



---

**PUBLIC WORKS DEPARTMENT  
10300 TORRE AVENUE  
CUPERTINO, CALIFORNIA 95014**

**PROJECT MANUAL**

**FOR THE**

# **Wilson Park Basketball Court Project**

**Bid Date: November 29, 2022**

**Project Number: 2022-11**

**PROJECT MANUAL FOR  
WILSON PARK BASKETBALL COURT PROJECT  
PROJECT NO. 2022-11**

**APPROVED BY:**

A handwritten signature in black ink, appearing to read "Matt Morley", is written over a solid black horizontal line.

**Matt Morley  
Director of Public Works**

## **PROJECT DIRECTORY**

Project Name: **Wilson Park Basketball Court**

Project Number: **2022-11**

Location: **19784 Wintergreen Drive, Cupertino, CA 95014**

City Representative:

**City of Cupertino**

Susan Michael  
Public Works Department  
10300 Torre Avenue  
Cupertino, CA 95014  
PH: (408) 777-1328  
e-mail: [susanm@cupertino.org](mailto:susanm@cupertino.org)

Address for Stop Notices:

**City of Cupertino**

Susan Michael  
Public Works Department  
10300 Torre Avenue  
Cupertino, CA 95014  
PH: (408) 777-1328  
e-mail: [susanm@cupertino.org](mailto:susanm@cupertino.org)

Engineer of Record:

**MME Civil + Structural Engineering**

Rodney Cahill, PE  
224 Walnut Avenue, Suite B  
Santa Cruz, CA 95060  
PH: (831) 426-3186  
e-mail: [rodney@m-me.com](mailto:rodney@m-me.com)

## SEALS PAGE

The Technical Specifications and Plans have been prepared by or under the direction of the following person(s).



---

Rodney Cahill, P.E.  
**MME Civil + Structural Engineering**

10/27/2022

Date

## TABLE OF CONTENTS

<b>Notice Inviting Bids .....</b>	<b>1</b>
<b>Instructions to Bidders .....</b>	<b>3</b>
<b>Bid Proposal.....</b>	<b>9</b>
<b>Bid Schedule.....</b>	<b>11</b>
<b>Subcontractor List.....</b>	<b>13</b>
<b>Noncollusion Declaration .....</b>	<b>14</b>
<b>Bid Bond.....</b>	<b>15</b>
<b>Bidder's Questionnaire .....</b>	<b>17</b>
<b>Contract .....</b>	<b>20</b>
<b>Payment Bond.....</b>	<b>24</b>
<b>Performance Bond .....</b>	<b>26</b>
<b>General Conditions .....</b>	<b>28</b>
<b>Article 1 - Definitions.....</b>	<b>28</b>
Definitions.....	28
<b>Article 2 - Roles and Responsibilities .....</b>	<b>31</b>
2.1 City .....	31
2.2 Contractor.....	31
2.3 Subcontractors .....	34
2.4 Coordination of Work.....	34
2.5 Submittals.....	35
2.6 Shop Drawings .....	36
<b>Article 3 - Contract Documents.....</b>	<b>36</b>
3.1 Interpretation of Contract Documents .....	36
3.2 Order of Precedence .....	37
3.3 Caltrans Standard Specifications .....	38
3.4 For Reference Only .....	38
3.5 Current Versions .....	39
3.6 Conformed Copies .....	39
<b>Article 4 - Bonds, Indemnity, and Insurance .....</b>	<b>39</b>
4.1 Payment and Performance Bonds .....	39
4.2 Indemnity .....	39
4.3 Insurance.....	40
<b>Article 5 - Contract Time .....</b>	<b>42</b>
5.1 Time is of the Essence .....	42
5.2 Schedule Requirements.....	42
5.3 Delay and Extensions of Contract Time.....	44
5.4 Liquidated Damages .....	47
<b>Article 6 - Contract Modification .....</b>	<b>48</b>
6.1 Contract Modification.....	48
6.2 Contractor Change Order Requests .....	49
6.3 Adjustments to Contract Price.....	50
6.4 Unilateral Change Order .....	51
6.5 Non-Compliance Deemed Waiver.....	51
<b>Article 7 - General Construction Provisions.....</b>	<b>51</b>
7.1 Permits, Fees, Business License, and Taxes .....	51
7.2 Temporary Facilities .....	51
7.3 Noninterference and Site Management .....	52
7.4 Signs.....	52
7.5 Project Site and Nearby Property Protections.....	52
7.6 Materials and Equipment.....	54
7.7 Substitutions .....	54
7.8 Testing and Inspection .....	55

7.9	Project Site Conditions and Maintenance .....	56
7.10	Instructions and Manuals .....	57
7.11	As-built Drawings .....	57
7.12	Existing Utilities .....	58
7.13	Notice of Excavation.....	58
7.14	Trenching and Excavations of Four Feet or More.....	59
7.15	Trenching of Five Feet or More .....	59
7.16	New Utility Connections .....	59
7.17	Lines and Grades. ....	59
7.18	Historic or Archeological Items.....	60
7.19	Environmental Control.....	60
7.20	Noise Control.....	60
7.21	Mined Materials. ....	60
<b>Article 8</b>	<b>- Payment .....</b>	<b>61</b>
8.1	Schedule of Values .....	61
8.2	Progress Payments .....	61
8.3	Adjustment of Payment Application .....	61
8.4	Early Occupancy. ....	62
8.5	Retention .....	62
8.6	Payment to Subcontractors and Suppliers.....	63
8.7	Final Payment .....	63
8.8	Release of Claims .....	64
8.9	Warranty of Title .....	64
<b>Article 9</b>	<b>- Labor Provisions .....</b>	<b>64</b>
9.1	Discrimination Prohibited.....	64
9.2	Labor Code Requirements .....	64
9.3	Prevailing Wages .....	64
9.4	Payroll Records .....	65
9.5	Labor Compliance .....	65
<b>Article 10</b>	<b>- Safety Provisions .....</b>	<b>65</b>
10.1	Safety Precautions and Programs .....	65
10.2	Hazardous Materials .....	66
10.3	Material Safety .....	66
10.4	Hazardous Condition.....	66
10.5	Emergencies .....	67
<b>Article 11</b>	<b>- Completion and Warranty Provisions.....</b>	<b>67</b>
11.1	Final Completion .....	67
11.2	Warranty .....	68
11.3	Use Prior to Final Completion .....	69
11.4	Substantial Completion .....	69
<b>Article 12</b>	<b>- Dispute Resolution .....</b>	<b>69</b>
12.1	Claims.....	69
12.2	Claims Submission.....	70
12.3	City's Response .....	71
12.4	Meet and Confer.....	72
12.5	Mediation and Government Code Claims .....	72
12.6	Tort Claims .....	73
12.7	Arbitration .....	73
12.8	Burden of Proof and Limitations.....	73
12.9	Legal Proceedings.....	73
12.10	Other Disputes .....	73
<b>Article 13</b>	<b>- Suspension and Termination.....</b>	<b>73</b>
13.1	Suspension for Cause .....	73
13.2	Suspension for Convenience .....	74
13.3	Termination for Default.....	74
13.4	Termination for Convenience .....	75

13.5	Actions Upon Termination for Default or Convenience .....	76
<b>Article 14 - Miscellaneous Provisions</b> .....		<b>77</b>
14.1	Assignment of Unfair Business Practice Claims .....	77
14.2	Provisions Deemed Inserted .....	77
14.3	Waiver .....	77
14.4	Titles, Headings, and Groupings .....	77
14.5	Statutory and Regulatory References .....	77
14.6	Survival.....	77
<b>Special Conditions</b> .....		<b>79</b>
<b>Technical Specifications</b> .....		<b>85</b>
<b>Appendix A – Geotechnical Investigation (FOR REFERENCE ONLY)</b> .....		<b>187</b>

## Notice Inviting Bids

1. **Bid Submission.** City of Cupertino ("City") will accept electronically submitted bids for its **WILSON PARK BASKETBALL COURT PROJECT** ("Project"), by or before **November 29, 2022, at 2:00 p.m.**, via electronic submission to the City's "Business Opportunities" online portal in the manner set forth in Section 1 of the Instructions to Bidders, at which time the bids will be opened by the City.
2. **Project Information.**
  - 2.1 **Location and Description.** The Project is located at 19784 Wintergreen Drive, Cupertino, CA 95014, and is described as follows:  
Installation of a new full-size outdoor basketball court, walkway, storm drainage system, and associated improvements.
  - 2.2 **Time for Final Completion.** The Project must be fully completed within 90 calendar days from the start date set forth in the Notice to Proceed. City anticipates that the Work will begin on or about January 16, 2023, but the anticipated start date is provided solely for convenience and is neither certain nor binding.
3. **License and Registration Requirements.**
  - 3.1 **License.** This Project requires a valid California contractor's license for the following classification(s): Class A-General Engineering Contractor.
  - 3.2 **DIR Registration.** City may not accept a Bid Proposal from or enter into the Contract with a bidder, without proof that the bidder is registered with the California Department of Industrial Relations ("DIR") to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.
4. **Contract Documents.** The plans, specifications, bid forms and contract documents for the Project, and any addenda thereto ("Contract Documents") may be downloaded from City's website located at: <https://apps.cupertino.org/bidmanagement/index.aspx>. A printed copy of the Contract Documents are not available.
5. **Bid Security.** Each bidder must submit bid security equal to ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to City, or a bid bond executed by a surety licensed to do business in the State of California on the Bid Bond form included with the Contract Documents, in the manner set forth in Section 4 of the Instructions to Bidders. The bid security must guarantee that within ten days after City issues the Notice of Potential Award, the successful bidder will execute the Contract and submit the payment and performance bonds, insurance certificates and endorsements, and any other submittals required by the Contract Documents and as specified in the Notice of Potential Award.
6. **Prevailing Wage Requirements.**
  - 6.1 **General.** Pursuant to California Labor Code § 1720 et seq., this Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes.
  - 6.2 **Rates.** These prevailing rates are on file with the City and are available online at <http://www.dir.ca.gov/DLSR>. Each Contractor and Subcontractor must pay no less



than the specified rates to all workers employed to work on the Project. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work must be at least time and one-half.

- 6.3 Compliance.** The Contract will be subject to compliance monitoring and enforcement by the DIR, under Labor Code § 1771.4.
- 7. Performance and Payment Bonds.** The successful bidder will be required to provide performance and payment bonds, each for 100% of the Contract Price, as further specified in the Contract Documents.
- 8. Substitution of Securities.** Substitution of appropriate securities in lieu of retention amounts from progress payments is permitted under Public Contract Code § 22300.
- 9. Subcontractor List.** Each Subcontractor must be registered with the DIR to perform work on public projects. Each bidder must submit a completed Subcontractor List form with its Bid Proposal, including the name, location of the place of business, California contractor license number, DIR registration number, and percentage of the Work to be performed (based on the base bid price) for each Subcontractor that will perform Work or service or fabricate or install Work for the prime contractor in excess of one-half of 1% of the bid price, using the Subcontractor List form included with the Contract Documents.
- 10. Instructions to Bidders.** All bidders should carefully review the Instructions to Bidders for more detailed information before submitting a Bid Proposal. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, as defined therein, including this Notice Inviting Bids.

By: Kirsten Squarcia Date: 11/4/22  
Kirsten Squarcia, City Clerk

Publication Date: 11/11/22 & 11/18/22

END OF NOTICE INVITING BIDS

## Instructions to Bidders

Each Bid Proposal submitted to the City of Cupertino ("City") for its Wilson Park Basketball Court Project ("Project") must be submitted in accordance with the following instructions and requirements:

### 1. Bid Submission.

- 1.1 General.** Each Bid Proposal must be signed and submitted to City, using the form provided in the Contract Documents, by or before the date and time set forth in Section 1 of the Notice Inviting Bids, or as amended by subsequent addendum, via electronic submission only as specified below in Section 1.2. Faxed, hand-delivered, mailed, or emailed Bid Proposals will not be accepted, unless otherwise specified. Late submissions will not be considered. City reserves the right to postpone the date or time for receiving or opening bids. Each bidder is solely responsible for all of its costs to prepare and submit its bid and by submitting a bid waives any right to recover those costs from City. The bid price(s) must include all costs to perform the Work as specified, including all labor, material, supplies, and equipment and all other direct or indirect costs such as applicable taxes, insurance and overhead.
- 1.2 Electronic Submission.** The Bid Proposal and all required forms and attachments must be submitted in PDF format on the City's "Business Opportunities" portal at <https://apps.cupertino.org/bidmanagement/index.aspx>. To submit a bid, (1) select the folder icon in the "Actions" column for the Project; (2) select the "Electronic Submission" tab; (3) when the log-in screen appears, enter the log-in credentials used to access the Contract Documents and/or create an account, as appropriate; (4) after logging in, carefully follow all instructions for electronic submission of the Bid Proposal and all required forms and attachments. Each bidder should familiarize itself with the City's "Business Opportunities" portal before the bid deadline. Electronic submission may take more time than anticipated. Each bidder should plan accordingly and afford itself ample time to upload its bid. Bids that are in the process of uploading but are not completely uploaded by the bid deadline will be automatically rejected by the portal. The portal will not allow submission after the bid deadline. On the next Working Day following the bid opening, the City will post the bid results to <https://apps.cupertino.org/bidmanagement/index.aspx>.
- 1.3 DIR Registration.** Subject to limited legal exceptions for joint venture bids and federally-funded projects, City may not accept a Bid Proposal from a bidder without proof that the bidder is registered with the DIR to perform public work under Labor Code § 1725.5. If City is unable to confirm that the bidder is currently registered with the DIR, City may disqualify the bidder without opening its bid. (Labor Code §§ 1725.5 and 1771.1(a).)

- 2. Bid Proposal Form and Enclosures.** Each Bid Proposal must be completed legibly using the Bid Proposal form included with the Contract Documents. The Bid Proposal form must be fully completed without interlineations, alterations, or erasures. Any necessary corrections must be clear and legible and must be initialed by the bidder's authorized representative. A Bid Proposal submitted with exceptions or terms such as "negotiable," "will negotiate," or similar, will be considered nonresponsive. Each Bid Proposal must be accompanied by a completed Subcontractor List and Non-Collusion Declaration using the forms included with the Contract Documents, a PDF copy of the bid security, and any additional forms required by the Notice Inviting Bids or Instructions to Bidders. In addition to

submitting a PDF copy of the bid security, each bidder must also send the original form of bid security to the City, as set forth in Section 4, below.

