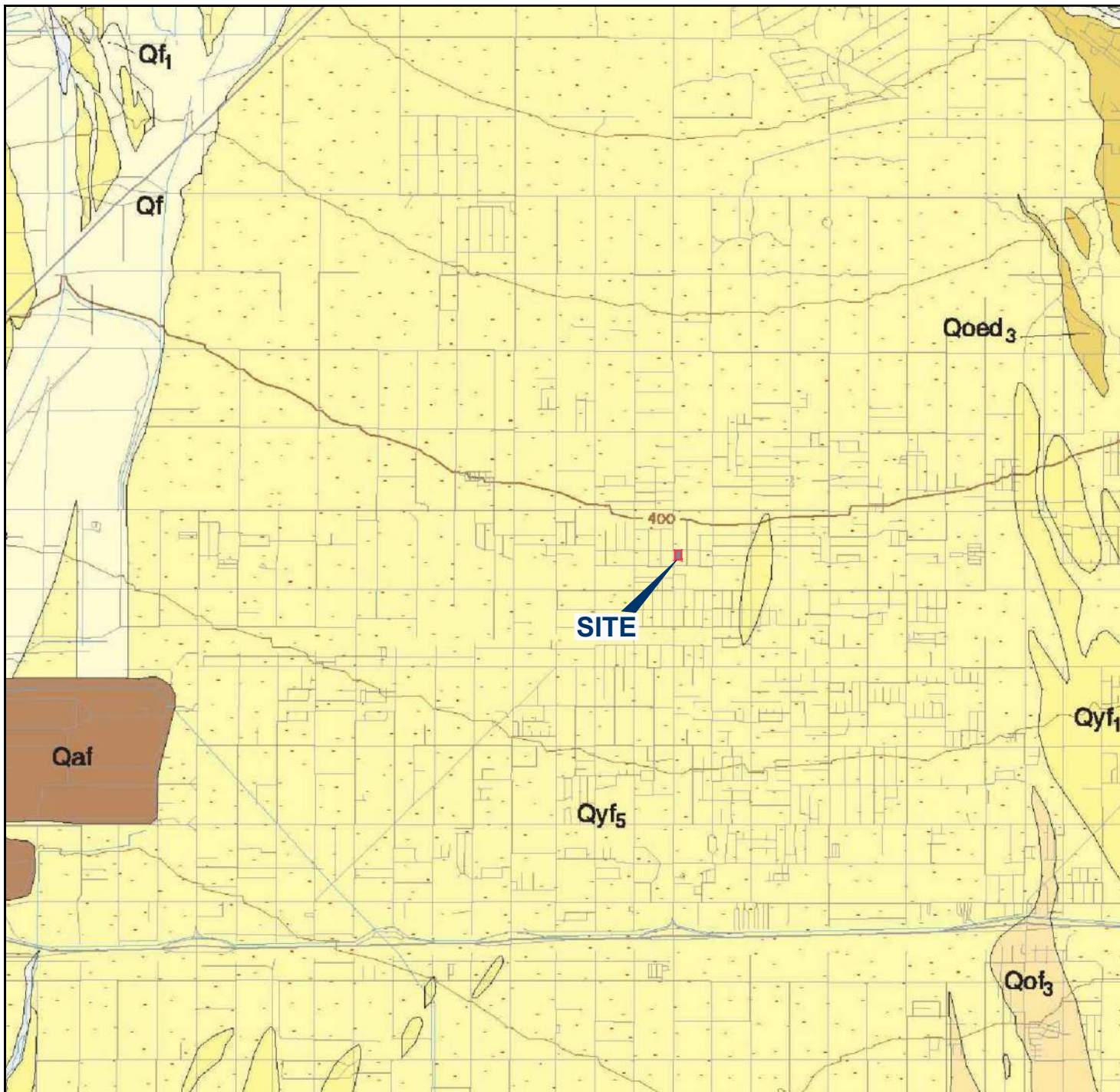


FIGURE 2

BORING AND PERCOLATION TEST LOCATIONS



LEGEND

Qaf	ARTIFICIAL FILL	Qof₃	OLD ALLUVIAL-FAN DEPOSITS
Qf	VERY YOUNG ALLUVIAL-FAN DEPOSITS	Qoed	OLD EOLIAN DEPOSITS
Qyf₅	YOUNG ALLUVIAL-FAN DEPOSITS		GEOLOGIC CONTACT

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: MORTON AND MILLER, 2006.

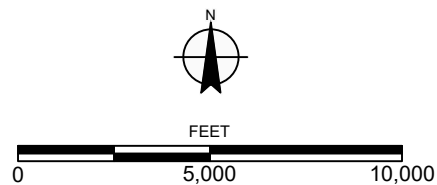
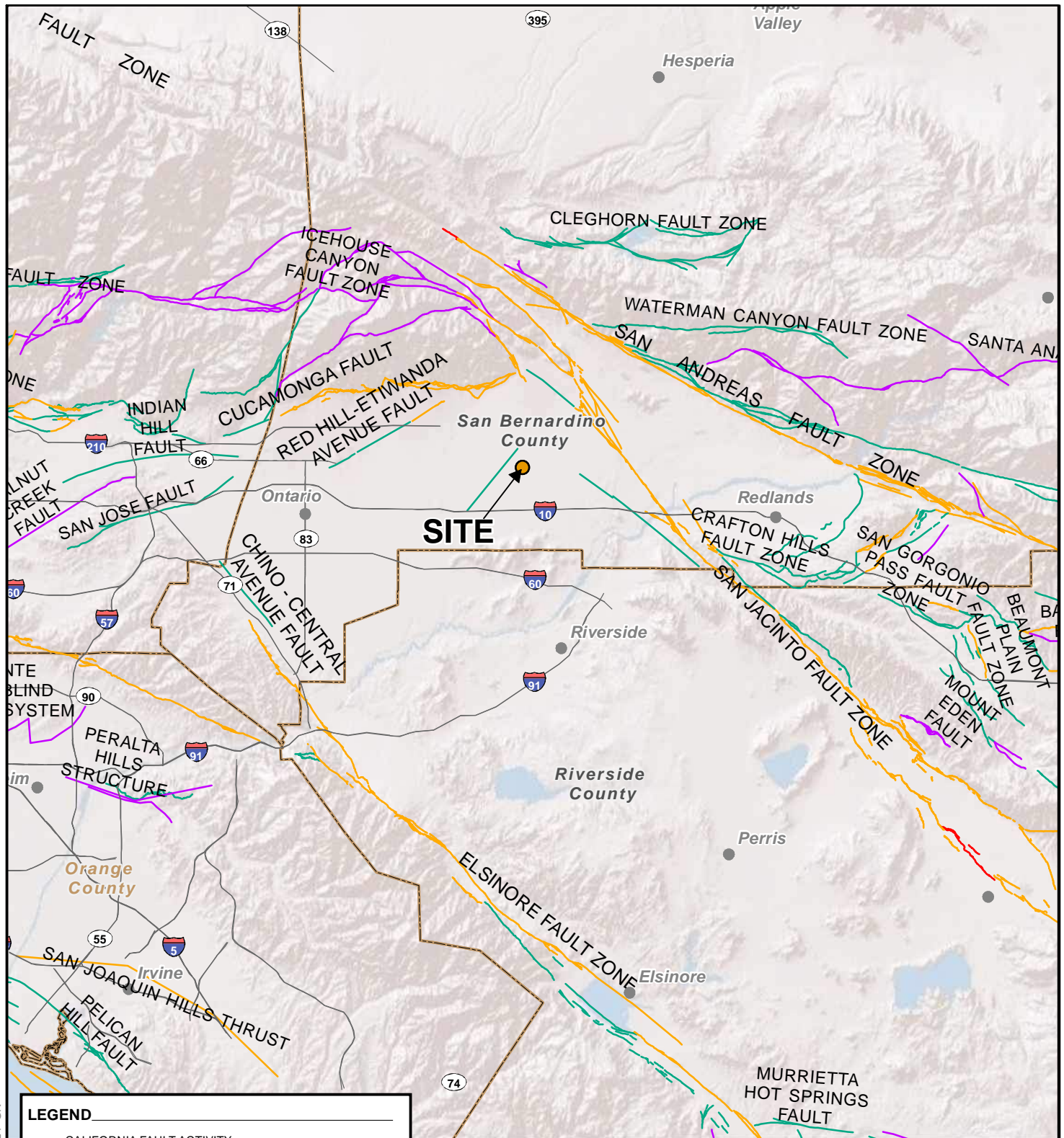


FIGURE 3



LEGEND

CALIFORNIA FAULT ACTIVITY

- HISTORICALLY ACTIVE
- HOLOCENE ACTIVE
- LATE QUATERNARY (POTENTIALLY ACTIVE)
- QUATERNARY (POTENTIALLY ACTIVE)
- STATE/COUNTY BOUNDARY

SOURCES: QUATERNARY FAULTS DATABASE - U.S. GEOLOGICAL SURVEY AND CALIFORNIA GEOLOGICAL SURVEY, QUATERNARY FAULT AND FOLD DATABASE FOR THE UNITED STATES, ACCESSED NOVEMBER 05, 2024, AT: <https://www.usgs.gov/programs/earthquake-hazards/faults>, ESRI, 2023.