3. **Authorization and Execution.** Each Bid Proposal must be signed by the bidder's authorized representative. A Bid Proposal submitted by a partnership must be signed in the partnership name by a general partner with authority to bind the partnership. A Bid Proposal submitted by a corporation must be signed with the legal name of the corporation, followed by the signature and title of two officers of the corporation with full authority to bind the corporation to the terms of the Bid Proposal, under California Corporation Code § 313.
4. **Bid Security.** Each bid must be guaranteed by bid security of ten percent of the maximum bid amount, in the form of a cashier's or certified check made payable to the City, or bid bond using the form included in the Contract Documents and executed by a surety licensed to do business in the State of California.
  - 4.1 **Form of Security and Submission.** In addition to submitting a PDF copy of the bid security, the wet-inked original bid bond, cashier's or certified check, must be sent to the City via U.S. Mail or a reliable overnight delivery service in a sealed envelope addressed to City of Cupertino, Office of the City Clerk, 10300 Torre Avenue, Cupertino, CA 95014 and clearly labeled with the bidder's legal name and address, the Project title, and date and time of the bid deadline. The envelope containing the original form of bid security must be postmarked or otherwise dated to show that it was submitted to the United States Postal Service or overnight delivery service by or before the date of the bid deadline.
  - 4.2 **Bid Guarantee.** The bid security must guarantee that, within ten days after issuance of the Notice of Potential Award, the bidder will: execute and submit the enclosed Contract for the bid price; submit payment and performance bonds for 100% of the maximum Contract Price; and submit the insurance certificates and endorsements and any other submittals, if any, required by the Contract Documents or the Notice of Potential Award. A Bid Proposal may not be withdrawn for a period of 60 days after the bid opening without forfeiture of the bid security, except as authorized for material error under Public Contract Code § 5100 et seq.
5. **Requests for Information.** Questions or requests for clarifications regarding the Project, the bid procedures, or any of the Contract Documents must be submitted in writing to Susan Michael, Public Works CIP Manager, at [susanm@cupertino.org](mailto:susanm@cupertino.org). Oral responses are not authorized and are not binding on the City. Bidders should submit any such written inquiries at least five Working Days before the scheduled bid opening. Questions received any later might not be addressed before the bid deadline. An interpretation or clarification by City in response to a written inquiry will be issued in an addendum.
6. **Pre-Bid Investigation.**
  - 6.1 **General.** Each bidder is solely responsible at its sole expense for diligent and thorough review of the Contract Documents, examination of the Project site, and reasonable and prudent inquiry concerning known and potential site and area conditions prior to submitting a Bid Proposal. Each bidder is responsible for knowledge of conditions and requirements which reasonable review and investigation would have disclosed. However, except for any areas that are open to the public at large, bidders may not enter property owned or leased by the City or the Project site without prior written authorization from City.
  - 6.2 **Document Review.** Each bidder is responsible for review of the Contract Documents and any informational documents provided "For Reference Only," e.g.,

as-builts, technical reports, test data, and the like. A bidder is responsible for notifying City of any errors, omissions, inconsistencies, or conflicts it discovers in the Contract Documents, acting solely in its capacity as a contractor and subject to the limitations of Public Contract Code § 1104. Notification of any such errors, omissions, inconsistencies, or conflicts must be submitted in writing to the City no later than five Working Days before the scheduled bid opening. (See Section 5, above.) City expressly disclaims responsibility for assumptions a bidder might draw from the presence or absence of information provided by City.

**6.3 Project Site.** Questions regarding the availability of soil test data, water table elevations, and the like should be submitted to the City in writing, as specified in Section 5, above. Any subsurface exploration at the Project site must be done at the bidder's expense, but only with prior written authorization from City. All soil data and analyses available for inspection or provided in the Contract Documents apply only to the test hole locations. Any water table elevation indicated by a soil test report existed on the date the test hole was drilled. The bidder is responsible for determining and allowing for any differing soil or water table conditions during construction. Because groundwater levels may fluctuate, difference(s) in elevation between ground water shown in soil boring logs and ground water actually encountered during Project construction will not be considered changed Project site conditions. Actual locations and depths must be determined by bidder's field investigation. The bidder may request access to underlying or background information on the Project site in City's possession that is necessary for the bidder to form its own conclusions, including, if available, record drawings or other documents indicating the location of subsurface lines, utilities, or other structures.

**6.4 Utility Company Standards.** The Project must be completed in a manner that satisfies the standards and requirements of any affected utility companies or agencies (collectively, "utility owners"). The successful bidder may be required by the third party utility owners to provide detailed plans prepared by a California registered civil engineer showing the necessary temporary support of the utilities during coordinated construction work. Bidders are directed to contact the affected third party utility owners about their requirements before submitting a Bid Proposal.

- 7. Bidders Interested in More Than One Bid.** No person, firm, or corporation may submit or be a party to more than one Bid Proposal unless alternate bids are specifically called for. However, a person, firm, or corporation that has submitted a subcontract proposal or quote to a bidder may submit subcontract proposals or quotes to other bidders.
- 8. Addenda.** Any addenda issued prior to the bid opening are part of the Contract Documents. Subject to the limitations of Public Contract Code § 4104.5, City reserves the right to issue addenda prior to bid time. Each bidder is solely responsible for ensuring it has received and reviewed all addenda prior to submitting its bid. Bidders should check City's website periodically for any addenda or updates on the Project at:  
<http://www.apps.cupertino.org/bidmanagment/index.aspx>.
- 9. Brand Designations and "Or Equal" Substitutions.** Any specification designating a material, product, thing, or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate quality and type of item desired, and bidders may request use of any equal material, product, thing, or service. All data substantiating the proposed substitute as an equal item must be submitted with the written request for substitution. A request for substitution must be submitted within 35 days after Notice of Potential Award unless otherwise provided in the Contract Documents. This provision does not apply to materials, products, things, or services that may lawfully be designated by a specific brand or trade name under Public Contract Code § 3400(c).

- 10. Bid Protest.** Any bid protest against another bidder must be submitted in writing and received by City at 10300 Torre Avenue, Cupertino CA 95014 or sent via email at [susanm@cupertino.org](mailto:susanm@cupertino.org) before 5:00 p.m. no later than two Working Days following the date upon which the City posts the bid results ("Bid Protest Deadline") and must comply with the following requirements:
- 10.1 General.** Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. If required by City, the protesting bidder must submit a non-refundable fee in the amount specified by City, based upon City's reasonable costs to administer the bid protest. Any such fee must be submitted to City no later than the Bid Protest Deadline, unless otherwise specified. For purposes of this Section 10, a "Working Day" means a day that City is open for normal business, and excludes weekends and holidays observed by City. Pursuant to Public Contract Code § 4104, inadvertent omission of a Subcontractor's DIR registration number on the Subcontractor List form is not grounds for a bid protest, provided it is corrected within 24 hours of the bid opening or as otherwise provided under Labor Code § 1771.1(b).
- 10.2 Protest Contents.** The bid protest must contain a complete statement of the basis for the protest and must include all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the *specific* portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the protesting bidder and any person submitting the protest on behalf of or as an authorized representative of the protesting bidder.
- 10.3 Copy to Protested Bidder.** Upon submission of its bid protest to City, the protesting bidder must also concurrently transmit the protest and all supporting documents to the protested bidder, and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest, by email or hand delivery to ensure delivery before the Bid Protest Deadline.
- 10.4 Response to Protest.** The protested bidder may submit a written response to the protest, provided the response is received by City before 5:00 p.m., within two Working Days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must attach all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person responding on behalf of or representing the protested bidder if different from the protested bidder.
- 10.5 Copy to Protesting Bidder.** Upon submission of its response to the bid protest to the City, the protested bidder must also concurrently transmit by email or hand delivery, by or before the Response Deadline, a copy of its response and all supporting documents to the protesting bidder and to any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- 10.6 Exclusive Remedy.** The procedure and time limits set forth in this Section are mandatory and are the bidder's sole and exclusive remedy in the event of a bid protest. A bidder's failure to comply with these procedures will constitute a waiver

of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

- 10.7 Right to Award.** City reserves the right, acting in its sole discretion, to reject any bid protest that it determines lacks merit, to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a Notice to Proceed with the Work notwithstanding any pending or continuing challenge to its determination.
- 11. Reservation of Rights.** City reserves the unfettered right, acting in its sole discretion, to waive or to decline to waive any immaterial bid irregularities; to accept or reject any or all bids; to cancel or reschedule the bid; to postpone or abandon the Project entirely; or to perform all or part of the Work with its own forces. The Contract will be awarded, if at all, within 60 days after opening of bids or as otherwise specified in the Special Conditions, to the responsible bidder that submitted the lowest responsive bid. Any planned start date for the Project represents the City's expectations at the time the Notice Inviting Bids was first issued. City is not bound to issue a Notice to Proceed by or before such planned start date, and it reserves the right to issue the Notice to Proceed when the City determines, in its sole discretion, the appropriate time for commencing the Work. The City expressly disclaims responsibility for any assumptions a bidder might draw from the presence or absence of information provided by the City in any form. Each bidder is solely responsible for its costs to prepare and submit a bid, including site investigation costs.
- 12. Bonds.** Within ten calendar days following City's issuance of the Notice of Potential Award to the apparent low bidder, the bidder must submit payment and performance bonds to City as specified in the Contract Documents using the bond forms included in the Contract Documents. All required bonds must be calculated on the maximum total Contract Price as awarded, including additive alternates, if applicable.
- 13. License(s).** The successful bidder and its Subcontractor(s) must possess the California contractor's license(s) in the classification(s) required by law to perform the Work. The successful bidder must also obtain a City business license within 5 days following City's issuance of the Notice of Potential Award. Subcontractors must also obtain a City business license before performing any Work.
- 14. Ineligible Subcontractor.** Any Subcontractor who is ineligible to perform work on a public works project under Labor Code §§ 1777.1 or 1777.7 is prohibited from performing work on the Project.
- 15. Safety Orders.** If the Project includes construction of a pipeline, sewer, sewage disposal system, boring and jacking pits, or similar trenches or open excavations, which are five feet or deeper, each bid must include a bid item for adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life or limb, which comply with safety orders as required by Labor Code § 6707.
- 16. Subcontractor Work Limits.** The prime contractor must perform at least 51% of the Work on the Project, calculated as a percentage of the base bid price, with its own forces, except for any Work identified as "Specialty Work" in the Contract Documents. The total bid amount for any such Specialty Work, as shown on the Bid Schedule, may be deducted from the base bid price before computing the 51% self-performance requirement. The remaining Work may be performed by qualified Subcontractor(s).
- 17. Additive and Deductive Alternates.** As required by Public Contract Code § 20103.8, if this bid solicitation includes additive or deductive items, the method checked below will be used to determine the lowest bid. If no method is checked, subparagraph (A) will be used to

determine the lowest bid. City retains the right to add to or deduct from the Contract any of the additive or deductive alternates included in the Bid Proposal.

\_\_\_\_ (A) The lowest bid will be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

  X   (B) The lowest bid will be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Proposal as being used for the purpose of determining the lowest bid price.

\_\_\_\_ (C) The lowest bid will be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by City before the first bid is opened.

\_\_\_\_ (D) The lowest bid will be determined in a manner that prevents any information that would identify any of the bidders or the proposed subcontractors or suppliers from being revealed to City before the ranking of all bidders from lowest to highest has been determined.

18. **Bid Schedule.** Each bidder must complete the Bid Schedule form with unit prices as indicated, and submit the completed Bid Schedule with its Bid Proposal.

**18.1 Incorrect Totals.** In the event a computational error for any bid item (base bid or alternate) results in an incorrect extended total for that item, the submitted base bid or bid alternate total will be adjusted to reflect the corrected amount as the product of the estimated quantity and the unit cost. In the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid, and the amount entered as the base bid on the Bid Proposal form, the actual total of the itemized or unit prices shown on the Bid Schedule for the base bid will be deemed the base bid price. Likewise, in the event of a discrepancy between the actual total of the itemized or unit prices shown on the Bid Schedule for any bid alternate, and the amount entered for the alternate on the Bid Proposal form, the actual total of the itemized prices shown on the Bid Schedule for that alternate will be deemed the alternate price. Nothing in this provision is intended to prevent a bidder from requesting to withdraw its bid for material error under Public Contract Code § 5100 et seq.

**18.2 Estimated Quantities.** The quantities shown on the Bid Schedule are estimated and the actual quantities required to perform the Work may be greater or less than the estimated amount. The Contract Price will be adjusted to reflect the actual quantities required for the Work based on the itemized or unit prices provided in the Bid Schedule, with no allowance for anticipated profit for quantities that are deleted or decreased, and no increase in the unit price, and without regard to the percentage increase or decrease of the estimated quantity and the actual quantity.

19. **Bidder's Questionnaire.** A completed, signed Bidder's Questionnaire using the form provided with the Contract Documents and including all required attachments must be submitted within 48 hours following a request by City. A bid that does not fully comply with this requirement may be rejected as nonresponsive. A bidder who submits a Bidder's Questionnaire which is subsequently determined to contain false or misleading information, or material omissions, may be disqualified as non-responsible.

END OF INSTRUCTIONS TO BIDDERS

## Bid Proposal

### Wilson Park Basketball Court Project

\_\_\_\_\_ (“Bidder”) hereby submits this Bid Proposal to City of Cupertino (“City”) for the above-referenced project (“Project”) in response to the Notice Inviting Bids and in accordance with the Contract Documents referenced in the Notice.

1. **Base Bid.** Bidder proposes to perform and fully complete the Work for the Project as specified in the Contract Documents, within the time required for full completion of the Work, including all labor, materials, supplies, and equipment and all other direct or indirect costs including, but not limited to, taxes, insurance and all overhead for the following price (“Base Bid”):  
\$ \_\_\_\_\_

2. **Bid Alternate.** Bidder submits the following prices for the specified bid alternate:

Bid Alternate No. 1: Court and Walkway Lime Treated Sub-base  
Add/Deduct: \$ \_\_\_\_\_

3. **Addenda.** Bidder agrees that it has confirmed receipt of or access to, and reviewed, all addenda issued for this Bid. Bidder waives any claims it might have against the City based on its failure to receive, access, or review any addenda for any reason. Bidder specifically acknowledges receipt of the following addenda:

Addendum:	Date Received:	Addendum:	Date Received:
#01	_____	#05	_____
#02	_____	#06	_____
#03	_____	#07	_____
#04	_____	#08	_____

4. **Bidder’s Certifications and Warranties.** By signing and submitting this Bid Proposal, Bidder certifies and warrants the following:

- 4.1 **Examination of Contract Documents.** Bidder has thoroughly examined the Contract Documents and represents that, to the best of Bidder’s knowledge, there are no errors, omissions, or discrepancies in the Contract Documents, subject to the limitations of Public Contract Code § 1104.
- 4.2 **Examination of Worksite.** Bidder has had the opportunity to examine the Worksite and local conditions at the Project location.
- 4.3 **Bidder Responsibility.** Bidder is a responsible bidder, with the necessary ability, capacity, experience, skill, qualifications, workforce, equipment, and resources to perform or cause the Work to be performed in accordance with the Contract Documents and within the Contract Time.
- 4.4 **Responsibility for Bid.** Bidder has carefully reviewed this Bid Proposal and is solely responsible for any errors or omissions contained in its completed Bid. All statements and information provided in this Bid Proposal and enclosures are true and correct to the best of Bidder’s knowledge.
- 4.5 **Nondiscrimination.** In preparing this Bid, the Bidder has not engaged in discrimination against any prospective or present employee or Subcontractor on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status.



**4.6 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Bidder is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.

**5. Award of Contract.** By signing and submitting this Bid Proposal, Bidder agrees that if Bidder is awarded the Contract for the Project, within ten days following issuance of the Notice of Potential Award to Bidder, Bidder will do all of the following:

**5.1 Execute Contract.** Enter into the Contract with City in accordance with the terms of this Bid Proposal, by signing and submitting to City the Contract prepared by City using the form included with the Contract Documents;

**5.2 Submit Required Bonds.** Submit to City a payment bond and a performance bond, each for 100% of the Contract Price, using the bond forms provided and in accordance with the requirements of the Contract Documents; and

**5.3 Insurance Requirements.** Submit to City the insurance certificate(s) and endorsement(s) as required by the Contract Documents.

**6. Bid Security.** As a guarantee that, if awarded the Contract, Bidder will perform its obligations under Section 4 above, Bidder is enclosing bid security in the amount of ten percent of its maximum bid amount in one of the following forms (check one):

\_\_\_\_\_ A cashier's check or certified check payable to City and issued by  
\_\_\_\_\_ [Bank name] in the amount of  
\$ \_\_\_\_\_.

\_\_\_\_\_ A bid bond, using the Bid Bond form included with the Contract Documents, payable to City and executed by a surety licensed to do business in the State of California.

This Bid Proposal is hereby submitted on \_\_\_\_\_, 20\_\_.

s/ \_\_\_\_\_

\_\_\_\_\_  
Name and Title

s/ \_\_\_\_\_  
[See Section 3 of Instructions to Bidders]

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
License #, Expiration Date, and Classification

\_\_\_\_\_  
Address

\_\_\_\_\_  
DIR Registration #

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Contact Name

\_\_\_\_\_  
Contact Email

END OF BID PROPOSAL

### Bid Schedule

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal form.

AL = Allowance      CF = Cubic Feet      CY = Cubic Yard      EA = Each      LB = Pounds  
 LF = Linear Foot      LS = Lump Sum      SF = Square Feet      TON = Ton (2000 lbs)

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
<b>BASE BID</b>					
1	Mobilization	1	LS	\$	\$
2	Modify Irrigation	1	LS	\$	\$
3	Clearing and Grubbing	1	LS	\$	\$
4	Temporary Construction Fencing	1	LS	\$	\$
5	Temporary Drainage Inlet Protection	1	EA	\$	\$
6	Remove Existing Drainage Inlet and Piping	1	LS	\$	\$
7	Remove Asphalt Walkway	910	SF	\$	\$
8	Court and Walkway Excavation	925	CY	\$	\$
9	Imported Engineered Fill	799	CY	\$	\$
10	Class 2 Aggregate Base	119	CY	\$	\$
11	Minor Concrete Walkway	1,205	SF	\$	\$
12	Contour Grading Backfill	925	CY	\$	\$
13	Hot Mix Asphalt (Type A)	128	TON	\$	\$
14	Concrete Mowband	308	LF	\$	\$
15	24" CIDH Pier	2	EA	\$	\$
16	Drainage Swale with Underdrain, Inlet, & Cleanouts	1	LS	\$	\$
17	Basketball Hoop Equipment	2	EA	\$	\$
18	Surface Paint System	6,000	SF	\$	\$
19	Line Marking	1	LS	\$	\$
20	Hydroseed Disturbed Areas	1	LS	\$	\$

TOTAL BASE BID: Items 1 through 20 inclusive: \$ \_\_\_\_\_

*Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.*

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
<b>ALTERNATE NO. 1 BID</b>					
<b>A-1.1</b>	Deduct Court and Walkway Excavation	785	CY	\$	\$
<b>A-1.2</b>	Deduct Contour Grading Backfill	785	CY	\$	\$
<b>A-1.3</b>	Deduct Imported Engineered Fill	799	CY	\$	\$
<b>A-1.4</b>	Court and Walkway Lime Treated Sub-Base	599	CY	\$	\$

TOTAL BID ALTERNATE NO. 1: Items A-1.1 through A-1.4 inclusive: \$\_\_\_\_\_

*Note: The amount entered as the "Total Bid Alternate No. 1" should be identical to the Bid Alternate amount entered in Section 1 of the Bid Proposal form.*

BIDDER NAME: \_\_\_\_\_

END OF BID SCHEDULE

### Subcontractor List

For each Subcontractor that will perform a portion of the Work in an amount in excess of one-half of 1% of the Bidder's total Contract Price,<sup>1</sup> the bidder must list a description of the Work, the name of the Subcontractor, its California contractor license number, the location of its place of business, its DIR registration number, and the portion of the Work that the Subcontractor is performing based on a percentage of the Base Bid price.

DESCRIPTION OF WORK	SUBCONTRACTOR NAME	CALIFORNIA CONTRACTOR LICENSE NO.	LOCATION OF BUSINESS	DIR REG. NO.	PERCENT OF WORK

END OF SUBCONTRACTOR LIST

<sup>1</sup> For street or highway construction this requirement applies to any subcontract of \$10,000 or more.

### Noncollusion Declaration

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the \_\_\_\_\_ [title] of \_\_\_\_\_  
[business name], 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.

This declaration is intended to comply with California Public Contract Code § 7106 and Title 23 U.S.C § 112.

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].

s/ \_\_\_\_\_

\_\_\_\_\_  
Name [print]

END OF NONCOLLUSION DECLARATION

## Bid Bond

\_\_\_\_\_ ("Bidder") has submitted a bid, dated \_\_\_\_\_, 20\_\_\_\_ ("Bid"), to City of Cupertino ("City") for work on the Wilson Park Basketball Court Project ("Project"). Under this duly executed bid bond ("Bid Bond"), Bidder as Principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee in the penal sum of ten percent of the maximum amount of the Bid (the "Bond Sum"). Bidder and Surety bind themselves and their respective heirs, executors, administrators, successors and assigns, jointly and severally, as follows:

1. **General.** If Bidder is awarded the Contract for the Project, Bidder will enter into the Contract with City in accordance with the terms of the Bid.
2. **Submittals.** Within ten days following issuance of the Notice of Potential Award to Bidder, Bidder must submit to City the following:
  - 2.1 **Contract.** The executed Contract, using the form provided by City in the Project contract documents ("Contract Documents");
  - 2.2 **Payment Bond.** A payment bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Payment Bond form included with the Contract Documents;
  - 2.3 **Performance Bond.** A performance bond for 100% of the maximum Contract Price, executed by a surety licensed to do business in the State of California using the Performance Bond form included with the Contract Documents; and
  - 2.4 **Insurance.** The insurance certificate(s) and endorsement(s) required by the Contract Documents, and any other documents required by the Instructions to Bidders or Notice of Potential Award.
3. **Enforcement.** If Bidder fails to execute the Contract and to submit the bonds and insurance certificates as required by the Contract Documents, Surety guarantees that Bidder forfeits the Bond Sum to City. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:

Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_
4. **Duration and Waiver.** If Bidder fulfills its obligations under Section 2, above, then this obligation will be null and void; otherwise it will remain in full force and effect for 60 days following the bid opening or until this Bid Bond is returned to Bidder, whichever occurs first. Surety waives the provisions of Civil Code §§ 2819 and 2845.

*[Signatures are on the following page.]*

This Bid Bond is entered into and effective on \_\_\_\_\_, 20\_\_\_\_.

**SURETY:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

**BIDDER:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

END OF BID BOND

## Bidder's Questionnaire

### WILSON PARK BASKETBALL COURT PROJECT

Within 48 hours following a request by City, a bidder must submit to City a completed, signed Bidder's Questionnaire using this form and all required attachments, including clearly labeled additional sheets as needed. City may request the Questionnaire from one or more of the apparent low bidders following the bid opening, and may use the completed Questionnaire as part of its investigation to evaluate a bidder's qualifications for this Project. The Questionnaire must be filled out completely, accurately, and legibly. Any errors, omissions, or misrepresentations in completion of the Questionnaire may be grounds for rejection of the bid or termination of a Contract awarded pursuant to the bid.

#### Part A: General Information

Bidder Business Name: \_\_\_\_\_ ("Bidder")

Check One:    ☐ Corporation (State of incorporation: \_\_\_\_\_)  
                  ☐ Partnership  
                  ☐ Sole Proprietorship  
                  ☐ Joint Venture of: \_\_\_\_\_  
                  ☐ Other: \_\_\_\_\_

Main Office Address and Phone: \_\_\_\_\_  
\_\_\_\_\_

Local Office Address and Phone: \_\_\_\_\_  
\_\_\_\_\_

Website address: \_\_\_\_\_

Owner of Business: \_\_\_\_\_

Contact Name and Title: \_\_\_\_\_

Contact Phone and Email: \_\_\_\_\_

Bidder's California Contractor's License Number(s): \_\_\_\_\_

Bidder's DIR Registration Number: \_\_\_\_\_

#### Part B: Bidder Experience

1. How many years has Bidder been in business under its present business name? \_\_\_\_\_ years
2. Has Bidder completed projects similar in type and size to this Project as a general contractor?  
\_\_\_\_\_ Yes      \_\_\_\_\_ No
3. Has Bidder ever been disqualified from a bid on grounds that it is not responsible, or otherwise disqualified or disbarred from bidding under state or federal law?  
\_\_\_\_\_ Yes      \_\_\_\_\_ No



If yes, provide additional information on a separate sheet regarding the disqualification or disbarment, including the name and address of the agency or owner of the project, the type and size of the project, the reasons that Bidder was disqualified or disbarred, and the month and year in which the disqualification or disbarment occurred.

4. Has Bidder ever been terminated for cause, alleged default, or legal violation from a construction project, either as a general contractor or as a subcontractor?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

If yes, provide additional information on a separate sheet regarding the termination, including the name and address of the agency or owner of the subject project, the type and size of the project, whether Bidder was under contract as a general contractor or a subcontractor, the reasons that Bidder was terminated, and the month and year in which the termination occurred.

5. Provide information about Bidder's past projects performed as general contractor as follows:

- 5.1 Three most recently completed public works projects within the last three years;
- 5.2 Three largest completed projects within the last three years; and
- 5.3 Any project which is similar to this Project including scope and character of the work.

6. Use separate sheets to provide all of the following information for each project identified in response to the above three categories:

- 6.1 Project name, location, and description;
- 6.2 Owner (name, address, email, and phone number);
- 6.3 Prime contractor, if applicable (name, address, email, and phone number);
- 6.4 Architect or engineer (name, email, and phone number);
- 6.5 Project and/or construction manager (name, email, and phone number);
- 6.6 Scope of work performed (as general or as subcontractor);
- 6.7 Initial contract price and final contract price (including change orders);
- 6.8 Original scheduled completion date and actual date of completion;
- 6.9 Time extensions granted (number of days);
- 6.10 Number and amount of stop notices or mechanic's liens filed;
- 6.11 Amount of any liquidated damages assessed against Bidder; and
- 6.12 Nature and resolution of any project-related claim, lawsuit, mediation, or arbitration involving Bidder.

### Part C: Safety

1. Provide Bidder's Experience Modification Rate (EMR) for the last three years:

Year	EMR

2. Complete the following, based on information provided in Bidder's CalOSHA Form 300 or Form 300A, Annual Summary of Work-Related Illnesses and Injuries, from the most recent past calendar year:

- 2.1 Number of lost workday cases: \_\_\_\_\_
- 2.2 Number of medical treatment cases: \_\_\_\_\_
- 2.3 Number of deaths: \_\_\_\_\_

3. Has Bidder ever been cited, fined, or prosecuted by any local, state, or federal agency, including OSHA, CalOSHA, or EPA, for violation of any law, regulation, or requirements pertaining to health and safety?

\_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, provide additional information on a separate sheet regarding each such citation, fine, or prosecution, including the name and address of the agency or owner of the project, the type and size of the project, the reasons for and nature of the citation, fine, or prosecution, and the month and year in which the incident giving rise to the citation, fine, or prosecution occurred.

4. Name, title, and email for person responsible for Bidder's safety program:

_____	_____	_____
Name	Title	Email

#### **Part D: Verification**

In signing this document, I, the undersigned, declare that I am duly authorized to sign and submit this Bidder's Questionnaire on behalf of the named Bidder, and that all responses and information set forth in this Bidder's Questionnaire and accompanying attachments are, to the best of my knowledge, true, accurate and complete as of the date of submission. **I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

By: \_\_\_\_\_  
Name and Title

END OF BIDDER'S QUESTIONNAIRE

## Contract

This public works contract ("Contract") is entered into by and between City of Cupertino ("City") and \_\_\_\_\_ ("Contractor"), for work on the Wilson Park Basketball Court Project ("Project").

The parties agree as follows:

1. **Award of Contract.** In response to the Notice Inviting Bids, Contractor has submitted a Bid Proposal to perform the Work to construct the Project. On \_\_\_\_\_, 20\_\_\_\_, City authorized award of this Contract to Contractor for the amount set forth in Section 4, below.
2. **Contract Documents.** The Contract Documents incorporated into this Contract include and are comprised of all of the documents listed below. The definitions provided in Article 1 of the General Conditions apply to all of the Contract Documents, including this Contract.
  - 2.1 Notice Inviting Bids;
  - 2.2 Instructions to Bidders;
  - 2.3 Addenda, if any;
  - 2.4 Bid Proposal and attachments thereto;
  - 2.5 Contract;
  - 2.6 Payment and Performance Bonds;
  - 2.7 General Conditions;
  - 2.8 Special Conditions;
  - 2.9 Project Plans and Specifications;
  - 2.10 Change Orders, if any;
  - 2.11 Notice of Potential Award;
  - 2.12 Notice to Proceed; and
  - 2.13 The following: No other documents
3. **Contractor's Obligations.** Contractor will perform all of the Work required for the Project, as specified in the Contract Documents. Contractor must provide, furnish, and supply all things necessary and incidental for the timely performance and completion of the Work, including all necessary labor, materials, supplies, tools, equipment, transportation, onsite facilities, and utilities, unless otherwise specified in the Contract Documents. Contractor must use its best efforts to diligently prosecute and complete the Work in a professional and expeditious manner and to meet or exceed the performance standards required by the Contract Documents. Contractor agrees to carry out its work in compliance with any applicable local, State or Federal order regarding COVID-19.
4. **Payment.** As full and complete compensation for Contractor's timely performance and completion of the Work in strict accordance with the terms and conditions of the Contract Documents, City will pay Contractor \$ \_\_\_\_\_ ("Contract Price") for all of Contractor's direct and indirect costs to perform the Work, including all labor, materials, supplies, equipment, taxes, insurance, bonds and all overhead costs, in accordance with the payment provisions in the General Conditions.
5. **Time for Completion.** Contractor will fully complete the Work for the Project, meeting all requirements for Final Completion, within 90 calendar days from the commencement date given in the Notice to Proceed ("Contract Time"). By signing below, Contractor expressly waives any claim for delayed early completion.
6. **Liquidated Damages.** If Contractor fails to complete the Work within the Contract Time, City will assess liquidated damages in the amount of \$1,500 per day for each day of

unexcused delay in achieving Final Completion, and such liquidated damages may be deducted from City's payments due or to become due to Contractor under this Contract.

**7. Labor Code Compliance.**

**7.1 General.** This Contract is subject to all applicable requirements of Chapter 1 of Part 7 of Division 2 of the Labor Code, including requirements pertaining to wages, working hours and workers' compensation insurance, as further specified in Article 9 of the General Conditions.

**7.2 Prevailing Wages.** This Project is subject to the prevailing wage requirements applicable to the locality in which the Work is to be performed for each craft, classification or type of worker needed to perform the Work, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available online at <http://www.dir.ca.gov/DLSR>.

**7.3 DIR Registration.** City may not enter into the Contract with a bidder without proof that the bidder and its Subcontractors are registered with the California Department of Industrial Relations to perform public work pursuant to Labor Code § 1725.5, subject to limited legal exceptions.

**8. Workers' Compensation Certification.** Pursuant to Labor Code § 1861, by signing this Contract, Contractor certifies as follows: "I am aware of the provisions of Labor Code § 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work on this Contract."

**9. Conflicts of Interest.** Contractor, its employees, Subcontractors and agents, may not have, maintain or acquire a conflict of interest in relation to this Contract in violation of any City ordinance or requirement, or in violation of any California law, including Government Code § 1090 et seq., or the Political Reform Act, as set forth in Government Code § 81000 et seq. and its accompanying regulations. Any violation of this Section constitutes a material breach of the Contract.