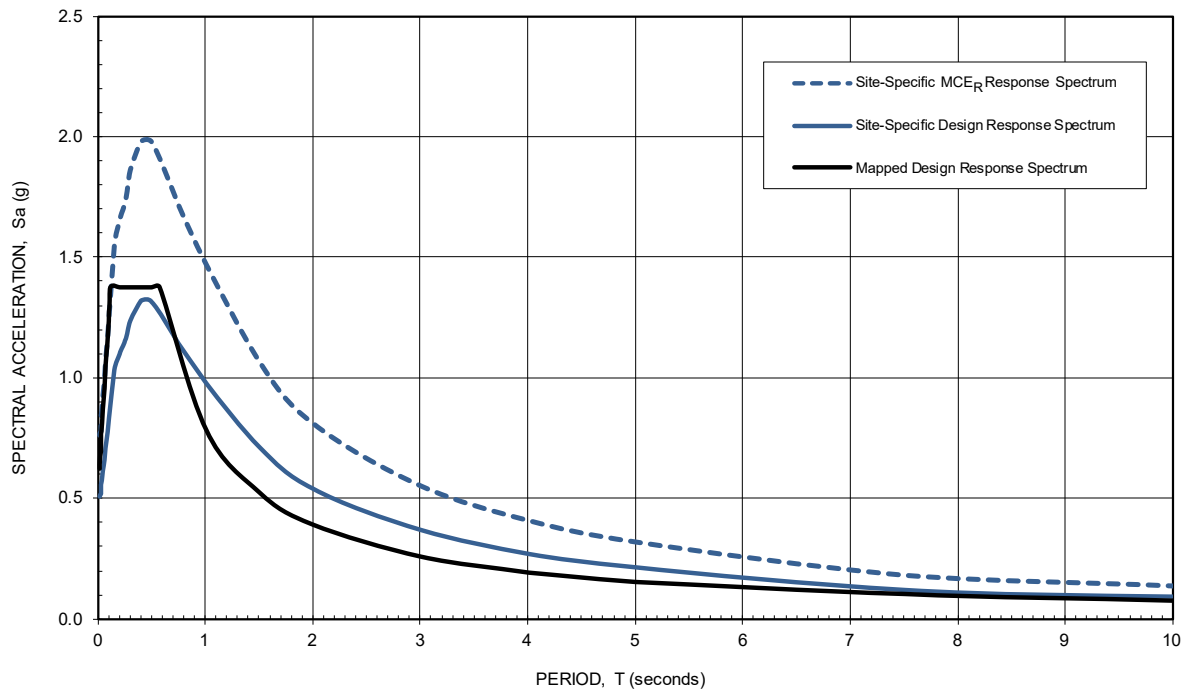
NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

FIGURE 4

PERIOD (seconds)	SITE-SPECIFIC MCE _R RESPONSE SPECTRUM S _a (g)	SITE-SPECIFIC DESIGN RESPONSE SPECTRUM S _a (g)
0.010	0.763	0.509
0.020	0.780	0.520
0.030	0.839	0.559
0.050	0.958	0.638
0.075	1.105	0.737
0.100	1.253	0.836
0.150	1.549	1.033
0.200	1.654	1.103
0.250	1.732	1.155
0.300	1.861	1.241
0.400	1.982	1.321

PERIOD (seconds)	SITE-SPECIFIC MCE _R RESPONSE SPECTRUM S _a (g)	SITE-SPECIFIC DESIGN RESPONSE SPECTRUM S _a (g)
0.500	1.978	1.319
0.750	1.718	1.145
1.000	1.473	0.982
1.500	1.070	0.713
2.000	0.813	0.542
3.000	0.555	0.370
4.000	0.411	0.274
5.000	0.323	0.215
7.500	0.185	0.123
10.000	0.139	0.093

$S_{MS} = 1.784 \text{ g}$ $S_{M1} = 1.665 \text{ g}$ $S_{DS} = 1.189 \text{ g}$ $S_{D1} = 1.110 \text{ g}$ $PGA_M = 0.753 \text{ g}$

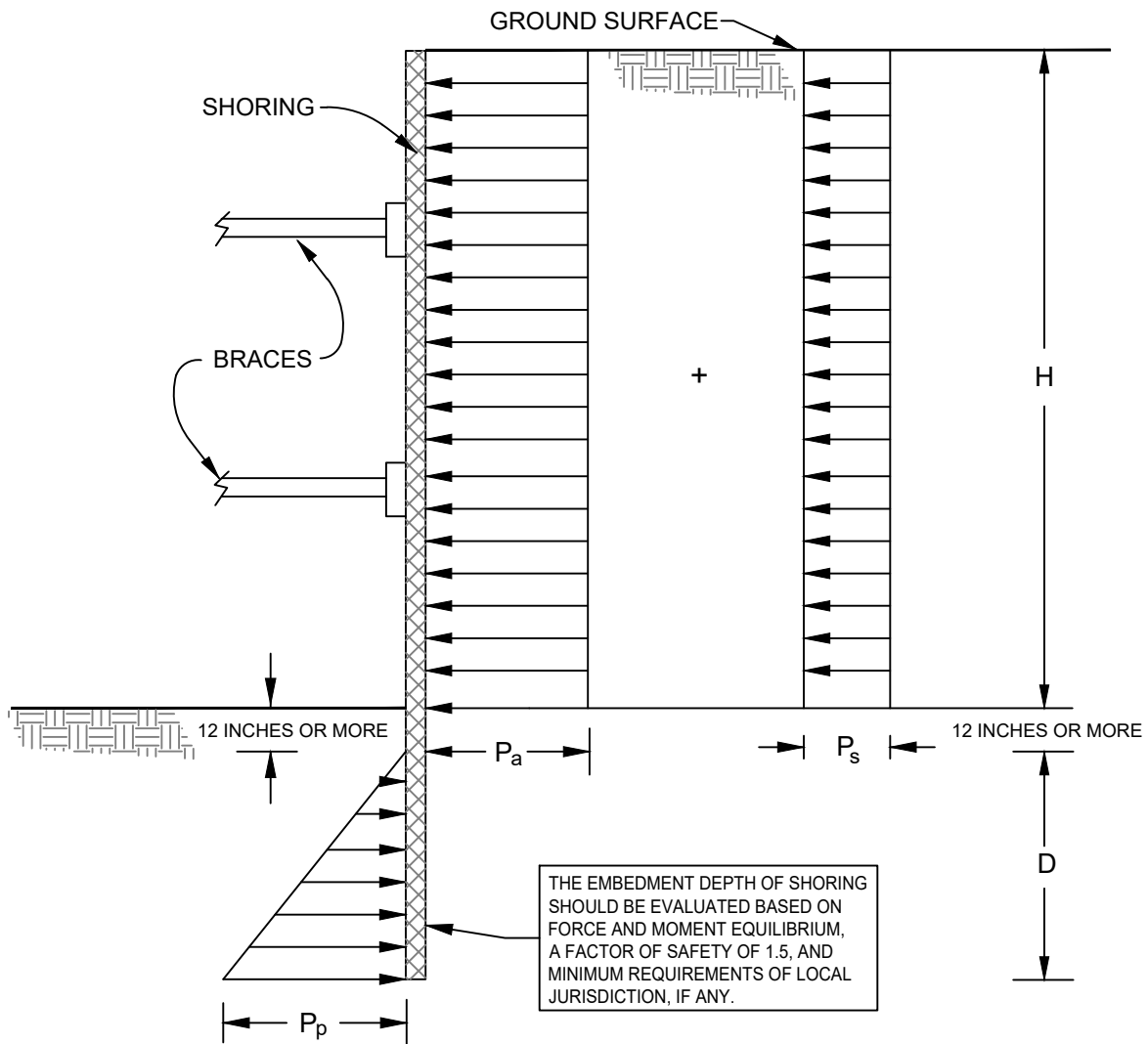


NOTES:

- 1 The probabilistic ground motion spectral response accelerations are based on the risk-targeted Maximum Considered Earthquake (MCE_R) having a 2% probability of exceedance in 50 years in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships and the risk coefficients per ASCE 7-16 Section 21.2.1.1.
- 2 The deterministic ground motion spectral response accelerations are the 84th percentile geometric mean values in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships for deep soil sites considering a Mw 8.0 event on the San Jacinto fault zone located 8.7 kilometers from the site. It conforms with the lower bound limit per ASCE 7-16 Section 21.2.2.
- 3 The Site-Specific MCE_R Response Spectrum is the lesser of the spectral ordinates of the deterministic and probabilistic accelerations at each period per ASCE 7-16 Section 21.2.3. The Site-Specific Design Response Spectrum conforms with the lower bound limit per ASCE 7-16 Section 21.3.
- 4 The Mapped Design Response Spectrum is computed from the mapped spectral ordinates modified for Site Class D (stiff soil profile) per ASCE 7-16 Section 11.4. It is presented for the sake of comparison.

FIGURE 5

ACCELERATION RESPONSE SPECTRA



NOTES:

1. APPARENT LATERAL EARTH PRESSURE, P_a
 $P_a = 24H$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 120$ psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 350D$ psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