**10. Independent Contractor.** Contractor is an independent contractor under this Contract and will have control of the Work and the means and methods by which it is performed. Contractor and its Subcontractors are not employees of City and are not entitled to participate in any health, retirement, or any other employee benefits from City.

**11. Notice.** Any notice, billing, or payment required by or pursuant to the Contract Documents must be made in writing, signed, dated and sent to the other party by personal delivery, U.S. Mail, a reliable overnight delivery service, or by email as a PDF file. Notice is deemed effective upon delivery, except that service by U.S. Mail is deemed effective on the second working day after deposit for delivery. Notice for each party must be given as follows:

**City:**

City of Cupertino  
Department of Public Works  
10300 Torre Avenue  
Cupertino, CA 95014  
Attn: Susan Michael  
[susanm@cupertino.org](mailto:susanm@cupertino.org)

Copy to: John Raaymakers  
johnr@cupertino.org

**Contractor:**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Attn: \_\_\_\_\_  
Email: \_\_\_\_\_  
Copy to: \_\_\_\_\_

**12. General Provisions.**

- 12.1 Assignment and Successors.** Contractor may not assign its rights or obligations under this Contract, in part or in whole, without City's written consent. This Contract is binding on Contractor's and City's lawful heirs, successors and permitted assigns.
- 12.2 Third Party Beneficiaries.** There are no intended third party beneficiaries to this Contract.
- 12.3 Governing Law and Venue.** This Contract will be governed by California law and venue will be in the Santa Clara County Superior Court, and no other place. Contractor waives any right it may have pursuant to Code of Civil Procedure § 394, to file a motion to transfer any action arising from or relating to this Contract to a venue outside of Santa Clara County, California.
- 12.4 Amendment.** No amendment or modification of this Contract will be binding unless it is in a writing duly authorized and signed by the parties to this Contract.
- 12.5 Integration.** This Contract and the Contract Documents incorporated herein, including authorized amendments or Change Orders thereto, constitute the final, complete, and exclusive terms of the agreement between City and Contractor.
- 12.6 Severability.** If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in whole or in part, the remaining provisions of the Contract Documents will remain in full force and effect.
- 12.7 Iran Contracting Act.** If the Contract Price exceeds \$1,000,000, Contractor certifies, by signing below, that it is not identified on a list created under the Iran Contracting Act, Public Contract Code § 2200 et seq. (the "Act"), as a person engaging in investment activities in Iran, as defined in the Act, or is otherwise expressly exempt under the Act.
- 12.8 Authorization.** Each individual signing below warrants that he or she is authorized to do so by the party that he or she represents, and that this Contract is legally binding on that party. If Contractor is a corporation, signatures from two officers of the corporation are required pursuant to California Corporation Code § 313.

The parties agree to this Contract as witnessed by the signatures below:

**CITY:**

Approved as to form:

s/ \_\_\_\_\_

s/ \_\_\_\_\_

\_\_\_\_\_  
Name, Title

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Attest:

s/ \_\_\_\_\_

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

**CONTRACTOR:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

Seal:

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

Second Signature (See Section 12.8):

s/ \_\_\_\_\_

\_\_\_\_\_  
Name, Title

Date: \_\_\_\_\_

\_\_\_\_\_  
Contractor's California License Number(s) and Expiration Date(s)

END OF CONTRACT

## Payment Bond

City of Cupertino ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract for work on the Wilson Park Basketball Court Project ("Project"). The Contract is incorporated by reference into this Payment Bond ("Bond").

1. **General.** Under this Bond, Contractor as principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee in an amount not less than \$ \_\_\_\_\_, under California Civil Code § 9550 et seq., to ensure payment to authorized claimants. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligation.** If Contractor or any of its Subcontractors fails to pay a person authorized in California Civil Code § 9100 to assert a claim against a payment bond, any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor and its Subcontractors under California Unemployment Insurance Code § 13020 with respect to the work and labor, then Surety will pay the obligation.
3. **Beneficiaries.** This Bond inures to the benefit of any of the persons named in California Civil Code § 9100, so as to give a right of action to those persons or their assigns in any suit brought upon this Bond. Contractor must promptly provide a copy of this Bond upon request by any person with legal rights under this Bond.
4. **Duration.** If Contractor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the Work required by the Contract, in conformance with the time requirements set forth in the Contract and as required by California law, Surety's obligations under this Bond will be null and void. Otherwise, Surety's obligations will remain in full force and effect.
5. **Waivers.** Surety waives any requirement to be notified of alterations to the Contract or extensions of time for performance of the Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845. City waives the requirement of a new bond for any supplemental contract under Civil Code § 9550. Any notice to Surety may be given in the manner specified in the Contract and delivered or transmitted to Surety as follows:  
  
Attn: \_\_\_\_\_  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_
6. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Santa Clara County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.

*[Signatures are on the following page.]*

7. **Effective Date; Execution.** This Bond is entered into and is effective on \_\_\_\_\_,  
20\_\_.

**SURETY:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

**CONTRACTOR:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

END OF PAYMENT BOND



## Performance Bond

City of Cupertino ("City") and \_\_\_\_\_ ("Contractor") have entered into a contract for work on the Wilson Park Basketball Court Project ("Project"). The Contract is incorporated by reference into this Performance Bond ("Bond").

1. **General.** Under this Bond, Contractor as Principal and \_\_\_\_\_, its surety ("Surety"), are bound to City as obligee for an amount not less than \$ \_\_\_\_\_ to ensure Contractor's faithful performance of its obligations under the Contract. This Bond is binding on the respective successors, assigns, owners, heirs, or executors of Surety and Contractor.
2. **Surety's Obligations.** Surety's obligations are co-extensive with Contractor's obligations under the Contract. If Contractor fully performs its obligations under the Contract, including its warranty obligations under the Contract, Surety's obligations under this Bond will become null and void. Otherwise, Surety's obligations will remain in full force and effect.
3. **Waiver.** Surety waives any requirement to be notified of and further consents to any alterations to the Contract made under the applicable provisions of the Contract Documents, including changes to the scope of Work or extensions of time for performance of Work under the Contract. Surety waives the provisions of Civil Code §§ 2819 and 2845.
4. **Application of Contract Balance.** Upon making a demand on this Bond for completion of the Work prior to acceptance of the Project, City will make the Contract Balance available to Surety for completion of the Work under the Contract. For purposes of this provision, the Contract Balance is defined as the total amount payable by City to Contractor as the Contract Price minus amounts already paid to Contractor, and minus any liquidated damages, credits, or backcharges to which City is entitled under the terms of the Contract.
5. **Contractor Default.** Upon written notification from City of Contractor's termination for default under Article 13 of the Contract General Conditions, time being of the essence, Surety must act within the time specified in Article 13 to remedy the default through one of the following courses of action:
  - 5.1 Arrange for completion of the Work under the Contract by Contractor, with City's consent, but only if Contractor is in default solely due to its financial inability to complete the Work;
  - 5.2 Arrange for completion of the Work under the Contract by a qualified contractor acceptable to City, and secured by performance and payment bonds issued by an admitted surety as required by the Contract Documents, at Surety's expense; or
  - 5.3 Waive its right to complete the Work under the Contract and reimburse City the amount of City's costs to have the remaining Work completed.
6. **Surety Default.** If Surety defaults on its obligations under the Bond, City will be entitled to recover all costs it incurs due to Surety's default, including legal, design professional, or delay costs.
7. **Notice.** Any notice to Surety may be given in the manner specified in the Contract and sent to Surety as follows:

Attn: \_\_\_\_\_  
Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

8. **Law and Venue.** This Bond will be governed by California law, and venue for any dispute pursuant to this Bond will be in the Santa Clara County Superior Court, and no other place. Surety will be responsible for City's attorneys' fees and costs in any action to enforce the provisions of this Bond.
9. **Effective Date; Execution.** This Bond is entered into and effective on \_\_\_\_\_, 20\_\_\_\_.

**SURETY:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

(Attach Acknowledgment with Notary Seal and Power of Attorney)

**CONTRACTOR:**

\_\_\_\_\_  
Business Name

s/ \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name, Title

END OF PERFORMANCE BOND

## **General Conditions**

### **Article 1 - Definitions**

**Definitions.** The following definitions apply to all of the Contract Documents unless otherwise indicated, e.g., additional definitions that apply solely to the Specifications or other technical documents. Defined terms and titles of documents are capitalized in the Contract Documents, with the exception of the following (in any tense or form): “day,” “furnish,” “including,” “install,” “work day” or “working day.”

**Allowance** means a specific amount that must be included in the Bid Proposal for a specified purpose.

**Article**, as used in these General Conditions, means a numbered Article of the General Conditions, unless otherwise indicated by the context.

**Change Order** means a written document duly approved and executed by City, which changes the scope of Work, the Contract Price, or the Contract Time.

**City** means the municipality which has entered into the Contract with Contractor for performance of the Work, acting through its City Council, officers, employees, City Engineer, and any other authorized representatives.

**City Engineer** means the City Engineer for City and his or her authorized delegee(s).

**Claim** means a separate demand by Contractor for a change in the Contract Time or Contract Price, that has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected by City, in whole or in part; or a written demand by Contractor objecting to the amount of Final Payment.

**Contract** means the signed agreement between City and Contractor for performing the Work required for the Project, and all documents expressly incorporated therein.

**Contract Documents** means, collectively, all of the documents listed as such in Section 2 of the Contract, including the Notice Inviting Bids; the Instructions to Bidders; addenda, if any; the Bid Proposal, and attachments thereto; the Contract; the Notice of Potential Award and Notice to Proceed; the payment and performance bonds; the General Conditions; the Special Conditions; the Project Plans and Specifications; any Change Orders; and any other documents which are clearly and unambiguously made part of the Contract Documents. The Contract Documents do not include documents provided “For Reference Only,” or documents that are intended solely to provide information regarding existing conditions.

**Contract Price** means the total compensation to be paid to Contractor for performance of the Work, as set forth in the Contract and as may be amended by Change Order or adjusted for an Allowance. The Contract Price is not subject to adjustment due to inflation or due to the increased cost of labor, material, supplies or equipment following submission of the Bid Proposal.

**Contract Time** means the time specified for complete performance of the Work, as set forth in the Contract and as may be amended by Change Order.

**Contractor** means the individual, partnership, corporation, or joint-venture that has signed the Contract with City to perform the Work.

**Day** means a calendar day unless otherwise specified.

**Design Professional** means the licensed individual(s) or firm(s) retained by City to provide architectural, engineering, or electrical engineering design services for the Project. If no Design Professional has been retained for this Project, any reference to Design Professional is deemed to refer to the Engineer.

**DIR** means the California Department of Industrial Relations.

**Drawings** has the same meaning as Plans.

**Engineer** means the City Engineer for the City of Cupertino and his or her authorized delegates.

**Excusable Delay** is defined in Section 5.3(B), Excusable Delay.

**Extra Work** means new or unforeseen work added to the Project, as determined by the Engineer in his or her sole discretion, including Work that was not part of or incidental to the scope of the Work when the Contractor's bid was submitted; Work that is substantially different from the Work as described in the Contract Documents at bid time; or Work that results from a substantially differing and unforeseeable condition.

**Final Completion** means Contractor has fully completed all of the Work required by the Contract Documents to the City's satisfaction, including all punch list items and any required commissioning or training, and has provided the City with all required submittals, including the instructions and manuals, product warranties, and as-built drawings.

**Final Payment** means payment to Contractor of the unpaid Contract Price, including release of undisputed retention, less amounts withheld or deducted pursuant to the Contract Documents.

**Furnish** means to purchase and deliver for the Project.

**Government Code Claim** means a claim submitted pursuant to California Government Code § 900 et seq.

**Hazardous Materials** means any substance or material identified now or in the future as hazardous under any Laws, or any other substance or material that may be considered hazardous or otherwise subject to Laws governing handling, disposal, or cleanup.

**Including**, whether or not capitalized, means "including, but not limited to," unless the context clearly requires otherwise.

**Inspector** means the individual(s) or firm(s) retained or employed by City to inspect the workmanship, materials, and manner of construction of the Project and its components to ensure compliance with the Contract Documents and all Laws.

**Install** means to fix in place for materials, and to fix in place and connect for equipment.

**Laws** means all applicable local, state, and federal laws, regulations, rules, codes, ordinances, permits, orders, and the like enacted or imposed by or under the auspices of any governmental entity with jurisdiction over any of the Work or any performance of the Work, including health and safety requirements.

**Non-Excusable Delay** is defined in Section 5.3(D), Non-Excusable Delay.

**Plans** means the City-provided plans, drawings, details, or graphical depictions of the Project requirements, but does not include Shop Drawings.

**Project** means the public works project referenced in the Contract.

**Project Manager** means the individual designated by City to oversee and manage the Project on City's behalf and may include his or her authorized delegee(s) when the Project Manager is unavailable. If no Project Manager has been designated for this Project, any reference to Project Manager is deemed to refer to the Engineer.

**Recoverable Costs** is defined in Section 5.3(F), Recoverable Costs.

**Request for Information** or **RFI** means Contractor's written request for information about the Contract Documents, the Work or the Project, submitted to City in the manner and format specified by City.

**Section**, when capitalized in these General Conditions, means a numbered section or subsection of the General Conditions, unless the context clearly indicates otherwise.

**Shop Drawings** means drawings, plan details or other graphical depictions prepared by or on behalf of Contractor, and subject to City acceptance, which are intended to provide details for fabrication, installation, and the like, of items required by or shown in the Plans or Specifications.

**Specialty Work** means Work that must be performed by a specialized Subcontractor with the specified license or other special certification, and that the Contractor is not qualified to self-perform.

**Specifications** means the technical, text specifications describing the Project requirements, which are prepared for and incorporated into the Contract by or on behalf of City, and does not include the Contract, General Conditions or Special Conditions.

**Subcontractor** means an individual, partnership, corporation, or joint-venture retained by Contractor directly or indirectly through a subcontract to perform a specific portion of the Work. The term Subcontractor applies to subcontractors of all tiers, unless otherwise indicated by the context. A third party such as a utility performing related work on the Project is not a Subcontractor, even if Contractor must coordinate its Work with the third party.

**Technical Specifications** has the same meaning as Specifications.

**Work** means all of the construction and services necessary for or incidental to completing the Project in conformance with the requirements of the Contract Documents.

**Work Day** or **Working Day**, whether or not capitalized, means a weekday when the City is open for business, and does not include holidays observed by the City.

Holidays observed by the City and furlough days are:

- a. New Year's Day, January 1;
- b. Martin Luther King Jr.'s Birthday, third Monday in January;
- c. Lincoln's Birthday, February 12;
- d. Presidents' Day, third Monday in February;
- e. Memorial Day, last Monday in May;
- f. Independence Day, July 4;
- g. Labor Day, first Monday in September;
- h. Veterans' Day, November 11;
- i. Thanksgiving Day, as designated by the President;
- j. The Day following Thanksgiving Day;

- k. Christmas Day, December 25;
- l. City Closure, December 24, 26, 27, 28, 29, 30 and 31; and
- m. Each day appointed by the Governor of California and formally recognized by the Santa Clara County Board of Supervisors as a day of mourning, thanksgiving, or special observance.

**Worksite** means the place or places where the Work is performed, which includes, but may extend beyond the Project site, including separate locations for staging, storage, or fabrication.

## **Article 2 - Roles and Responsibilities**

### **2.1 City.**

- (A) **City Council.** The City Council has final authority in all matters affecting the Project, except to the extent it has delegated authority to the Engineer.
- (B) **Engineer.** The Engineer, acting within the authority conferred by the City Council, is responsible for administration of the Project on behalf of City, including authority to provide directions to the Design Professional and to Contractor to ensure proper and timely completion of the Project. The Engineer's decisions are final and conclusive within the scope of his or her authority, including interpretation of the Contract Documents.
- (C) **Project Manager.** The Project Manager assigned to the Project will be the primary point of contact for the Contractor and will serve as City's representative for daily administration of the Project on behalf of City. Unless otherwise specified, all of Contractor's communications to City (in any form) will go to or through the Project Manager. City reserves the right to reassign the Project Manager role at any time or to delegate duties to additional City representatives, without prior notice to or consent of Contractor.
- (D) **Design Professional.** The Design Professional is responsible for the overall design of the Project and, to the extent authorized by City, may act on City's behalf to ensure performance of the Work in compliance with the Plans and Specifications, including any design changes authorized by Change Order. The Design Professional's duties may include review of Contractor's submittals, visits to any Worksite, inspecting the Work, evaluating test and inspection results, and participation in Project-related meetings, including any pre-construction conference, weekly meetings, and coordination meetings. The Design Professional's interpretation of the Plans or Specifications is final and conclusive.

### **2.2 Contractor.**

- (A) **General.** Contractor must provide all labor, materials, supplies, equipment, services, and incidentals necessary to perform and timely complete the Work in strict accordance with the Contract Documents, and in an economical and efficient manner in the best interests of City, and with minimal inconvenience to the public.
- (B) **Responsibility for the Work and Risk of Loss.** Contractor is responsible for supervising and directing all aspects of the Work to facilitate the efficient and timely completion of the Work. Contractor is solely responsible for and required to exercise full control over the Work, including the construction means, methods, techniques, sequences, procedures, safety precautions and programs, and coordination of all portions of the Work with that of all other contractors and Subcontractors, except to the

extent that the Contract Documents provide other specific instructions. Contractor's responsibilities extend to any plan, method or sequence suggested, but not required by City or specified in the Contract Documents. From the date of commencement of the Work until either the date on which City formally accepts the Project or the effective date of termination of the Contract, whichever is later, Contractor bears all risks of injury or damage to the Work and the materials and equipment delivered to any Worksite, by any cause including fire, earthquake, wind, weather, vandalism or theft.

(C) **Project Administration.** Contractor must provide sufficient and competent administration, staff, and skilled workforce necessary to perform and timely complete the Work in accordance with the Contract Documents. Before starting the Work, Contractor must designate in writing and provide complete contact information, including telephone numbers and email address, for the officer or employee in Contractor's organization who is to serve as Contractor's primary representative for the Project, and who has authority to act on Contractor's behalf. A Subcontractor may not serve as Contractor's primary representative.

(D) **On-Site Superintendent.** Contractor must, at all times during performance of the Work, provide a qualified and competent full-time superintendent acceptable to City, and assistants as necessary, who must be physically present at the Project site while any aspect of the Work is being performed. The superintendent must have full authority to act and communicate on behalf of Contractor, and Contractor will be bound by the superintendent's communications to City. City's approval of the superintendent is required before the Work commences. If City is not satisfied with the superintendent's performance, City may request a qualified replacement of the superintendent. Failure to comply may result in temporary suspension of the Work, at Contractor's sole expense and with no extension of Contract Time, until an approved superintendent is physically present to supervise the Work. Contractor must provide written notice to City, as soon as practicable, before replacing the superintendent.

(E) **Standards.** Contractor must, at all times, ensure that the Work is performed in an efficient, skillful manner following best practices and in full compliance with the Contract Documents and Laws and applicable manufacturer's recommendations. Contractor has a material and ongoing obligation to provide true and complete information, to the best of its knowledge, with respect to all records, documents, or communications pertaining to the Project, including oral or written reports, statements, certifications, Change Order requests, or Claims.

(F) **Meetings.** Contractor, its project manager, superintendent and any primary Subcontractors requested by City, must attend a pre-construction conference, if requested by City, as well as weekly Project progress meetings scheduled with City. If applicable, Contractor may also be required to participate in coordination meetings with other parties relating to other work being performed on or near the Project site or in relation to the Project, including work or activities performed by City, other contractors, or other utility owners.

(G) **Construction Records.** Contractor will maintain up-to-date, thorough, legible, and dated daily job reports, which document all significant activity on the Project for each day that Work is performed on the Project. The daily report for each day must include the number of workers at the Project site; primary Work activities; major deliveries; problems encountered, including injuries, if any; weather and site conditions; and delays, if any. Contractor will take date and time-stamped photographs to document general progress of the Project, including site conditions prior to construction activities, before and after photographs at offset trench laterals, existing improvements and utilities, damage and restoration. Contractor will maintain copies of all subcontracts, Project-related correspondence with subcontractors, and records of meetings with Subcontractors. Upon

request by the City, Contractor will permit review of and/or provide copies of any of these construction records.

(H) **Responsible Party.** Contractor is solely responsible to City for the acts or omissions of any Subcontractors, or any other party or parties performing portions of the Work or providing equipment, materials or services for or on behalf of Contractor or the Subcontractors. Upon City's written request, Contractor must promptly and permanently remove from the Project, at no cost to City, any employee or Subcontractor or employee of a Subcontractor who the Engineer has determined to be incompetent, intemperate or disorderly, or who has failed or refused to perform the Work as required under the Contract Documents.

(I) **Correction of Defects.** Contractor must promptly correct, at Contractor's sole expense, any Work that is determined by City to be deficient or defective in any way, including workmanship, materials, parts or equipment. Workmanship, materials, parts or equipment that do not conform to the requirements under the Plans, Specifications and every other Contract Document, as determined by City, will be considered defective and subject to rejection. Contractor must also promptly correct, at Contractor's sole expense, any Work performed beyond the lines and grades shown on the Plans or established by City, and any Extra Work performed without City's prior written approval. If Contractor fails to correct or to take reasonable steps toward correcting defective Work within five days following notice from City, or within the time specified in City's notice to correct, City may elect to have the defective Work corrected by its own forces or by a third party, in which case the cost of correction will be deducted from the Contract Price. If City elects to correct defective Work due to Contractor's failure or refusal to do so, City or its agents will have the right to take possession of and use any equipment, supplies, or materials available at the Project site or any Worksite on City property, in order to effectuate the correction, at no extra cost to City. Contractor's warranty obligations under Section 11.2, Warranty, will not be waived nor limited by City's actions to correct defective Work under these circumstances. Alternatively, City may elect to retain defective Work, and deduct the difference in value, as determined by the Engineer, from payments otherwise due to Contractor. This paragraph applies to any defective Work performed by Contractor during the one-year warranty period under Section 11.2.

(J) **Contractor's Records.** Contractor must maintain all of its records relating to the Project in any form, including paper documents, photos, videos, electronic records, approved samples, and the construction records required pursuant to paragraph (G), above. Project records subject to this provision include complete Project cost records and records relating to preparation of Contractor's bid, including estimates, take-offs, and price quotes or bids.

(1) Contractor's cost records must include all supporting documentation, including original receipts, invoices, and payroll records, evidencing its direct costs to perform the Work, including, but not limited to, costs for labor, materials and equipment. Each cost record should include, at a minimum, a description of the expenditure with references to the applicable requirements of the Contract Documents, the amount actually paid, the date of payment, and whether the expenditure is part of the original Contract Price, related to an executed Change Order, or otherwise categorized by Contractor as Extra Work. Contractor's failure to comply with this provision as to any claimed cost operates as a waiver of any rights to recover the claimed cost.

(2) Contractor must continue to maintain its Project-related records in an organized manner for a period of five years after City's acceptance of the Project or following Contract termination, whichever occurs first. Subject to prior notice to Contractor, City is entitled to inspect or audit any of Contractor's Project records



relating to the Project or to investigate Contractor's plant or equipment during Contractor's normal business hours. The record-keeping requirements set forth in this subsection 2.2(J) will survive expiration or termination of the Contract.

(K) **Copies of Project Documents.** Contractor and its Subcontractors must keep copies, at the Project site, of all Work-related documents, including the Contract, permit(s), Plans, Specifications, Addenda, Contract amendments, Change Orders, RFIs and RFI responses, Shop Drawings, as-built drawings, schedules, daily records, testing and inspection reports or results, and any related written interpretations. These documents must be available to City for reference at all times during construction of the Project.

## **2.3 Subcontractors.**

(A) **General.** All Work which is not performed by Contractor with its own forces must be performed by Subcontractors. City reserves the right to approve or reject any and all Subcontractors proposed to perform the Work, for reasons including the subcontractor's poor reputation, lack of relevant experience, financial instability, and lack of technical ability or adequate trained workforce. Each Subcontractor must obtain a City business license before performing any Work.

(B) **Contractual Obligations.** Contractor must require each Subcontractor to comply with the provisions of the Contract Documents as they apply to the Subcontractor's portion(s) of the Work, including the generally applicable terms of the Contract Documents, and to likewise bind their subcontractors. Contractor will provide that the rights that each Subcontractor may have against any manufacturer or supplier for breach of warranty or guarantee relating to items provided by the Subcontractor for the Project, will be assigned to City. Nothing in these Contract Documents creates a contractual relationship between a Subcontractor and City, but City is deemed to be a third-party beneficiary of the contract between Contractor and each Subcontractor.

(C) **Termination.** If the Contract is terminated, each Subcontractor's agreement must be assigned by Contractor to City, subject to the prior rights of any surety, but only if and to the extent that City accepts, in writing, the assignment by written notification, and assumes all rights and obligations of Contractor pursuant to each such subcontract agreement.

(D) **Substitution of Subcontractor.** If Contractor requests substitution of a listed Subcontractor under Public Contract Code § 4107, Contractor is solely responsible for all costs City incurs in responding to the request, including legal fees and costs to conduct a hearing, and any increased subcontract cost to perform the Work that was to be performed by the listed Subcontractor. If City determines that a Subcontractor is unacceptable to City based on the Subcontractor's failure to satisfactorily perform its Work, or for any of the grounds for substitution listed in Public Contract Code § 4107(a), City may request removal of the Subcontractor from the Project. Upon receipt of a written request from City to remove a Subcontractor pursuant to this paragraph, Contractor will immediately remove the Subcontractor from the Project and, at no further cost to City, will either (1) self-perform the remaining Work to the extent that Contractor is duly licensed and qualified to do so, or (2) substitute a Subcontractor that is acceptable to City, in compliance with Public Contract Code § 4107, as applicable.

## **2.4 Coordination of Work.**

(A) **Concurrent Work.** City reserves the right to perform, have performed, or permit performance of other work on or adjacent to the Project site while the Work is being performed for the Project. Contractor is responsible for coordinating its Work with other

work being performed on or adjacent to the Project site, including by any utility companies or agencies, and must avoid hindering, delaying, or interfering with the work of other contractors, individuals, or entities, and must ensure safe and reasonable site access and use as required or authorized by City. To the full extent permitted by law, Contractor must hold harmless and indemnify City against any and all claims arising from or related to Contractor's avoidable, negligent, or willful hindrance of, delay to, or interference with the work of any utility company or agency or another contractor or subcontractor.

(B) **Coordination.** If Contractor's Work will connect or interface with work performed by others, Contractor is responsible for independently measuring and visually inspecting such work to ensure a correct connection and interface. Contractor is responsible for any failure by Contractor or its Subcontractors to confirm measurements before proceeding with connecting Work. Before proceeding with any portion of the Work affected by the construction or operations of others, Contractor must give the Project Manager prompt written notification of any defects Contractor discovers which will prevent the proper execution of the Work. Failure to give notice of any known or reasonably discoverable defects will be deemed acknowledgement by Contractor that the work of others is not defective and will not prevent the proper execution of the Work. Contractor must also promptly notify City if work performed by others, including work or activities performed by City's own forces, is operating to hinder, delay, or interfere with Contractor's timely performance of the Work. City reserves the right to backcharge Contractor for any additional costs incurred due to Contractor's failure to comply with the requirements in this Section 2.4.

**2.5 Submittals.** Unless otherwise specified, Contractor must submit to the Engineer for review and acceptance, all schedules, Shop Drawings, samples, product data, and similar submittals required by the Contract Documents, or upon request by the Engineer. Unless otherwise specified, all submittals, including Requests for Information, are subject to the general provisions of this Section, as well as specific submittal requirements that may be included elsewhere in the Contract Documents, including the Special Conditions or Specifications. The Engineer may require submission of a submittal schedule at or before a pre-construction conference, as may be specified in the Notice to Proceed.

(A) **General.** Contractor is responsible for ensuring that its submittals are accurate and conform to the Contract Documents.

(B) **Time and Manner of Submission.** Contractor must ensure that its submittals are prepared and delivered in a manner consistent with the current City-accepted schedule for the Work and within the applicable time specified in the Contract Documents, or if no time is specified, in such time and sequence so as not to delay the performance of the Work or completion of the Project.

(C) **Required Contents.** Each submittal must include the Project name and contract number, Contractor's name and address, the name and address of any Subcontractor or supplier involved with the submittal, the date, and references to applicable Specification section(s) and/or drawing and detail number(s).

(D) **Required Corrections.** If corrections are required, Contractor must promptly make and submit any required corrections as specified in full conformance with the requirements of this Section, or other requirements that apply to that submittal.

(E) **Effect of Review and Acceptance.** Review and acceptance of a submittal by City will not relieve Contractor from complying with the requirements of the Contract Documents. Contractor is responsible for any errors in any submittal, and review or acceptance of a submittal by City is not an assumption of risk or liability by City.

- (F) **Enforcement.** Any Work performed or any material furnished, installed, fabricated or used without City's prior acceptance of a required submittal is performed or provided at Contractor's risk, and Contractor may be required to bear the costs incident thereto, including the cost of removing and replacing such Work, repairs to other affected portions of the Work or material, and the cost of additional time or services required of City, including costs for the Design Professional, Project Manager, or Inspector.
- (G) **Excessive RFIs.** A RFI will be considered excessive or unnecessary if City determines that the explanation or response to the RFI is clearly and unambiguously discernable from the Contract Documents. City's costs to review and respond to excessive or unnecessary RFIs may be deducted from payments otherwise due to Contractor.
- 2.6 Shop Drawings.** When Shop Drawings are required by the Specifications or requested by the Engineer, they must be prepared according to best practices at Contractor's expense. The Shop Drawings must be of a size and scale to clearly show all necessary details. Unless otherwise specified by City, Shop Drawings must be provided to the Engineer for review and acceptance at least 30 days before the Work will be performed. If City requires changes, the corrected Shop Drawings must be resubmitted to the Engineer for review within the time specified by the Engineer. For all Project components requiring Shop Drawings, Contractor will not furnish materials or perform any Work until the Shop Drawings for those components are accepted by City. Contractor is responsible for any errors or omissions in the Shop Drawings, shop fits and field corrections; any deviations from the Contract Documents; and for the results obtained by the use of Shop Drawings. Acceptance of Shop Drawings by City does not relieve Contractor of Contractor's responsibility.
- 2.7 Access to Work.** Contractor must afford prompt and safe access to any Worksite by City and its employees, agents, or consultants authorized by City; and upon request by City, Contractor must promptly arrange for City representatives to visit or inspect manufacturing sites or fabrication facilities for items to be incorporated into the Work.
- 2.8 Personnel.** Contractor and its Subcontractors must employ only competent and skillful personnel to perform the Work. Contractor and its Subcontractor's supervisors, security or safety personnel, and employees who have unescorted access to the Project site must possess proficiency in English sufficient to read, understand, receive, and implement oral or written communications or instructions relating to their respective job functions, including safety and security requirements. Upon written notification from the Engineer, Contractor and its Subcontractors must immediately discharge any personnel who are incompetent, disorderly, disruptive, threatening, abusive, or profane, or otherwise refuse or fail to comply with the requirements of the Contract Documents or Laws, including Laws pertaining to health and safety. Any such discharged personnel, may not be re-employed or permitted on the Project in any capacity without City's prior written consent.