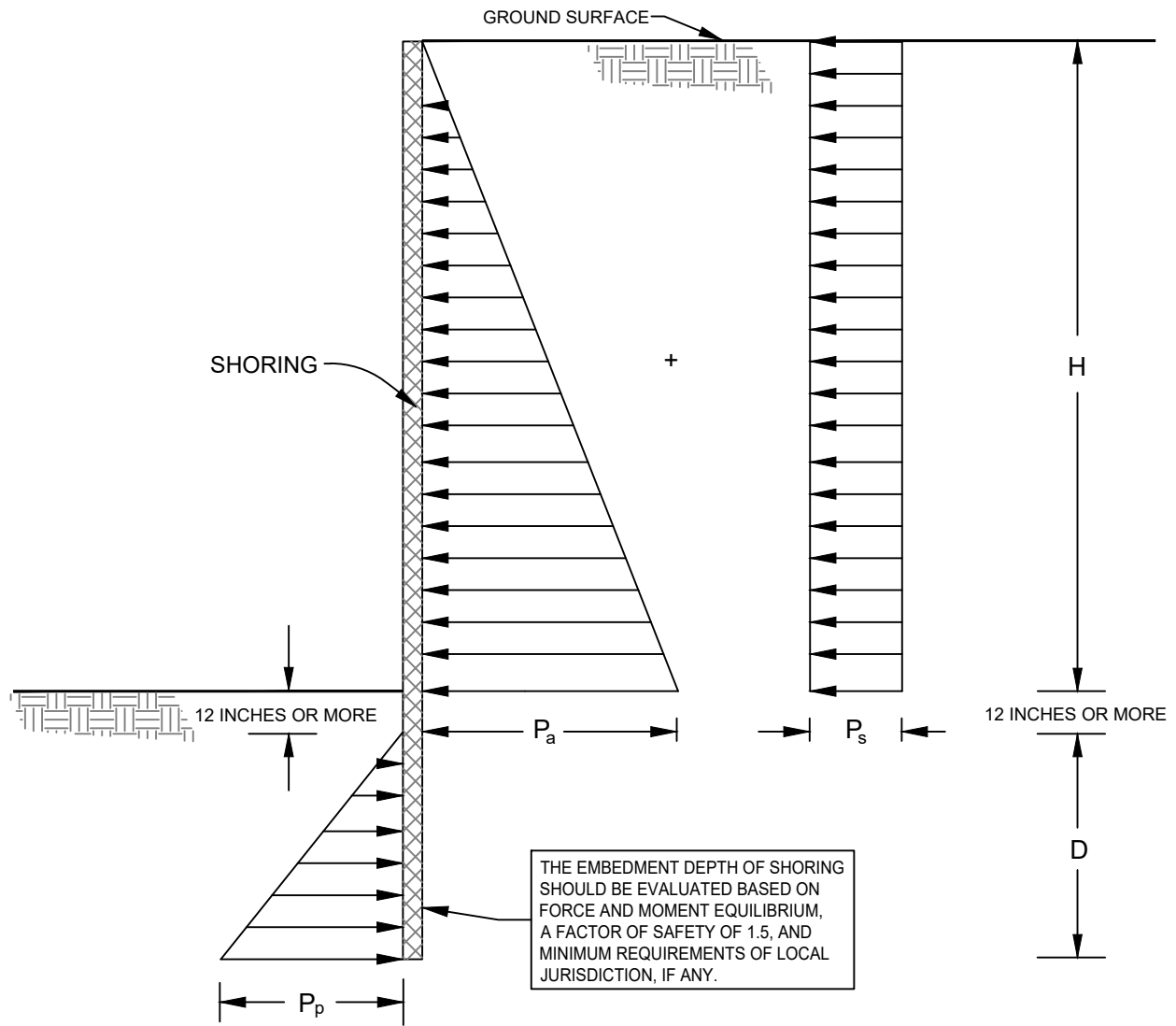
NOT TO SCALE

FIGURE 6

LATERAL EARTH PRESSURES FOR BRACED EXCAVATION

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE
FONTANA, CALIFORNIA

212823001 | 3/25



NOTES:

1. ACTIVE LATERAL EARTH PRESSURE, P_a
 $P_a = 37H$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 72$ psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 350D$ psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. H AND D ARE IN FEET

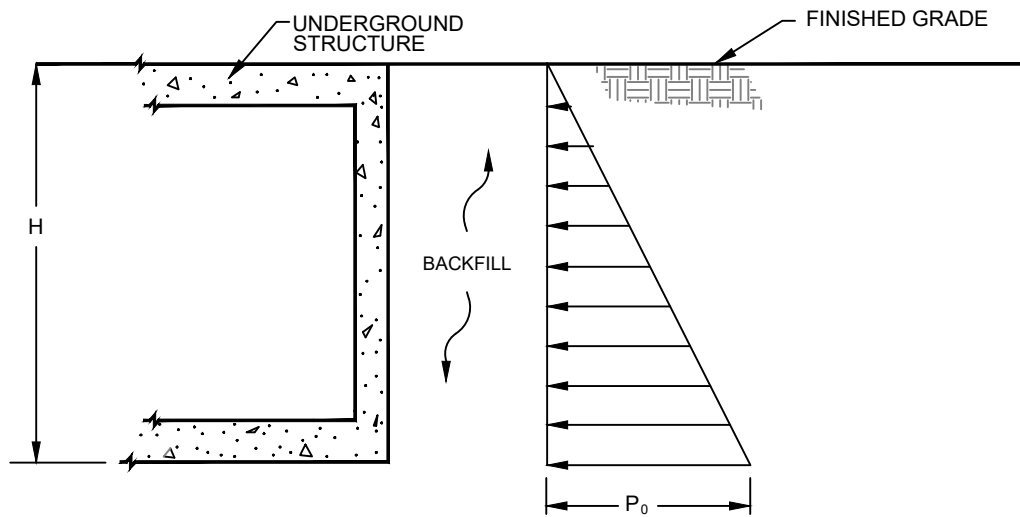
NOT TO SCALE

FIGURE 7

**LATERAL EARTH PRESSURES FOR
TEMPORARY CANTILEVERED SHORING**

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE
FONTANA, CALIFORNIA

212823001 | 3/25



NOTES:

1. APPARENT LATERAL EARTH PRESSURES, P_0
 $P_0 = 56H$ psf
2. SURCHARGE PRESSURES CAUSED BY VEHICLES
 OR NEARBY STRUCTURES ARE NOT INCLUDED
3. H IS IN FEET

NOT TO SCALE

FIGURE 8

**LATERAL EARTH PRESSURES FOR
UNDERGROUND STRUCTURES**

CITY HALL RENOVATION PHASE II
 8353 SIERRA AVENUE
 FONTANA, CALIFORNIA

212823001 | 3/25



APPENDIX A

Boring Logs

APPENDIX A

BORING LOGS

Field Procedure for the Collection of Disturbed Samples

Disturbed soil samples were obtained in the field using the following method.

Bulk Samples

Bulk samples of representative earth materials were obtained from the exploratory borings. The samples were bagged and transported to the laboratory for testing.

The Standard Penetration Test (SPT) Sampler

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of approximately 1.4 inches. The sampler was driven into the ground 18 inches with a 140-pound hammer falling freely from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

Field Procedure for the Collection of Relatively Undisturbed Samples

Relatively undisturbed soil samples were obtained in the field using the following method.

The Modified Split-Barrel Drive Sampler

The sampler, with an external diameter of 3 inches, was lined with 1-inch-long, thin brass rings with inside diameters of approximately 2.4 inches. The sampler barrel was driven into the ground with the weight of a hammer of the drill rig in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sampler barrel in the brass rings, sealed, and transported to the laboratory for testing.

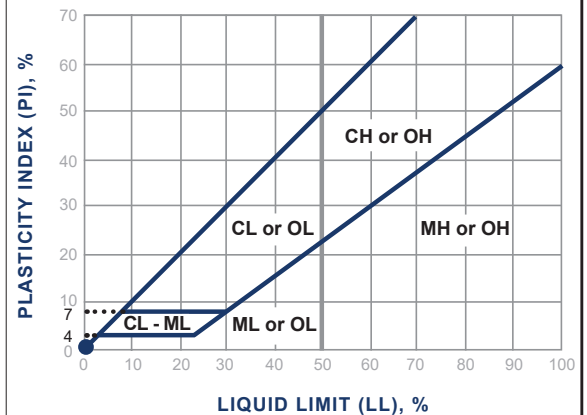
Soil Classification Chart Per ASTM D 2488

Primary Divisions			Secondary Divisions	
			Group Symbol	Group Name
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVEL more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL less than 5% fines	GW	well-graded GRAVEL
			GP	poorly graded GRAVEL
		GRAVEL with DUAL CLASSIFICATIONS 5% to 12% fines	GW-GM	well-graded GRAVEL with silt
			GP-GM	poorly graded GRAVEL with silt
			GW-GC	well-graded GRAVEL with clay
			GP-GC	poorly graded GRAVEL with clay
		GRAVEL with FINES more than 12% fines	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND 50% or more of coarse fraction passes No. 4 sieve	CLEAN SAND less than 5% fines	SW	well-graded SAND
			SP	poorly graded SAND
		SAND with DUAL CLASSIFICATIONS 5% to 12% fines	SW-SM	well-graded SAND with silt
			SP-SM	poorly graded SAND with silt
			SW-SC	well-graded SAND with clay
			SP-SC	poorly graded SAND with clay
		SAND with FINES more than 12% fines	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOILS 50% or more passes No. 200 sieve	SILT and CLAY liquid limit less than 50%	INORGANIC	CL	lean CLAY
			ML	SILT
			CL-ML	silty CLAY
		ORGANIC	OL (PI > 4)	organic CLAY
			OL (PI < 4)	organic SILT
	SILT and CLAY liquid limit 50% or more	INORGANIC	CH	fat CLAY
			MH	elastic SILT
			OH (plots on or above "A"-line)	organic CLAY
		ORGANIC	OH (plots below "A"-line)	organic SILT
			PT	Peat

Grain Size

Description		Sieve Size	Grain Size	Approximate Size
Boulders		> 12"	> 12"	Larger than basketball-sized
Cobbles		3 - 12"	3 - 12"	Fist-sized to basketball-sized
Gravel	Coarse	3/4 - 3"	3/4 - 3"	Thumb-sized to fist-sized
	Fine	#4 - 3/4"	0.19 - 0.75"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	0.075 - 0.19"	Rock-salt-sized to pea-sized
	Medium	#40 - #10	0.017 - 0.075"	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	0.0029 - 0.017"	Flour-sized to sugar-sized
Fines		Passing #200	< 0.0029"	Flour-sized and smaller

Plasticity Chart



Apparent Density - Coarse-Grained Soil

Apparent Density	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Modified Split Barrel (blows/foot)	SPT (blows/foot)	Modified Split Barrel (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70

Consistency - Fine-Grained Soil

Consistency	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Modified Split Barrel (blows/foot)	SPT (blows/foot)	Modified Split Barrel (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
Stiff	9 - 15	11 - 20	6 - 10	7 - 13
Very Stiff	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26

BORING LOG EXPLANATION SHEET

DEPTH (feet)	Bulk Driven SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0							Bulk sample.
							Modified split-barrel drive sampler.
							No recovery with modified split-barrel drive sampler.
							Sample retained by others.
							Standard Penetration Test (SPT).
5							No recovery with a SPT.
	XX/XX						Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
							No recovery with Shelby tube sampler.
							Continuous Push Sample.
10							Seepage.
							Groundwater encountered during drilling.
							Groundwater measured after drilling.
						SM	MAJOR MATERIAL TYPE (SOIL):
							Solid line denotes unit change.
						CL	Dashed line denotes material change.
15							Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Shear Bedding Surface
20							The total depth line is a solid line that is drawn at the bottom of the boring.