### Article 3 - Contract Documents

#### 3.1 Interpretation of Contract Documents.

- (A) **Plans and Specifications.** The Plans and Specifications included in the Contract Documents are complementary. If Work is shown on one but not on the other, Contractor must perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. The Plans and Specifications are deemed to include and require everything necessary and reasonably incidental to completion of the Work, whether or

not particularly mentioned or shown. Contractor must perform all Work and services and supply all things reasonably related to and inferable from the Contract Documents. In the event of a conflict between the Plans and Specifications, the Specifications will control, unless the drawing(s) at issue are dated later than the Specification(s) at issue. Detailed drawings take precedence over general drawings, and large-scale drawings take precedence over smaller scale drawings. Any arrangement or division of the Plans and Specifications into sections is for convenience and is not intended to limit the Work required by separate trades. A conclusion presented in the Plans or Specifications is only a recommendation. Actual locations and depths must be determined by Contractor's field investigation. Contractor may request access to underlying or background information in City's possession that is necessary for Contractor to form its own conclusions.

(B) ***Duty to Notify and Seek Direction.*** If Contractor becomes aware of a changed condition in the Project, or of any ambiguity, conflict, inconsistency, discrepancy, omission, or error in the Contract Documents, including the Plans or Specifications, Contractor must promptly submit a Request for Information to the Engineer and wait for a response from City before proceeding further with the related Work. The RFI must notify City of the issue and request clarification, interpretation or direction. The Engineer's clarification, interpretation or direction will be final and binding on Contractor. If Contractor proceeds with the related Work before obtaining City's response, Contractor will be responsible for any resulting costs, including the cost of correcting any incorrect or defective Work that results. Timely submission of a clear and complete RFI is essential to avoiding delay. Delay resulting from Contractor's failure to submit a timely and complete RFI to the Engineer is Non-Excusable Delay. If Contractor believes that City's response to an RFI justifies a change to the Contract Price or Contract Time, Contractor must perform the Work as directed, but may submit a timely Change Order request in accordance with the Contract Documents. (See Article 5 and 6.)

(C) ***Figures and Dimensions.*** Figures control over scaled dimensions.

(D) ***Technical or Trade Terms.*** Any terms that have well-known technical or trade meanings will be interpreted in accordance with those meanings, unless otherwise specifically defined in the Contract Documents.

(E) ***Measurements.*** Contractor must verify all relevant measurements in the Contract Documents and at the Project site before ordering any material or performing any Work, and will be responsible for the correctness of those measurements or for costs that could have been avoided by independently verifying measurements.

(F) ***Compliance with Laws.*** The Contract Documents are intended to comply with Laws and will be interpreted to comply with Laws.

**3.2 Order of Precedence.** Information included in one Contract Document but not in another will not be considered a conflict or inconsistency. Unless otherwise specified in the Special Conditions, in case of any conflict or inconsistency among the Contract Documents, the following order of precedence will apply, beginning from highest to lowest, with the most recent version taking precedent over an earlier version:

- (A) Change Orders;
- (B) Addenda;
- (C) Contract;
- (D) Notice to Proceed;
- (E) Attachment B – Federal Contract Requirements (only if used);
- (F) Special Conditions;
- (G) General Conditions;
- (H) Payment and Performance Bonds;

- (I) Specifications;
- (J) Plans;
- (K) Notice of Potential Award;
- (L) Notice Inviting Bids;
- (M) Attachment A – Federal Bidding Requirements (only if used);
- (N) Instructions to Bidders;
- (O) Contractor's Bid Proposal and attachments;
- (P) the City's standard specifications, as applicable; and
- (Q) Any generic documents prepared by and on behalf of a third party, that were not prepared specifically for this Project, such as the Caltrans Standard Specifications or Caltrans Special Provisions.

**3.3 Caltrans Standard Specifications.** Any reference to or incorporation of the Standard Specifications of the State of California, Department of Transportation ("Caltrans"), including "Standard Specifications," "Caltrans Specifications," "State Specifications," or "CSS," means the most current edition of Caltrans' Standard Specifications, unless otherwise specified ("Caltrans Standard Specifications"), including the most current amendments as of the date that Contractor's bid was submitted for this Project. The following provisions apply to use of or reference to the Caltrans Standard Specifications or Special Provisions:

(A) **Limitations.** The "General Provisions" of the Caltrans Standard Specifications, i.e., sections 1 through 9, do not apply to these Contract Documents with the exception of any specific provisions, if any, which are expressly stated to apply to these Contract Documents.

(B) **Conflicts or Inconsistencies.** If there is a conflict or inconsistency between any provision in the Caltrans Standard Specifications or Special Provisions and a provision of these Contract Documents, as determined by City, the provision in the Contract Documents will govern.

(C) **Meanings.** Terms used in the Caltrans Standard Specifications or Special Provisions are to be interpreted as follows:

- (1) Any reference to the "Engineer" is deemed to mean the City Engineer.
- (2) Any reference to the "Special Provisions" is deemed to mean the Special Conditions, unless the Caltrans Special Provisions are expressly included in the Contract Documents listed in Section 2 of the Contract.
- (3) Any reference to the "Department" or "State" is deemed to mean City.

**3.4 For Reference Only.** Contractor is responsible for the careful review of any document, study, or report provided by City or appended to the Contract Documents solely for informational purposes and identified as "For Reference Only." Nothing in any document, study, or report so appended and identified is intended to supplement, alter, or void any provision of the Contract Documents. Contractor is advised that City or its representatives may be guided by information or recommendations included in such reference documents, particularly when making determinations as to the acceptability of proposed materials, methods, or changes in the Work. Any record drawings or similar final or accepted drawings or maps that are not part of the Contract Documents are deemed to be For Reference Only. The provisions of the Contract Documents are not modified by any perceived or actual conflict with provisions in any document that is provided For Reference Only.

- 3.5 Current Versions.** Unless otherwise specified by City, any reference to standard specifications, technical specifications, or any City or state codes or regulations means the latest specification, code or regulation in effect at the time the Contract is signed.
- 3.6 Conformed Copies.** If City prepares a conformed set of the Contract Documents following award of the Contract, it will provide Contractor with two hard copy (paper) sets and one copy of the electronic file in PDF format. It is Contractor's responsibility to ensure that all Subcontractors, including fabricators, are provided with the conformed set of the Contract Documents at Contractor's sole expense.
- 3.7 Ownership.** No portion of the Contract Documents may be used for any purpose other than construction of the Project, without prior written consent from City. Contractor is deemed to have conveyed the copyright in any designs, drawings, specifications, Shop Drawings, or other documents (in paper or electronic form) developed by Contractor for the Project, and City will retain all rights to such works, including the right to possession.

#### **Article 4 - Bonds, Indemnity, and Insurance**

- 4.1 Payment and Performance Bonds.** Within ten days following issuance of the Notice of Potential Award, Contractor is required to provide a payment bond and a performance bond, each in the penal sum of not less than 100% of the Contract Price, and each executed by Contractor and its surety using the bond forms included with the Contract Documents.
- (A) **Surety.** Each bond must be issued and executed by a surety admitted in California. If an issuing surety cancels the bond or becomes insolvent, within seven days following written notice from City, Contractor must substitute a surety acceptable to City. If Contractor fails to substitute an acceptable surety within the specified time, City may, at its sole discretion, withhold payment from Contractor until the surety is replaced to City's satisfaction, or terminate the Contract for default.
- (B) **Supplemental Bonds for Increase in Contract Price.** If the Contract Price increases during construction by five percent or more over the original Contract Price, Contractor must provide supplemental or replacement bonds within ten days of written notice from City pursuant to this Section, covering 100% of the increased Contract Price and using the bond forms included with the Contract Documents.
- 4.2 Indemnity.** To the fullest extent permitted by law, Contractor must indemnify, defend, and hold harmless City, its Council, officers, officials, employees, agents, volunteers, and consultants (individually, an "Indemnitee," and collectively the "Indemnitees") from and against any and all liability, loss, damage, claims, causes of action, demands, charges, fines, costs, and expenses (including, without limitation, attorney fees, expert witness fees, paralegal fees, and fees and costs of litigation or arbitration) (collectively, "Liability") of every nature arising out of or in connection with the acts or omissions of Contractor, its employees, Subcontractors, representatives, or agents, in bidding or performing the Work or in failing to comply with any obligation of Contractor under the Contract, except such Liability caused by the active negligence, sole negligence, or willful misconduct of an Indemnitee. This indemnity requirement applies to any Liability arising from alleged defects in the content or manner of submission of Contractor's bid for the Contract. Contractor's failure or refusal to timely accept a tender of defense pursuant to this Contract will be deemed a material breach of the Contract. City will timely notify Contractor upon receipt of any third-party claim relating to the Contract, as required by Public Contract Code § 9201. Contractor waives any right to express or implied indemnity against any Indemnitee. Contractor's indemnity obligations under this Contract will survive the expiration or any early termination of the Contract.

**4.3 Insurance.** No later than ten days following issuance of the Notice of Potential Award, Contractor must procure and provide proof of the insurance coverage required by this Section in the form of certificates and endorsements acceptable to City. The required insurance must cover the activities of Contractor and its Subcontractors relating to or arising from the performance of the Work, and must remain in full force and effect at all times during the period covered by the Contract, through the date of City's acceptance of the Project. All required insurance must be issued by a company licensed to do business in the State of California, and each such insurer must have an A.M. Best's financial strength rating of "A" or better and a financial size rating of "VIII" or better. If Contractor fails to provide any of the required coverage in full compliance with the requirements of the Contract Documents, City may, at its sole discretion, purchase such coverage at Contractor's expense and deduct the cost from payments due to Contractor, or terminate the Contract for default. The procurement of the required insurance will not be construed to limit Contractor's liability under this Contract or to fulfill Contractor's indemnification obligations under this Contract.

(A) **Policies and Limits.** The following insurance policies and limits are required for this Contract, unless otherwise specified in the Special Conditions:

(1) *Commercial General Liability ("CGL") Insurance:* The CGL insurance policy must be issued on an occurrence basis, written on a comprehensive general liability form, and must include coverage for liability arising from Contractor's or its Subcontractor's acts or omissions in the performance of the Work, including contractor's protected coverage, contractual liability, products and completed operations, and broad form property damage, with limits of at least \$2,000,000 per occurrence and at least \$4,000,000 general aggregate. The CGL insurance coverage may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by excess or umbrella policies, provided each such policy complies with the requirements set forth in this Section, including required endorsements.

(2) *Automobile Liability Insurance:* The automobile liability insurance policy must provide coverage of at least \$2,000,000 combined single-limit per accident for bodily injury, death, or property damage, including hired and non-owned auto liability.

(3) *Workers' Compensation Insurance and Employer's Liability:* The workers' compensation and employer's liability insurance policy must comply with the requirements of the California Labor Code, providing coverage of at least \$1,000,000 or as otherwise required by the statute. If Contractor is self-insured, Contractor must provide its Certificate of Permission to Self-Insure, duly authorized by the DIR.

(4) *Pollution Liability Insurance:* The pollution liability insurance policy must be issued on an occurrence basis, providing coverage of at least \$2,000,000 for all loss arising out of claims for bodily injury, death, property damage, or environmental damage caused by pollution conditions resulting from the Work.

(5) *Builder's Risk Insurance:* The builder's risk insurance policy must be issued on an occurrence basis, for all-risk or "all perils" coverage on a 100% completed value basis on the insurable portion of the Project for the benefit of City.

(B) **Notice.** Each certificate of insurance must state that the coverage afforded by the policy or policies will not be reduced, cancelled or allowed to expire without at least

30 days written notice to City, unless due to non-payment of premiums, in which case ten days written notice must be made to City.

(C) **Waiver of Subrogation.** Each required policy must include an endorsement providing that the carrier will waive any right of subrogation it may have against City.

(D) **Required Endorsements.** The CGL policy, automobile liability policy, pollution liability policy, and builder's risk policy must include the following specific endorsements:

(1) The City, including its Council, officials, officers, employees, agents, volunteers and consultants (collectively, "Additional Insured") must be named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and the policy must protect the Additional Insured against any and all liability for personal injury, death or property damage or destruction arising directly or indirectly in the performance of the Contract. The additional insured endorsement must be provided using ISO form CG 20 10 11 85 or an equivalent form approved by the City.

(2) The inclusion of more than one insured will not operate to impair the rights of one insured against another, and the coverages afforded will apply as though separate policies have been issued to each insured.

(3) The insurance provided by Contractor is primary and no insurance held or owned by any Additional Insured may be called upon to contribute to a loss.

(4) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

(E) **Contractor's Responsibilities.** This Section 4.3 establishes the minimum requirements for Contractor's insurance coverage in relation to this Project, but is not intended to limit Contractor's ability to procure additional or greater coverage. Contractor is responsible for its own risk assessment and needs and is encouraged to consult its insurance provider to determine what coverage it may wish to carry beyond the minimum requirements of this Section. Contractor is solely responsible for the cost of its insurance coverage, including premium payments, deductibles, or self-insured retentions, and no Additional Insured will be responsible or liable for any of the cost of Contractor's insurance coverage.

(F) **Deductibles and Self-Insured Retentions.** Any deductibles or self-insured retentions that apply to the required insurance (collectively, "deductibles") in excess of \$100,000 are subject to approval by the City's Risk Manager, acting in his or her sole discretion, and must be declared by Contractor when it submits its certificates of insurance and endorsements pursuant to this Section 4.3. If the City's Risk Manager determines that the deductibles are unacceptably high, at City's option, Contractor must either reduce or eliminate the deductibles as they apply to City and all required Additional Insured; or must provide a financial guarantee, to City's satisfaction, guaranteeing payment of losses and related investigation, claim administration, and legal expenses.

(G) **Subcontractors.** Contractor must ensure that each Subcontractor is required to maintain the same insurance coverage required under this Section 4.3, with respect to its performance of Work on the Project, including those requirements related to the Additional Insureds and waiver of subrogation, but excluding pollution liability or builder's risk insurance unless otherwise specified in the Special Conditions. A Subcontractor may be eligible for reduced insurance coverage or limits, but only to the extent approved in writing in advance by the City's Risk Manager. Contractor must confirm that each Subcontractor has complied with these insurance requirements before the Subcontractor



is permitted to begin Work on the Project. Upon request by the City, Contractor must provide certificates and endorsements submitted by each Subcontractor to prove compliance with this requirement. The insurance requirements for Subcontractors do not replace or limit the Contractor's insurance obligations.

## **Article 5 - Contract Time**

### **5.1 Time is of the Essence.** Time is of the essence in Contractor's performance and completion of the Work, and Contractor must diligently prosecute the Work and complete it within the Contract Time.