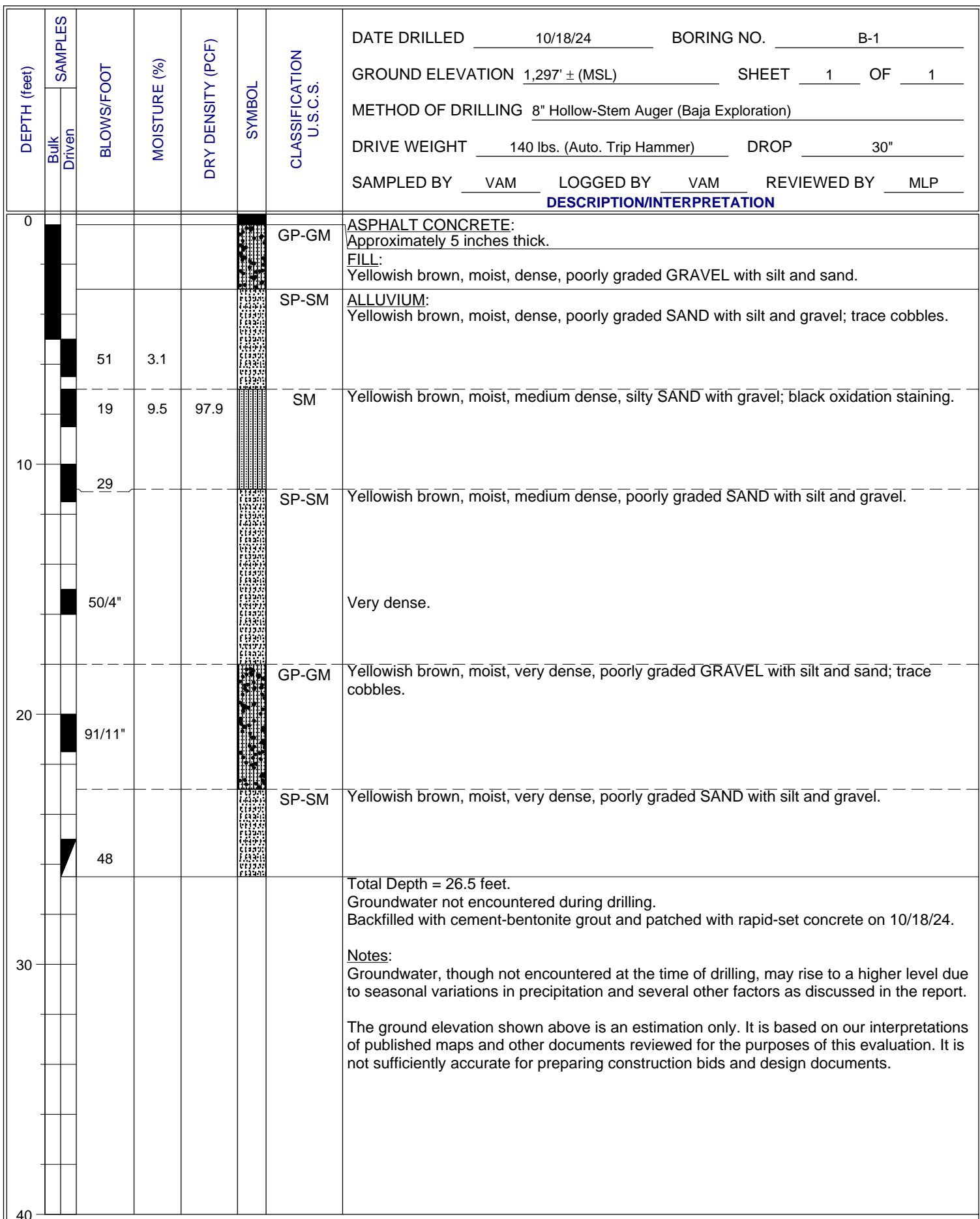


FIGURE A- 1

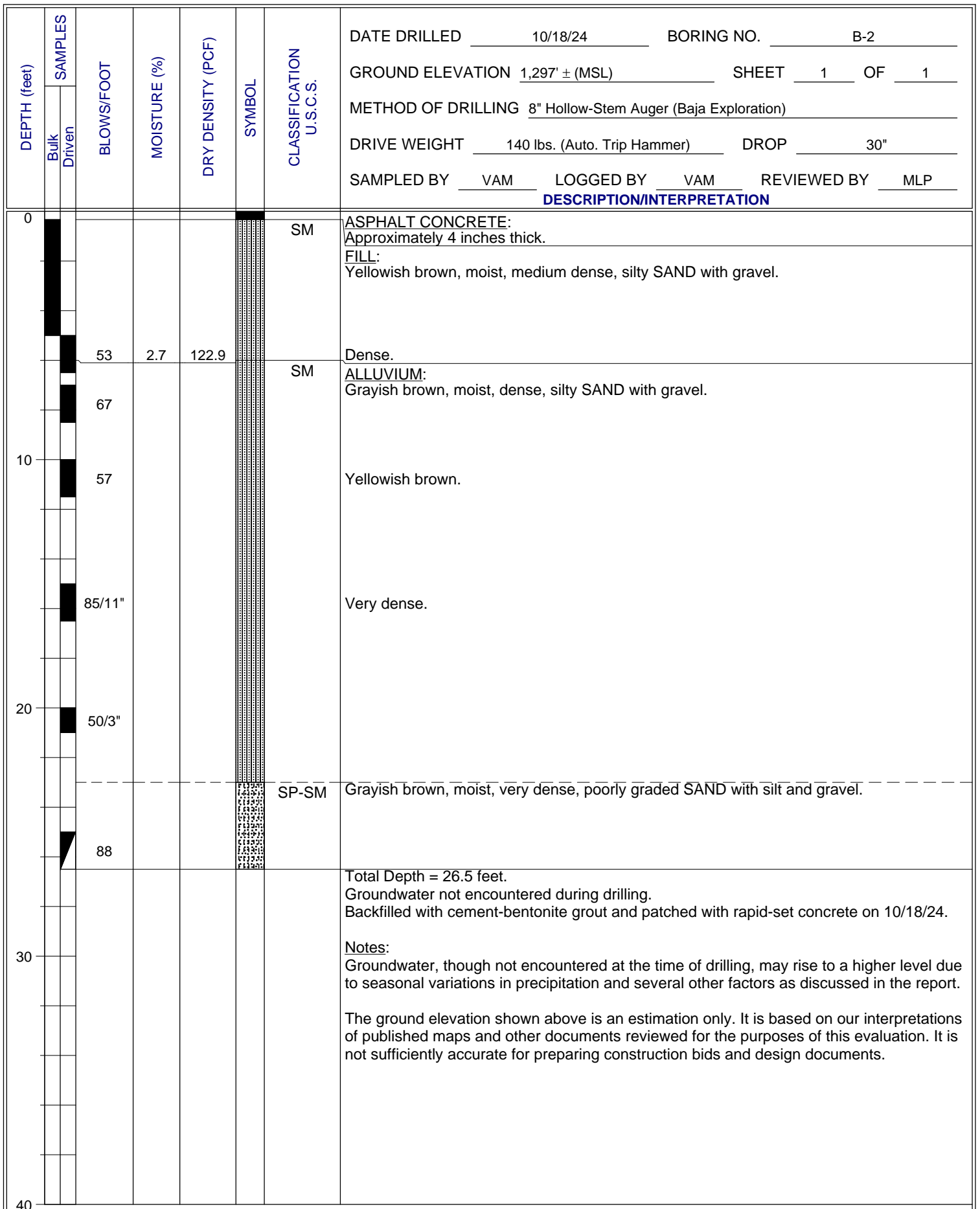


FIGURE A- 2

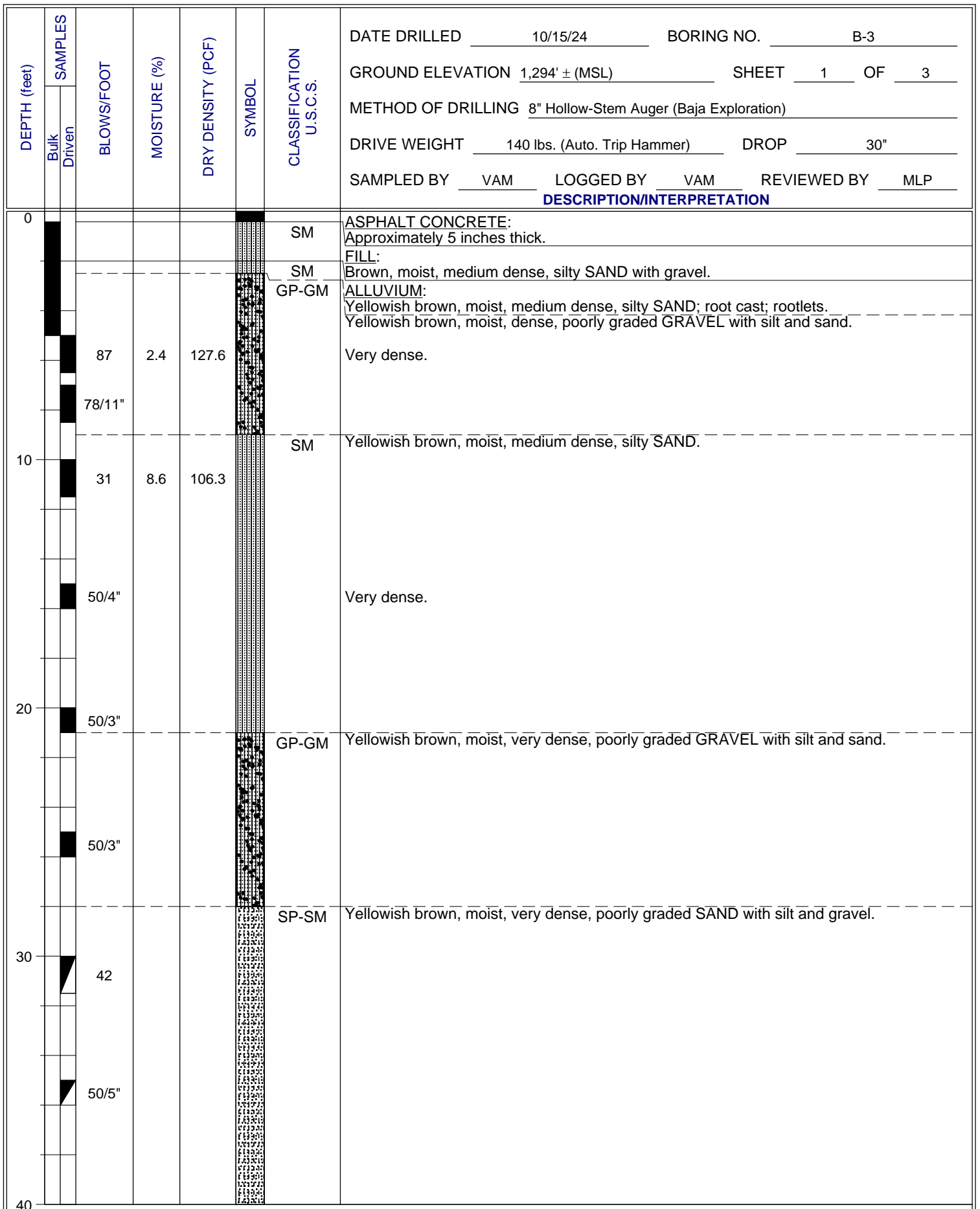


FIGURE A-3

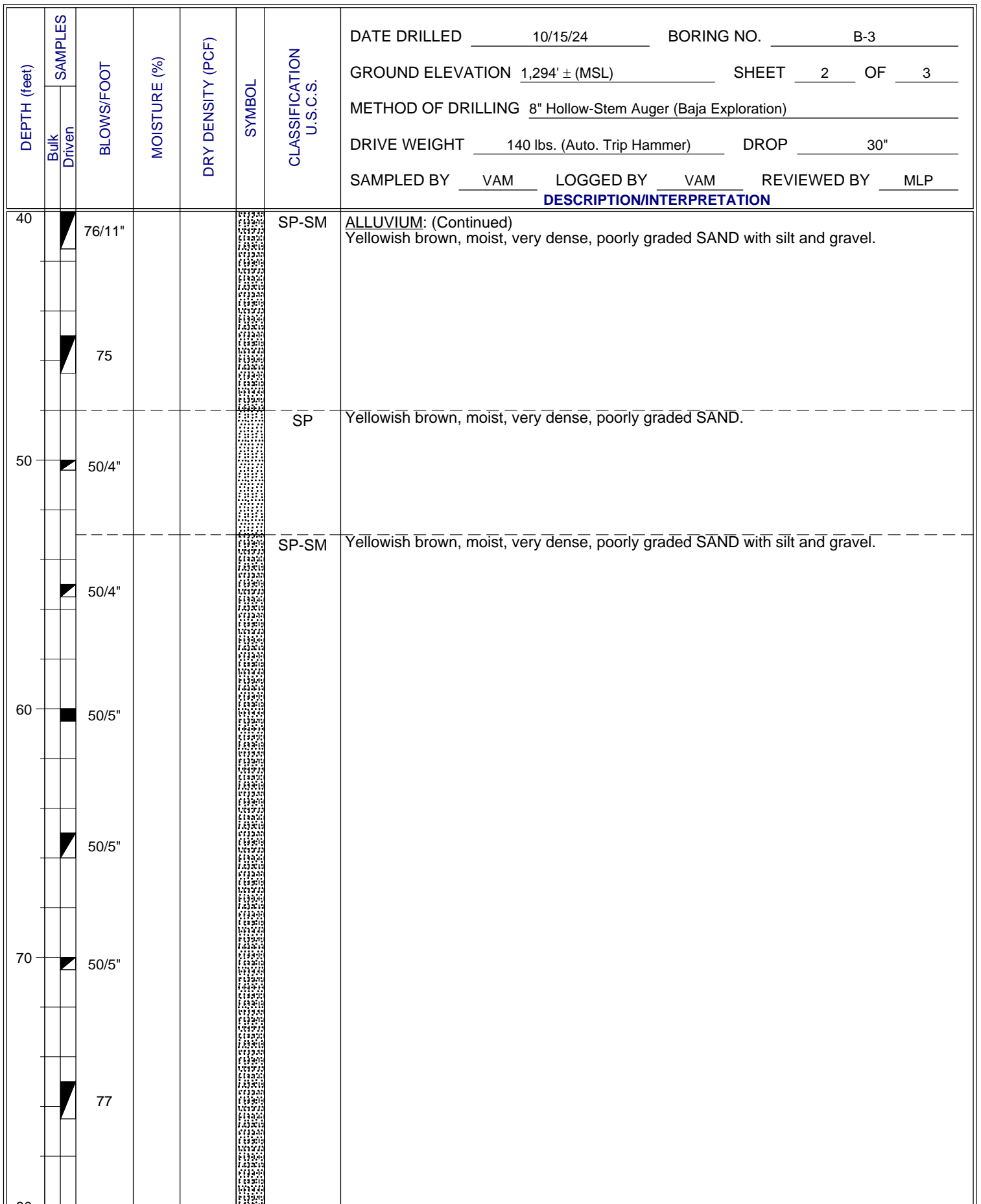


FIGURE A- 4

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>10/15/24</u> BORING NO. <u>B-3</u> GROUND ELEVATION <u>1,294' ± (MSL)</u> SHEET <u>3</u> OF <u>3</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>VAM</u> LOGGED BY <u>VAM</u> REVIEWED BY <u>MLP</u>		
	Bulk	Driven						DESCRIPTION/INTERPRETATION		
80			50/4"				SP-SM	<p><u>ALLUVIUM: (Continued)</u> Yellowish brown, moist, very dense, poorly graded SAND with silt and gravel. Total Depth = 80.3 feet. Groundwater not encountered during drilling. Backfilled with cement-bentonite grout and patched with rapid-set concrete on 10/15/24.</p> <p><u>Notes:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>		
90										
100										
110										
120										

FIGURE A- 5

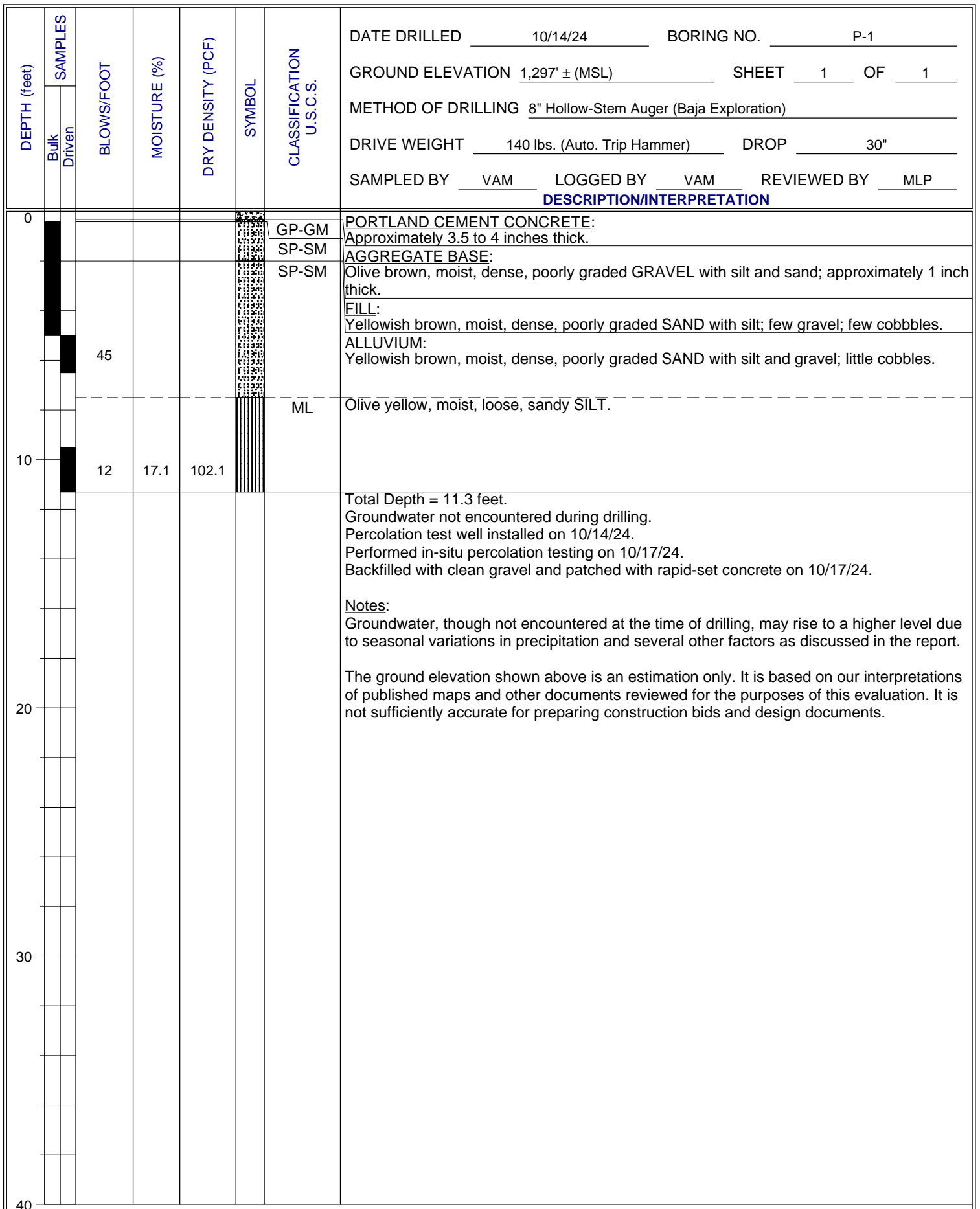


FIGURE A- 6

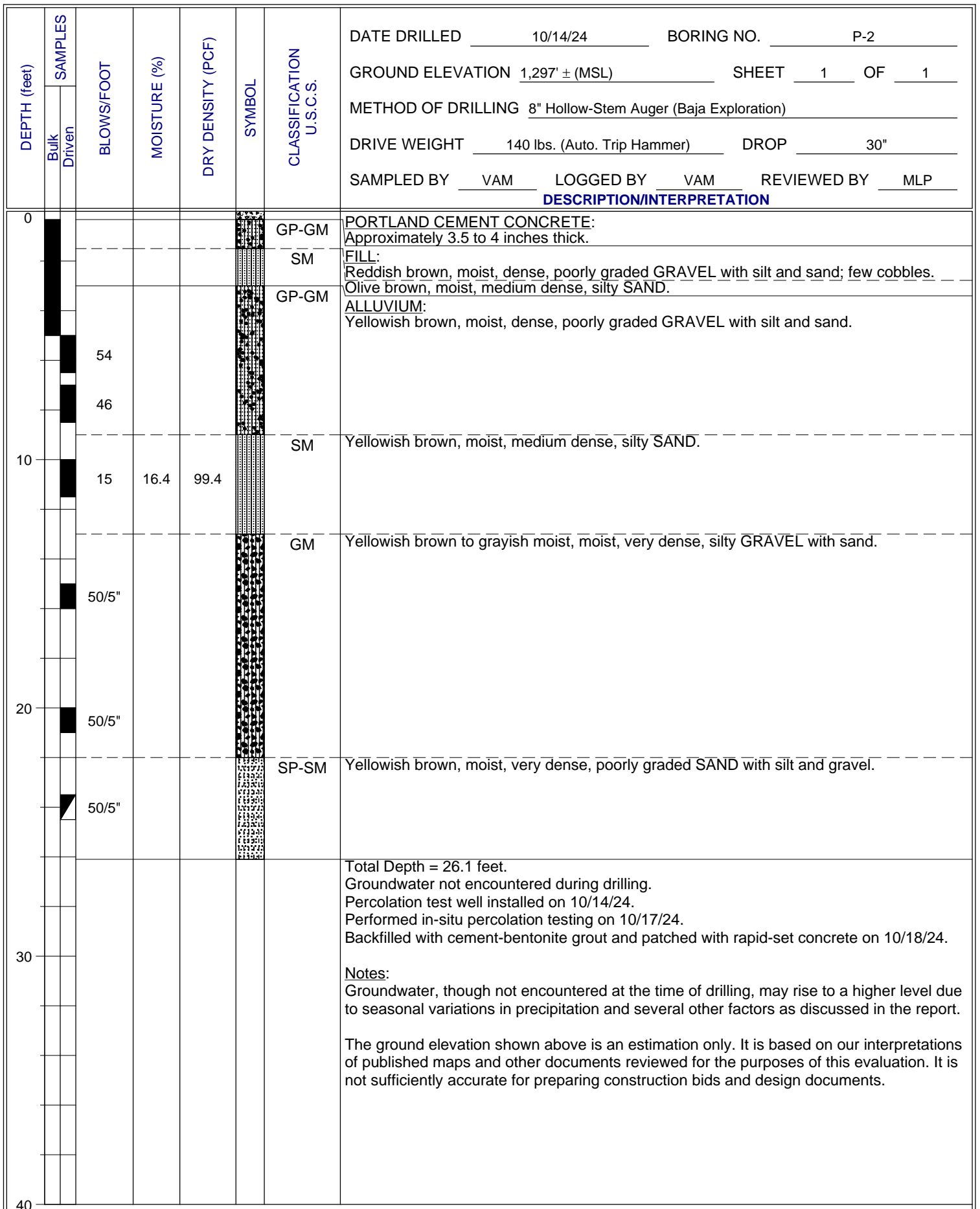


FIGURE A- 7

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>10/15/24</u> BORING NO. <u>P-3A</u> GROUND ELEVATION <u>1,294' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>VAM</u> LOGGED BY <u>VAM</u> REVIEWED BY <u>MLP</u>		
	Bulk	Driven						DESCRIPTION/INTERPRETATION		
0							SP-SM	PORTLAND CEMENT CONCRETE: Approximately 6 inches thick. FILL: Brown, moist, medium dense, poorly graded SAND with silt and gravel; concrete debris. @ 1.4': Flat concrete surface encountered, abandoned boring and moved approximately 9 feet west (P-3B). Total Depth = 1.4 feet (Refusal). Groundwater not encountered during drilling. Backfilled with on-site soil and patched with rapid-set concrete on 10/15/24. Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.		
10										
20										
30										
40										

FIGURE A- 8

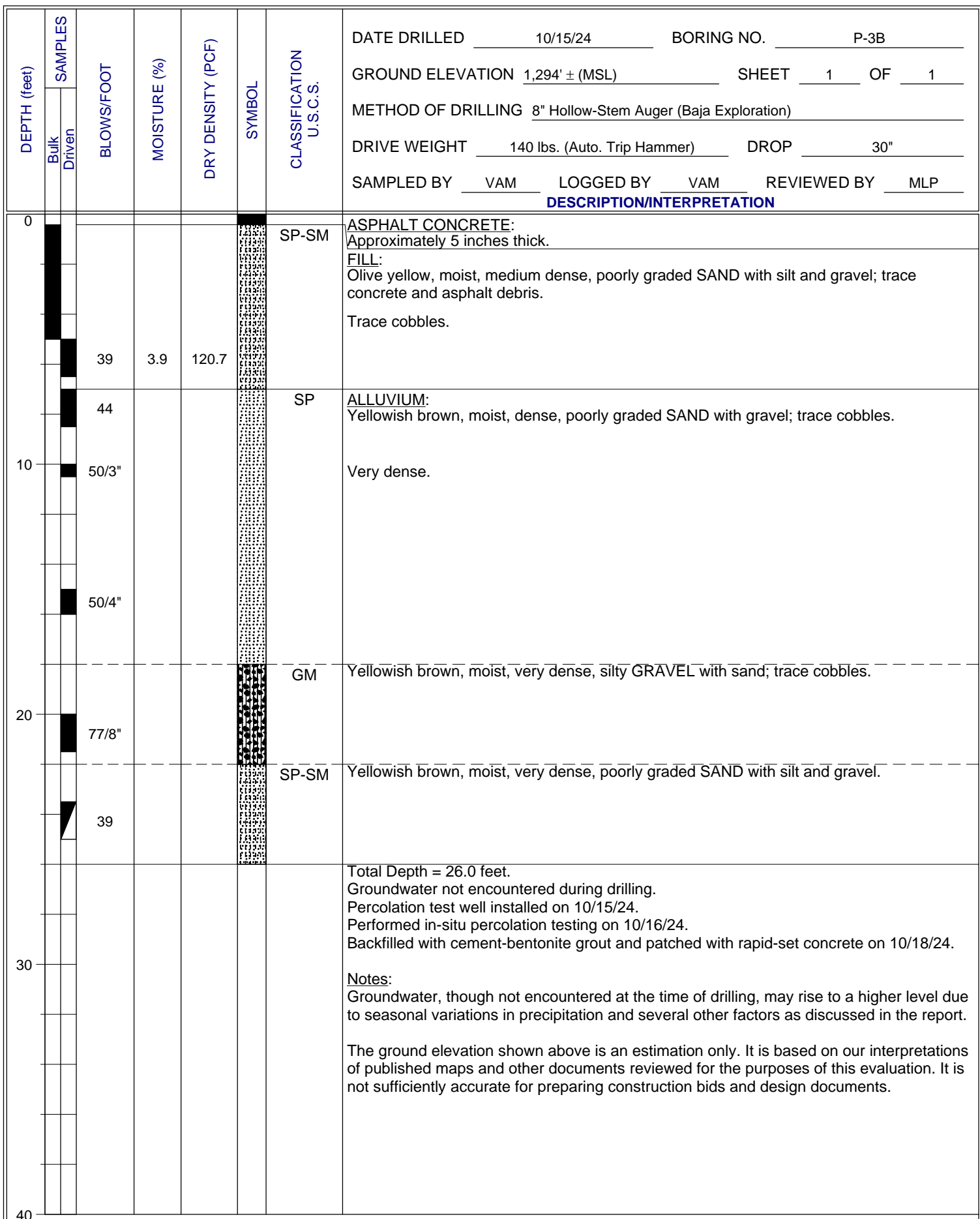


FIGURE A-9

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>10/15/24</u> BORING NO. <u>P-4A</u> GROUND ELEVATION <u>1,294' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>VAM</u> LOGGED BY <u>VAM</u> REVIEWED BY <u>MLP</u>		
	Bulk	Driven						DESCRIPTION/INTERPRETATION		
0							SP-SM	<p>PORTLAND CEMENT CONCRETE: Approximately 6 inches thick.</p> <p>FILL: Brown, moist, medium dense, poorly graded SAND with silt and gravel; concrete debris. @ 2': Flat concrete surface encountered, abandoned boring and moved approximately 9 feet west (P-4B). Total Depth = 2.0 feet (Refusal). Groundwater not encountered during drilling. Backfilled with on-site soil and patched with rapid-set concrete on 10/15/24.</p> <p>Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>		
10										
20										
30										
40										