(A) **General.** Contractor must commence the Work on the date indicated in the Notice to Proceed and must fully complete the Work in strict compliance with all requirements of the Contract Documents and within the Contract Time. Contractor may not begin performing the Work before the date specified in the Notice to Proceed.

(B) **Authorization.** Contractor is not entitled to compensation or credit for any Work performed before the date specified in the Notice to Proceed, with the exception of any schedules, submittals, or other requirements, if any, that must be provided or performed before issuance of the Notice to Proceed.

(C) **Rate of Progress.** Contractor and its Subcontractors must, at all times, provide workers, materials, and equipment sufficient to maintain the rate of progress necessary to ensure full completion of the Work within the Contract Time. If City determines that Contractor is failing to prosecute the Work at a sufficient rate of progress, City may, in its sole discretion, direct Contractor to provide additional workers, materials, or equipment, or to work additional hours or days without additional cost to City, in order to achieve a rate of progress satisfactory to City. If Contractor fails to comply with City's directive in this regard, City may, at Contractor's expense, separately contract for additional workers, materials, or equipment or use City's own forces to achieve the necessary rate of progress. Alternatively, City may terminate the Contract based on Contractor's default.

### **5.2 Schedule Requirements.** Contractor must prepare all schedules using standard, commercial scheduling software acceptable to the Engineer, and must provide the schedules in electronic and paper form as requested by the Engineer. In addition to the general scheduling requirements set forth below, Contractor must also comply with any scheduling requirements included in the Special Conditions or in the Technical Specifications.

(A) **Baseline (As-Planned) Schedule.** Within ten calendar days following City's issuance of the Notice to Proceed (or as otherwise specified in the Notice to Proceed), Contractor must submit to City for review and acceptance a baseline (as-planned) schedule using critical path methodology showing in detail how Contractor plans to perform and fully complete the Work within the Contract Time, including labor, equipment, materials and fabricated items. The baseline schedule must show the order of the major items of Work and the dates of start and completion of each item, including when the materials and equipment will be procured. The schedule must also include the work of all trades, reflecting anticipated labor or crew hours and equipment loading for the construction activities, and must be sufficiently comprehensive and detailed to enable progress to be monitored on a day-by-day basis. For each activity, the baseline schedule must be dated, provided in the format specified in the Contract Documents or as required by City, and must include, at a minimum, a description of the activity, the start and completion dates of the activity, and the duration of the activity.

(1) **Specialized Materials Ordering.** Within five calendar days following issuance of the Notice to Proceed, Contractor must order any specialized material or equipment for the Work that is not readily available from material suppliers. Contractor must also retain documentation of the purchase orders date(s).

(B) **City's Review of Schedules.** City will review and may note exceptions to the baseline schedule, and to the progress schedules submitted as required below, to assure completion of the Work within the Contract Time. Contractor is solely responsible for resolving any exceptions noted in a schedule and, within seven days, must correct the schedule to address the exceptions. City's review or acceptance of Contractor's schedules will not operate to waive or limit Contractor's duty to complete the Project within the Contract Time, nor to waive or limit City's right to assess liquidated damages for Contractor's unexcused failure to do so.

(C) **Progress Schedules.** After City accepts the final baseline schedule with no exceptions, Contractor must submit an updated progress schedule and three-week look-ahead schedule, in the format specified by City, for review and acceptance with each application for a progress payment, or when otherwise specified by City, until completion of the Work. The updated progress schedule must: show how the actual progress of the Work as constructed to date compares to the baseline schedule; reflect any proposed changes in the construction schedule or method of operations, including to achieve Project milestones within the Contract Time; and identify any actual or potential impacts to the critical path. Contractor must also submit periodic reports to City of any changes in the projected material or equipment delivery dates for the Project.

(1) **Float.** The progress schedule must show early and late completion dates for each task. The number of days between those dates will be designated as the "float." Any float belongs to the Project and may be allocated by the Engineer to best serve timely completion of the Project.

(2) **Failure to Submit Schedule.** Reliable, up-to-date schedules are essential to efficient and cost-effective administration of the Project and timely completion. If Contractor fails to submit a schedule within the time periods specified in this Section, or submits a schedule to which City has noted exceptions that are not corrected, City may withhold up to ten percent from payment(s) otherwise due to Contractor until the exceptions are resolved, the schedule is corrected and resubmitted, and City has accepted the schedule. In addition, Contractor's failure to comply with the schedule requirements in this Section 5.2 will be deemed a material default and a waiver of any claims for Excusable Delay or loss of productivity arising during any period when Contractor is out of compliance, subject only to the limits of Public Contract Code § 7102.

(D) **Recovery Schedule.** If City determines that the Work is more than one week behind schedule, within seven days following written notice of such determination, Contractor must submit a recovery schedule, showing how Contractor intends to perform and complete the Work within the Contract Time, based on actual progress to date.

(E) **Effect of Acceptance.** Contractor and its Subcontractors must perform the Work in accordance with the most current City-accepted schedule unless otherwise directed by City. City's acceptance of a schedule does not operate to extend the time for completion of the Work or any component of the Work, and will not affect City's right to assess liquidated damages for Contractor's unexcused delay in completing the Work within the Contract Time.

(F) **Posting.** Contractor must at all times prominently post a copy of the most current City-accepted progress or recovery schedule in its on-site office.

(G) **Reservation of Rights.** City reserves the right to direct the sequence in which the Work must be performed or to make changes in the sequence of the Work in order to facilitate the performance of work by City or others, or to facilitate City's use of its property. The Contract Time or Contract Price may be adjusted to the extent such changes in sequence actually increase or decrease Contractor's time or cost to perform the Work.

(H) **Authorized Working Days and Times.** Contractor is limited to working Monday through Friday, excluding holidays, during City's normal business hours, except as provided in the Special Conditions or as authorized in writing by City. City reserves the right to charge Contractor for additional costs incurred by City due to Work performed on days or during hours not expressly authorized in the Contract Documents, including reimbursement of costs incurred for inspection, testing, and construction management services.

### 5.3 Delay and Extensions of Contract Time.

(A) **Notice of Delay.** If Contractor becomes aware of any actual or potential delay affecting the critical path, Contractor must promptly notify the Engineer in writing, regardless of the nature or cause of the delay, so that City has a reasonable opportunity to mitigate or avoid the delay.

(B) **Excusable Delay.** The Contract Time may be extended if Contractor encounters "Excusable Delay," which is an unavoidable delay in completing the Work within the Contract Time due to causes completely beyond Contractor's control, and which Contractor could not have avoided or mitigated through reasonable care, planning, foresight, and diligence, provided that Contractor is otherwise fully performing its obligations under the Contract Documents. Grounds for Excusable Delay may include fire, natural disasters including earthquake or unusually severe weather, acts of terror or vandalism, epidemic, unforeseeable adverse government actions, unforeseeable actions of third parties, encountering unforeseeable hazardous materials, unforeseeable site conditions, or suspension for convenience under Article 13. The Contract Time will not be extended based on circumstances which will not unavoidably delay completing the Work within the Contract Time based on critical path analysis.

(C) **Weather Delays.** A "Weather Delay Day" is a Working Day during which Contractor and its forces, including Subcontractors, are unable to perform more than 40% of the critical path Work scheduled for that day due to adverse weather conditions which impair the ability to safely or effectively perform the scheduled critical path Work that day. Adverse weather conditions may include rain, saturated soil, and Project site clean-up required due to adverse weather. Determination of what constitutes critical path Work scheduled for that day will be based on the most current, City-approved schedule. Contractor will be entitled to a non-compensable extension of the Contract Time for each Weather Delay Day in excess of the normal Weather Delay Days within a given month as determined by reliable records, including monthly rainfall averages, for the preceding ten years (or as otherwise specified in the Special Conditions or Specifications).

(1) Based on historic records for the Project location from the Western Regional Climate Center, Contractor's schedule should assume the following number of normal Weather Delay Days and precipitation for each month:

Month	# Normal Weather Delay Days	Precipitation
January	6	2.86

February	6	2.66
March	6	2.29
April	3	1.20
May	1	0.44
June	0	0.10
July	0	0.02
August	0	0.07
September	1	0.19
October	2	0.76
November	4	1.51
December	5	2.43
Total	34	14.53

(2) Contractor must fully comply with the applicable procedures in Articles 5 and 6 of the General Conditions regarding requests to modify the Contract Time.

(3) Contractor will not be entitled to an extension of time for a Weather Delay Day to the extent Contractor is responsible for concurrent delay on that day.

(4) Contractor must take reasonable steps to mitigate the consequences of Weather Delay Days, including prudent workforce management and protecting the Work, Project Site, materials, and equipment.

(D) **Non-Excusable Delay.** Delay which Contractor could have avoided or mitigated through reasonable care, planning, foresight and diligence is "Non-Excusable Delay." Contractor is not entitled to an extension of Contract Time or any compensation for Non-Excusable Delay, or for Excusable Delay that is concurrent with Non-Excusable Delay. Non-Excusable Delay includes delay caused by:

- (1) weather conditions which are normal for the location of the Project, as determined by reliable records, including monthly rainfall averages, for the preceding ten years;
- (2) Contractor's failure to order equipment and materials sufficiently in advance of the time needed for completion of the Work within the Contract Time;
- (3) Contractor's failure to provide adequate notification to utility companies or agencies for connections or services necessary for completion of the Work within the Contract Time;
- (4) foreseeable conditions which Contractor could have ascertained from reasonably diligent inspection of the Project site or review of the Contract Documents or other information provided or available to Contractor;
- (5) Contractor's failure, refusal, or financial inability to perform the Work within the Contract Time, including insufficient funds to pay its Subcontractors or suppliers;
- (6) performance or non-performance by Contractor's Subcontractors or suppliers;
- (7) the time required to respond to excessive RFIs (see Section 2.5(G));

(8) delayed submission of required submittals, or the time required for correction and resubmission of defective submittals;

(9) time required for repair of, re-testing, or re-inspection of defective Work;

(10) enforcement of Laws by City, or outside agencies with jurisdiction over the Work; or

(11) City's exercise or enforcement of any of its rights or Contractor's duties pursuant to the Contract Documents, including correction of defective Work, extra inspections or testing due to non-compliance with Contract requirements, safety compliance, environmental compliance, or rejection and return of defective or deficient submittals.

(E) **Compensable Delay.** Pursuant to Public Contract Code § 7102, in addition to entitlement to an extension of Contract Time, Contractor is entitled to compensation for costs incurred due to delay caused solely by City, when that delay is unreasonable under the circumstances involved and not within the contemplation of the parties ("Compensable Delay"). Contractor is not entitled to an extension of Contract Time or recovery of costs for Compensable Delay that is concurrent with Non-Excusable Delay. Delay due to causes that are beyond the control of either City or Contractor, including Weather Delay Days, discovery of Historic or Archeological Items pursuant to Section 7.18, or the actions or inactions of third parties or other agencies, is not Compensable Delay, and will only entitle Contractor to an extension of time commensurate with the time lost due to such delay.

(F) **Recoverable Costs.** Contractor is not entitled to compensation for Excusable Delay unless it is Compensable Delay, as defined above. Contractor is entitled to recover only the actual, direct, reasonable, and substantiated costs ("Recoverable Costs") for each working day that the Compensable Delay prevents Contractor from proceeding with more than 50% of the critical path Work scheduled for that day, based on the most recent progress schedule accepted by City. Recoverable Costs will not include home office overhead or lost profit.

(G) **Request for Extension of Contract Time or Recoverable Costs.** A request for an extension of Contract Time or any associated Recoverable Costs must be submitted in writing to City within ten calendar days of the date the delay is first encountered, even if the duration of the delay is not yet known at that time, or any entitlement to the Contract Time extension or to the Recoverable Costs will be deemed waived. In addition to complying with the requirements of this Article 5, the request must be submitted in compliance with the Change Order request procedures in Article 6 below. Strict compliance with these requirements is necessary to ensure that any delay or consequences of delay may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project and timely performance of the Work. Any request for an extension of Contract Time or Recoverable Costs that does not strictly comply with all of the requirements of Article 5 and Article 6 will be deemed waived.

(1) **Required Contents.** The request must include a detailed description of the cause(s) of the delay and must also describe the measures that Contractor has taken to mitigate the delay and/or its effects, including efforts to mitigate the cost impact of the delay, such as by workforce management or by a change in sequencing. If the delay is still ongoing at the time the request is submitted, the request should also include Contractor's plan for continued mitigation of the delay or its effects.

(2) *Delay Days and Costs.* The request must specify the number of days of Excusable Delay claimed or provide a realistic estimate if the duration of the delay is not yet known. If Contractor believes it is entitled to Recoverable Costs for Compensable Delay, the request must specify the amount and basis for the Recoverable Costs that are claimed or provide a realistic estimate if the amount is not yet known. Any estimate of delay duration or cost must be updated in writing and submitted with all required supporting documentation as soon as the actual time and cost is known. The maximum extension of Contract Time will be the number of days, if any, by which an Excusable Delay or a Compensable Delay exceeds any concurrent Non-Excusable Delay. Contractor is entitled to an extension of Contract Time, or compensation for Recoverable Costs, only if, and only to the extent that, such delay will unavoidably delay Final Completion.

(3) *Supporting Documentation.* The request must also include any and all supporting documentation necessary to evidence the delay and its actual impacts, including scheduling and cost impacts with a time impact analysis using critical path methodology and demonstrating the unavoidable delay to Final Completion. The time impact analysis must be submitted in a form or format acceptable to City.

(4) *Burden of Proof.* Contractor has the burden of proving that: the delay was an Excusable or Compensable Delay, as defined above; Contractor has fully complied with its scheduling obligations in Section 5.2, Schedule Requirements; Contractor has made reasonable efforts to mitigate the delay and its schedule and cost impacts; the delay will unavoidably result in delaying Final Completion; and any Recoverable Costs claimed by Contractor were actually incurred and were reasonable under the circumstances.

(5) *Legal Compliance.* Nothing in this Section 5.3 is intended to require the waiver, alteration, or limitation of the applicability of Public Contract Code § 7102.

(6) *No Waiver.* Any grant of an extension of Contract Time, or compensation for Recoverable Costs due to Compensable Delay, will not operate as a waiver of City's right to assess liquidated damages for Non-Excusable Delay.

(7) *Dispute Resolution.* In the event of a dispute over entitlement to an extension of Contract Time or compensation for Recoverable Costs, Contractor may not stop Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work. Contractor's sole recourse for an unresolved dispute based on City's rejection of a Change Order request for an extension of Contract Time or compensation for Recoverable Costs is to comply with the dispute resolution provisions set forth in Article 12 below.

**5.4 Liquidated Damages.** It is expressly understood that if Final Completion is not achieved within the Contract Time, City will suffer damages from the delay that are difficult to determine and accurately specify. Pursuant to Public Contract Code § 7203, if Contractor fails to achieve Final Completion within the Contract Time, City will charge Contractor in the amount specified in the Contract for each day that Final Completion is delayed beyond the Contract Time, as liquidated damages and not as a penalty. Any waiver of accrued liquidated damages, in whole or in part, is subject to approval of the City Council or its authorized delegee.

(A) **Liquidated Damages.** Liquidated damages will not be assessed for any Excusable or Compensable Delay, as set forth above.

(B) **Milestones.** Liquidated damages may also be separately assessed for failure to meet milestones specified elsewhere in the Contract Documents.

(C) **Setoff.** City is entitled to deduct the amount of liquidated damages assessed against any payments otherwise due to Contractor, including progress payments, Final Payment, or unreleased retention. If there are insufficient Contract funds remaining to cover the full amount of liquidated damages assessed, City is entitled to recover the balance from Contractor or its performance bond surety.