FIGURE A- 10

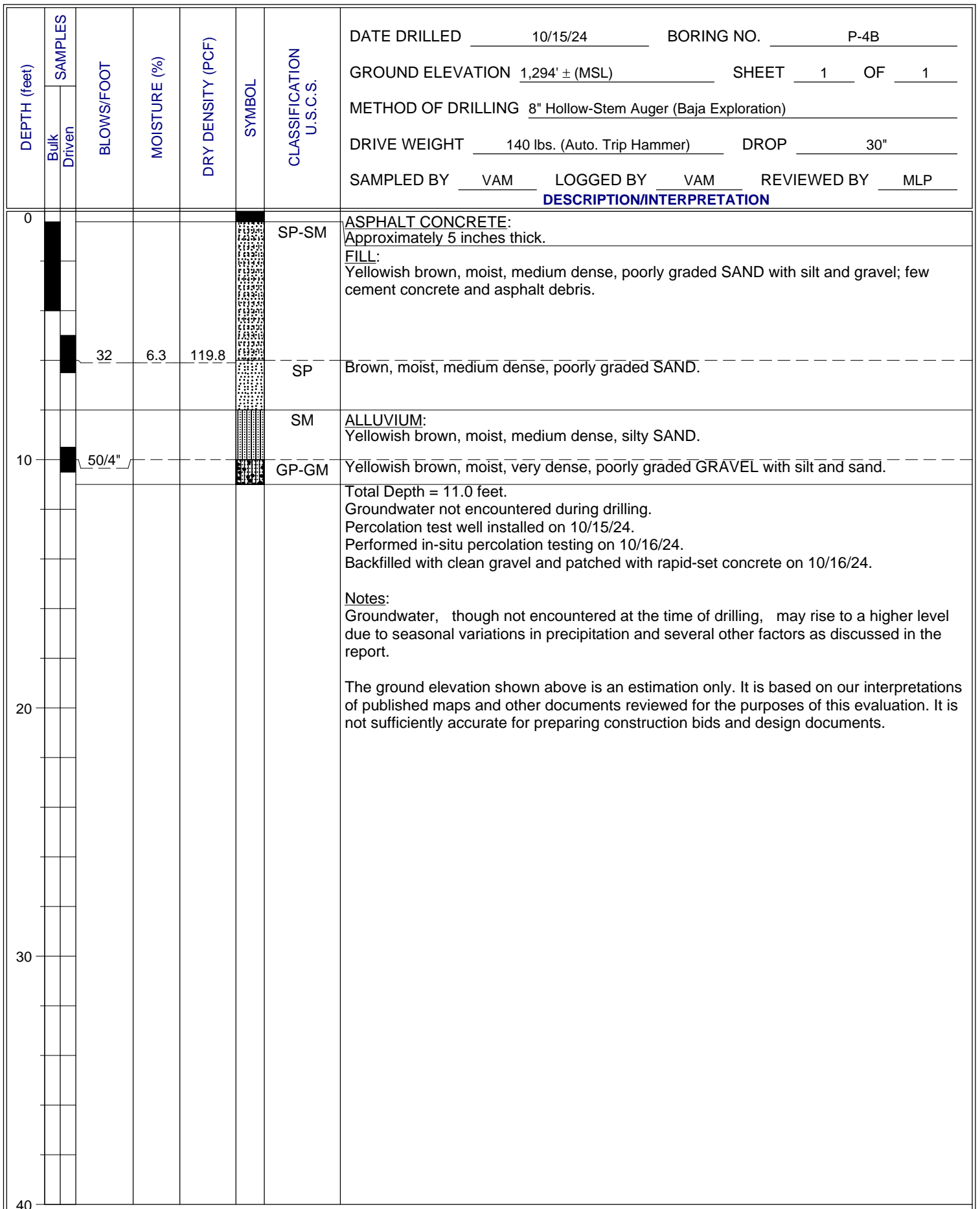


FIGURE A- 11



APPENDIX B

Laboratory Testing

APPENDIX B

LABORATORY TESTING

Classification

Soils were visually and texturally classified in adherence to the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory borings in Appendix A.

In-Place Moisture and Density Tests

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory borings were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory borings in Appendix A.

200 Wash

An evaluation of the percentage of particles finer than the No. 200 sieve on selected soil samples was performed in general accordance with ASTM D 1140. The results of the tests are presented on Figures B-1 and B-2.

Proctor Density Test

The maximum dry density and optimum moisture content of a selected representative soil sample was evaluated using the Modified Proctor method in general accordance with ASTM D 1557. The results of the test are summarized on Figure B-3.

Direct Shear Test

A direct shear test was performed on a remolded sample in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the potential fill material derived from the site soils. The sample was inundated during shearing to represent adverse field conditions. The results are presented on Figure B-4.

Consolidation Test

A consolidation test was performed on a selected relatively undisturbed soil sample in general accordance with ASTM D 2435. The sample was inundated during testing to represent adverse field conditions. The percent of consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The results of the test are summarized on Figure B-5.

R-Value

The resistance value, or R-value, for site soils was evaluated in general accordance with CT 301. Samples were prepared and evaluated for exudation pressure and expansion pressure. The equilibrium R-value is reported as the lesser or more conservative of the two calculated results. The test results are summarized on Figure B-6.

Soil Corrosivity Tests

Soil pH and resistivity tests were performed on representative samples in general accordance with CT 643. The soluble sulfate and chloride content of the selected samples were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are summarized on Figure B-7.

SAMPLE LOCATION	SAMPLE DEPTH (ft)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
B-1	5.0-6.5	POORLY GRADED SAND WITH SILT & GRAVEL	65	5	SP-SM
B-1	7.0-8.5	SILTY SAND WITH GRAVEL	84	41	SM
B-2	0.5-5.0	SILTY SAND WITH GRAVEL	67	18	SM
B-2	10.0-11.5	SILTY SAND WITH GRAVEL	65	16	SM
B-3	5.0-6.5	POORLY GRADED GRAVEL WITH SILT & SAND	52	6	GP-GM
B-3	10.0-11.5	SILTY SAND	100	25	SM
P-1	9.5-11.3	SANDY SILT	100	50	ML
P-2	5.0-6.5	POORLY GRADED GRAVEL WITH SILT & SAND	51	5	GP-GM
P-2	23.5-25.0	POORLY GRADED SAND WITH SILT & GRAVEL	65	9	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

FIGURE B-1

SAMPLE LOCATION	SAMPLE DEPTH (ft)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
P-3B	0.5-5.0	POORLY GRADED SAND WITH SILT & GRAVEL	68	11	SP-SM
P-3B	7.0-8.5	POORLY GRADED SAND WITH GRAVEL	68	4	SP
P-3B	23.5-25.0	POORLY GRADED SAND WITH SILT & GRAVEL	82	11	SP-SM
P-4B	0.5-5.0	POORLY GRADED SAND WITH SILT & GRAVEL	72	12	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

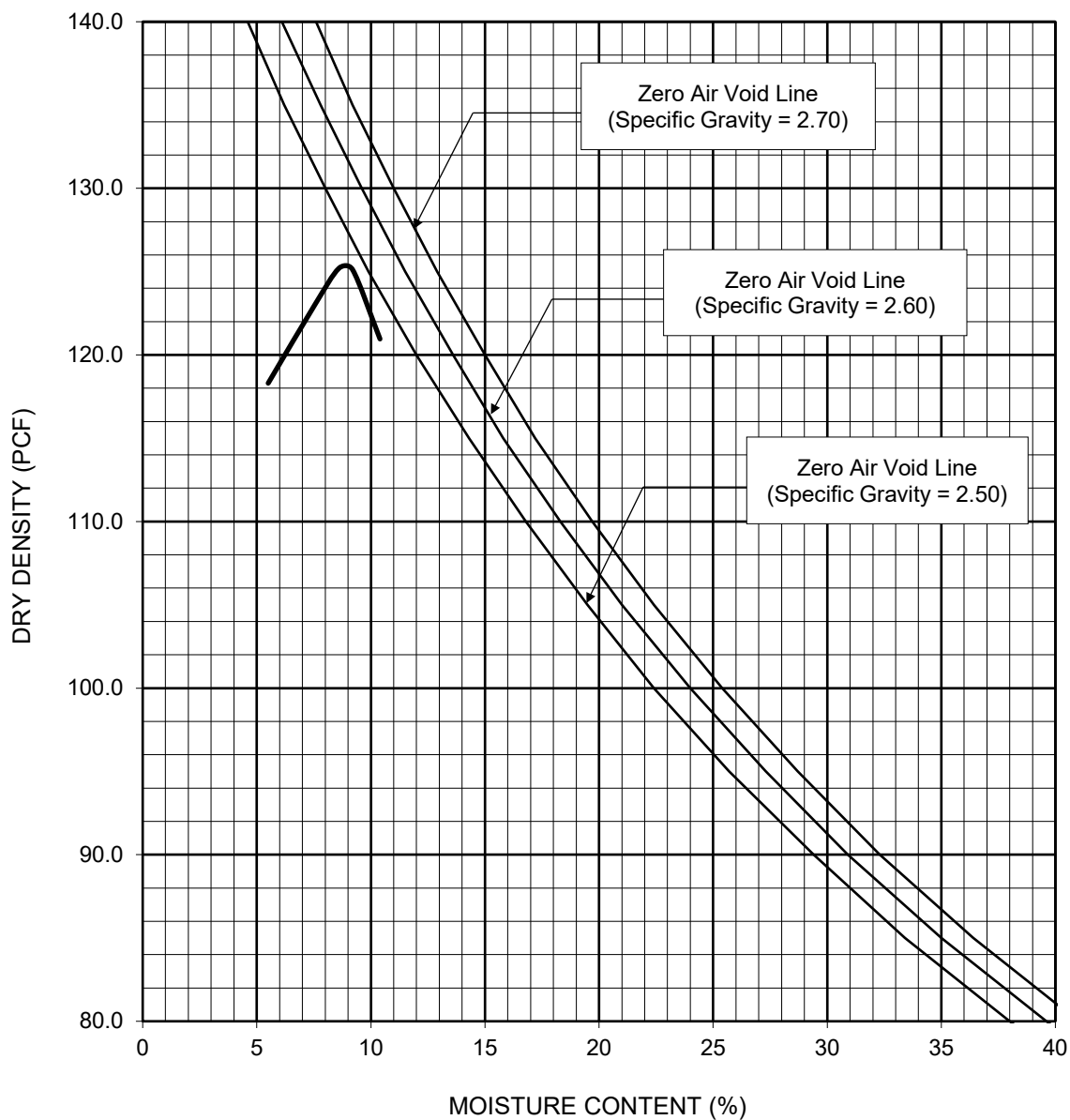
FIGURE B-2

NO. 200 SIEVE ANALYSIS TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

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Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (percent)
P-3B	0.5-5.0	Olive Yellow Poorly Graded SAND with Silt & Gravel	125.2	8.6
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718)			128	8

PERFORMED IN GENERAL ACCORDANCE WITH

☒ ASTM D 1557

☐ ASTM D 698

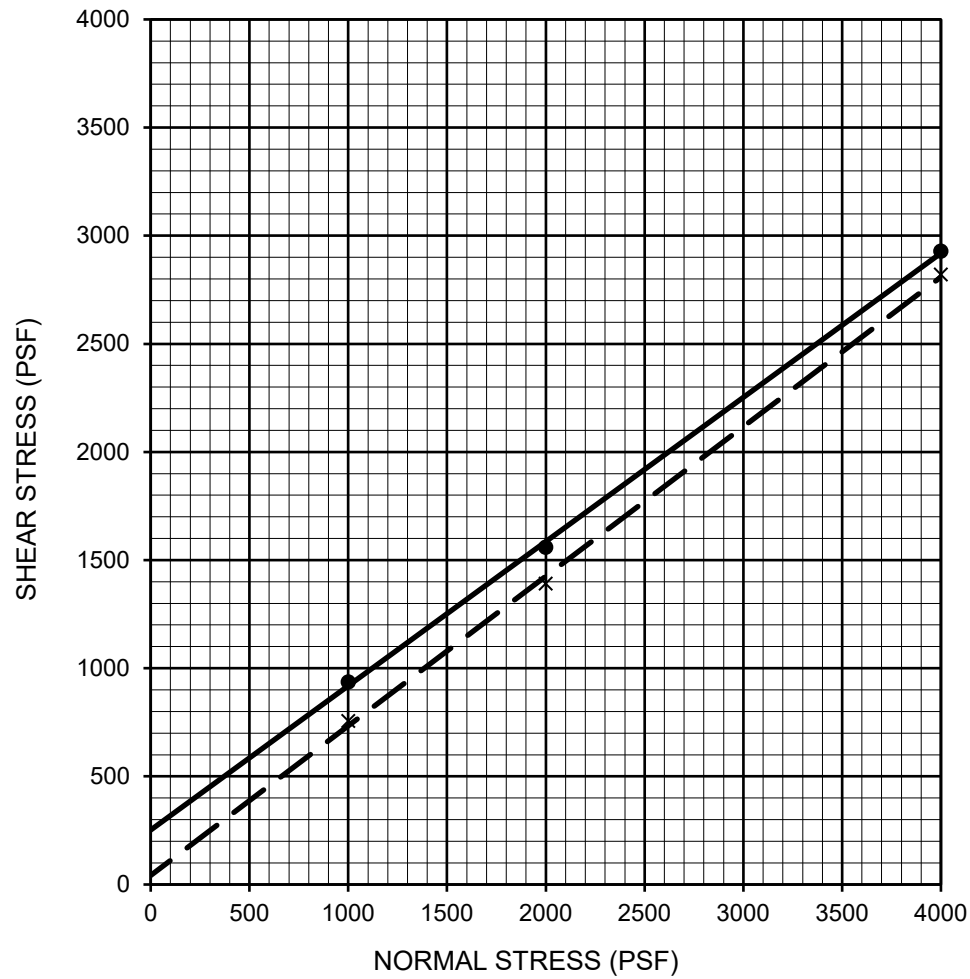
METHOD

☐ A

☐ B

☒ C

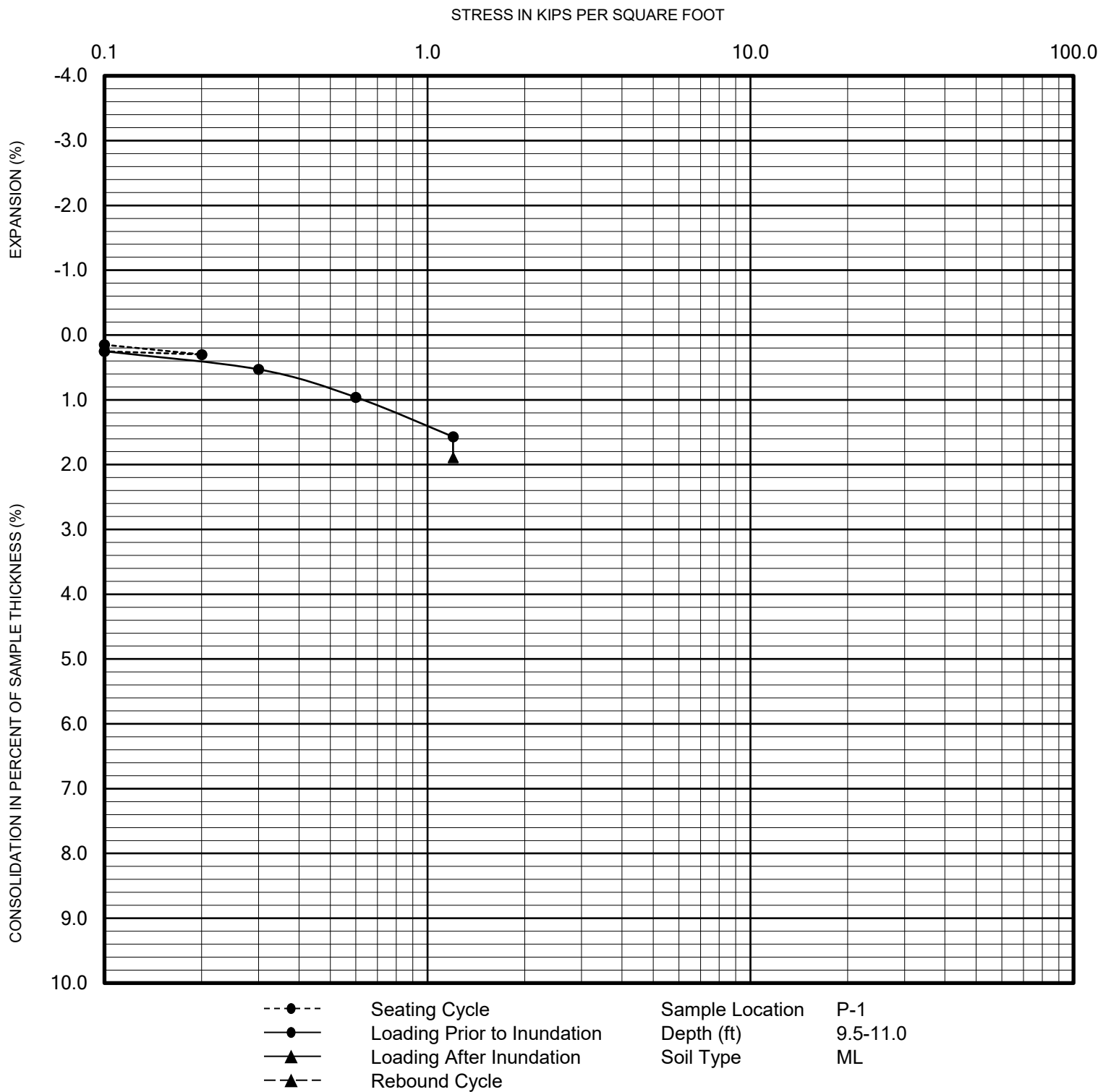
FIGURE B-3



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
POORLY GRADED SAND WITH SILT & GRAVEL	—●—	P-3B	0.5-5.0	Peak	252	34	SP-SM
POORLY GRADED SAND WITH SILT & GRAVEL	- - X - -	P-3B	0.5-5.0	Ultimate	42	35	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080 ON A SAMPLE REMOLDED TO 90% RELATIVE COMPACTION

FIGURE B-4



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435

FIGURE B-5



CONSOLIDATION TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

SAMPLE LOCATION	SAMPLE DEPTH (ft)	SOIL TYPE	R-VALUE
B-2	0.5-5.0	SM	75
P-4B	0.5-5.0	SP-SM	80

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844/CT 301

FIGURE B-6

R-VALUE TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

SAMPLE LOCATION	SAMPLE DEPTH (ft)	pH ¹	RESISTIVITY ¹ (ohm-cm)	SULFATE CONTENT ²		CHLORIDE CONTENT ³ (ppm)
				(ppm)	(%)	
B-3	0.5-5.0	6.1	7,831	10	0.001	10
P-1	0.5-5.0	6.4	15,988	10	0.001	20

¹ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643

² PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417

³ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

FIGURE B-7

CORROSIVITY TEST RESULTS

CITY HALL RENOVATION PHASE II
8353 SIERRA AVENUE, FONTANA, CALIFORNIA

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