(D) **Occupancy or Use.** Occupancy or use of the Project in whole or in part prior to Final Completion does not constitute City's acceptance of the Project and will not operate as a waiver of City's right to assess liquidated damages for Contractor's Non-Excusable Delay in achieving Final Completion.

(E) **Other Remedies.** City's right to liquidated damages under this Section applies only to damages arising from Contractor's Non-Excusable Delay or failure to complete the Work within the Contract Time. City retains its right to pursue all other remedies under the Contract for other types of damage, including damage to property or persons, costs or diminution in value from defective materials or workmanship, costs to repair or complete the Work, or other liability caused by Contractor.

## Article 6 - Contract Modification

**6.1 Contract Modification.** Subject to the limited exception set forth in subsection (D) below, any change in the Work or the Contract Documents, including the Contract Price or Contract Time, will not be a valid and binding change to the Contract unless it is formalized in a Change Order, including a "no-cost" Change Order or a unilateral Change Order. Changes in the Work pursuant to this Article 6 will not operate to release, limit, or abridge Contractor's warranty obligations pursuant to Article 11 or any obligations of Contractor's bond sureties.

(A) **City-Directed Changes.** City may direct changes in the scope or sequence of Work or the requirements of the Contract Documents, without invalidating the Contract. Such changes may include Extra Work as set forth in subsection (C) below, or deletion or modification of portions of the Work. Contractor must promptly comply with City-directed changes in the Work in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement as to adjustments to the Contract Price or Contract Time for the change in the Work or for the Extra Work. Contractor is not entitled to extra compensation for cost savings resulting from "value engineering" pursuant to Public Contract Code § 7101, except to the extent authorized in advance by City in writing, and subject to any applicable procedural requirements for submitting a proposal for value engineering cost savings.

(B) **Disputes.** In the event of a dispute over entitlement to or the amount of a change in Contract Time or a change in Contract Price related to a City-directed change in the Work, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute. Likewise, in the event that City and Contractor dispute whether a portion or portions of the Work are already required by the Contract Documents or constitute Extra Work, or otherwise dispute the interpretation of any portion(s) of the Contract Documents, Contractor must perform the Work as directed and may not delay its Work or cease Work pending resolution of the dispute, but must continue to comply with its duty to diligently prosecute the performance and timely completion of the Work, including the Work in dispute, as directed by City. If Contractor refuses to perform the Work in dispute,

City may, acting in its sole discretion, elect to delete the Work from the Contract and reduce the Contract Price accordingly, and self-perform the Work or direct that the Work be performed by others. Alternatively, City may elect to terminate the Contract for convenience or for cause. Contractor's sole recourse for an unresolved dispute related to changes in the Work or performance of any Extra Work is to comply with the dispute resolution provisions set forth in Article 12, below.

(C) **Extra Work.** City may direct Contractor to perform Extra Work related to the Project. Contractor must promptly perform any Extra Work as directed or authorized by City in accordance with the original Contract Documents, even if Contractor and City have not yet reached agreement on adjustments to the Contract Price or Contract Time for such Extra Work. If Contractor believes it is necessary to perform Extra Work due to changed conditions, Contractor must promptly notify the Engineer in writing, specifically identifying the Extra Work and the reason(s) the Contractor believes it is Extra Work. This notification requirement does not constitute a Change Order request pursuant to Section 6.2, below. Contractor must maintain detailed daily records that itemize the cost of each element of Extra Work, and sufficiently distinguish the direct cost of the Extra Work from the cost of other Work performed. For each day that Contractor performs Extra Work, or Work that Contractor contends is Extra Work, Contractor must submit no later than the following Working Day, a daily report of the Extra Work performed that day and the related costs, together with copies of certified payroll, invoices, and other documentation substantiating the costs ("Extra Work Report"). The Engineer will make any adjustments to Contractor's Extra Work Report(s) based on the Engineer's records of the Work. When an Extra Work Report(s) is agreed on and signed by both City and Contractor, the Extra Work Report(s) will become the basis for payment under a duly authorized and signed Change Order. Failure to submit the required documentation by close of business on the next Working Day is deemed a full and complete waiver for any change in the Contract Price or Contract Time for any Extra Work performed that day.

(D) **Minor Changes and RFIs.** Minor field changes, including RFI replies from City, that do not affect the Contract Price or Contract Time and that are approved by the Engineer acting within his or her scope of authority, do not require a Change Order. By executing an RFI reply from City, Contractor agrees that it will perform the Work as clarified therein, with no change to the Contract Price or Contract Time.

(E) **Remedy for Non-Compliance.** Contractor's failure to promptly comply with a City-directed change is deemed a material breach of the Contract, and in addition to all other remedies available to it, City may, at its sole discretion, hire another contractor or use its own forces to complete the disputed Work at Contractor's sole expense, and may deduct the cost from the Contract Price.

**6.2 Contractor Change Order Requests.** Contractor must submit a request or proposal for a change in the Work, compensation for Extra Work, or a change in the Contract Price or Contract Time as a written Change Order request or proposal.

(A) **Time for Submission.** Any request for a change in the Contract Price or the Contract Time must be submitted in writing to the Engineer within ten calendar days of the date that Contractor first encounters the circumstances, information or conditions giving rise to the Change Order request, even if the total amount of the requested change in the Contract Price or impact on the Contract Time is not yet known at that time. If City requests that Contractor propose the terms of a Change Order, unless otherwise specified in City's request, Contractor must provide the Engineer with a written proposal for the change in the Contract Price or Contract Time within five working days of receiving City's request, in a form satisfactory to the Engineer.



(B) **Required Contents.** Any Change Order request or proposal submitted by Contractor must include a complete breakdown of actual or estimated costs and credits, and must itemize labor, materials, equipment, taxes, insurance, subcontract amounts, and, if applicable, Extra Work Reports. Any estimated cost must be updated in writing as soon as the actual amount is known.

(C) **Required Documentation.** All claimed costs must be fully documented, and any related request for an extension of time or delay-related costs must be included at that time and in compliance with the requirements of Article 5 of the General Conditions. Upon request, Contractor must permit City to inspect its original and unaltered bidding records, subcontract agreements, subcontract change orders, purchase orders, invoices, or receipts associated with the claimed costs.

(D) **Required Form.** Contractor must use City's form(s) for submitting all Change Order requests or proposals, unless otherwise specified by City.

(E) **Certification.** All Change Order requests must be signed by Contractor and must include the following certification:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Change Order request are true and correct. Contractor warrants that this Change Order request is comprehensive and complete as to the Work or changes referenced herein, and agrees that any known or foreseeable costs, expenses, or time extension requests not included herein, are deemed waived."

**6.3 Adjustments to Contract Price.** The amount of any increase or decrease in the Contract Price will be determined based on one of the following methods listed below, in the order listed with unit pricing taking precedence over the other methods. Markup applies only to City-authorized time and material Work, and does not apply to any other payments to Contractor. For Work items or components that are deleted in their entirety, Contractor will only be entitled to compensation for those direct, actual, and documented costs (including restocking fees), reasonably incurred before Contractor was notified of the City's intent to delete the Work, with no markup for overhead, profit, or other indirect costs.

(A) **Unit Pricing.** Amounts previously provided by Contractor in the form of unit prices, either in a bid schedule or in a post-award schedule of values pursuant to Section 8.1, Schedule of Values, will apply to determine the price for the affected Work, to the extent applicable unit prices have been provided for that type of Work. No additional markup for overhead, profit, or other indirect costs will be added to the calculation.

(B) **Lump Sum.** A mutually agreed upon, all-inclusive lump sum price for the affected Work with no additional markup for overhead, profit, or other indirect costs.

(C) **Time and Materials.** On a time and materials basis, if and only to the extent compensation on a time and materials basis is expressly authorized by City in advance of Contractor's performance of the Work and subject to any not-to-exceed limit. Time and materials compensation for increased costs or Extra Work (but not decreased costs or deleted Work), will include allowed markup for overhead, profit, and other indirect costs, and which may include a not-to-exceed limit, calculated as the total of the following sums, the cumulative total of which may not exceed the maximum markup rate of 15%:

(1) All direct labor costs provided by the Contractor, excluding superintendence, project management, or administrative costs, plus 15% markup;

(2) All direct material costs provided by the Contractor, including sales tax, plus 15% markup;

(3) All direct plant and equipment rental costs provided by the Contractor, plus 15% markup;

(4) All direct additional subcontract costs plus 10% markup for Work performed by Subcontractors; and

(5) Increased bond or insurance premium costs computed at 1.5% of total of the previous four sums.

**6.4 Unilateral Change Order.** If the parties dispute the terms of a proposed Change Order, including disputes over the amount of compensation or extension of time that Contractor has requested, the value of deleted or changed Work, what constitutes Extra Work, or quantities used, City may elect to issue a unilateral Change Order, directing performance of the Work, and authorizing a change in the Contract Price or Contract Time for the adjustment to compensation or time that the City believes is merited. Contractor's sole recourse to dispute the terms of a unilateral Change Order is to submit a timely Claim pursuant to Article 12, below.

**6.5 Non-Compliance Deemed Waiver.** Contractor waives its entitlement to any increase in the Contract Price or Contract Time if Contractor fails to fully comply with the provisions of this Article. Contractor will not be paid for unauthorized Extra Work.

## **Article 7 - General Construction Provisions**

### **7.1 Permits, Fees, Business License, and Taxes.**

(A) **Permits, Fees, and City Business License.** Contractor must obtain and pay for all permits, fees, or licenses required to perform the Work, including a City business license. Contractor must cooperate with and provide notifications to all government agencies with jurisdiction over the Project, as may be required. Contractor must provide City with copies of all records of permits and permit applications, payment of required fees, and any licenses required for the Work.

(B) **Taxes.** Contractor must pay for all taxes on labor, material and equipment, except Federal Excise Tax to the extent that City is exempt from Federal Excise Tax.

**7.2 Temporary Facilities.** Contractor must provide, at Contractor's sole expense, any and all temporary facilities for the Project, including an onsite staging area for materials and equipment, a field office, sanitary facilities, utilities, storage, scaffolds, barricades, walkways, and any other temporary structure required to safely perform the Work along with any incidental utility services. The location of all temporary facilities must be approved by the City prior to installation. Temporary facilities must be safe and adequate for the intended use and installed and maintained in accordance with Laws and the Contract Documents. Contractor must fence and screen the Project site and, if applicable, any separate Worksites, including the staging area, and its operation must minimize inconvenience to neighboring properties. Additional provisions pertaining to temporary facilities may be included in the Specifications or Special Conditions.

(A) **Utilities.** Contractor must install and maintain the power, water, sewer and all other utilities required for the Project site, including the piping, wiring, internet and wifi connections, and any related equipment necessary to maintain the temporary facilities.

(B) **Removal and Repair.** Contractor must promptly remove all such temporary facilities when they are no longer needed or upon completion of the Work, whichever comes first. Contractor must promptly repair any damage to City's property or to other property caused by the installation, use, or removal of the temporary facilities, and must promptly restore the property to its original or intended condition.

**7.3 Noninterference and Site Management.** Contractor must avoid interfering with City's use of its property at or adjacent to the Project site, including use of roadways, entrances, parking areas, walkways, and structures. Contractor must also minimize disruption of access to private property in the Project vicinity. Contractor must coordinate with affected property owners, tenants, and businesses, and maintain some vehicle and pedestrian access to their residences or properties at all times. Temporary access ramps, fencing or other measures must be provided as needed. Before blocking access to a private driveway or parking lot, Contractor must provide effective notice to the affected parties at least 48 hours in advance of the pending closure and allow them to remove vehicles. Private driveways, residences and parking lots must have access to a roadway during non-Work hours.

(A) **Offsite Acquisition.** Unless otherwise provided by City, Contractor must acquire, use and dispose of, at its sole expense, any additional Worksites, licenses, easements, and temporary facilities necessary to access and perform the Work.

(B) **Offsite Staging Area and Field Office.** If additional space beyond the Project site is needed, such as for the staging area or the field office, Contractor may need to make arrangements with the nearby property owner(s) to secure the space. Before using or occupying any property owned by a third party, Contractor must provide City with a copy of the necessary license agreement, easement, or other written authorization from the property owner, together with a written release from the property owner holding City harmless from any related liability, in a form acceptable to the City Attorney.

(C) **Traffic Management.** Contractor must provide traffic management and traffic controls as specified in the Contract Documents, as required by Laws, and as otherwise required to ensure the public and worker safety, and to avoid interference with public or private operations or the normal flow of vehicular, bicycle, or pedestrian traffic.

**7.4 Signs.** No signs may be displayed on or about City's property, except signage which is required by Laws or by the Contract Documents, without City's prior written approval as to size, design, and location.

**7.5 Project Site and Nearby Property Protections.**

(A) **General.** Contractor is responsible at all times, on a 24-hour basis and at its sole cost, for protecting the Work, the Project site, and the materials and equipment to be incorporated into the Work, until the City has accepted the Project, excluding any exceptions to acceptance, if any. Except as specifically authorized by City, Contractor must confine its operations to the area of the Project site indicated in the Plans and Specifications. Contractor is liable for any damage caused by Contractor or its Subcontractors to the Work, City's property, the property of adjacent or nearby property owners and the work or personal property of other contractors working for City, including damage related to Contractor's failure to adequately secure the Work or any Worksite.

(1) Subject to City's approval, Contractor will provide and install safeguards to protect the Work; any Worksite, including the Project site; City's real or personal property and the real or personal property of adjacent or nearby property owners, including plant and tree protections.

(2) City wastewater systems may not be interrupted. If the Work disrupts existing sewer facilities, Contractor must immediately notify City and establish a plan, subject to City's approval, to convey the sewage in closed conduits back into the sanitary sewer system. Sewage must not be permitted to flow in trenches or be covered by backfill.

(3) Contractor must remove with due care, and store at City's request, any objects or material from the Project site that City will salvage or reuse at another location.

(4) If directed by Engineer, Contractor must promptly repair or replace any property damage, as specified by the Engineer. However, acting in its sole discretion, City may elect to have the property damage remedied otherwise, and may deduct the cost to repair or replace the damaged property from payment otherwise due to Contractor.

(5) Contractor will not permit any structure or infrastructure to be loaded in a manner that will damage or endanger the integrity of the structure or infrastructure.

(B) **Securing Project Site.** After completion of Work each day, Contractor must secure the Project site and, to the extent feasible, make the area reasonably accessible to the public unless City approves otherwise. All excess materials and equipment not protected by approved traffic control devices must be relocated to the staging area or demobilized. Trench spoils must be hauled off the Project site daily and open excavations must be protected with steel plates. Contractor and Subcontractor personnel may not occupy or use the Project site for any purpose during non-Work hours, except as may be provided in the Contract Documents or pursuant to prior written authorization from City.

(C) **Unforeseen Conditions.** If Contractor encounters facilities, utilities, or other unknown conditions not shown on or reasonably inferable from the Plans or apparent from inspection of the Project site, Contractor must immediately notify the City and promptly submit a Request for Information to obtain further directions from the Engineer. Contractor must avoid taking any action which could cause damage to the facilities or utilities pending further direction from the Engineer. The Engineer's written response will be final and binding on Contractor. If the Engineer's subsequent direction to Contractor affects Contractor's cost or time to perform the Work, Contractor may submit a Change Order request as set forth in Article 6 above.

(D) **Support; Adjacent Properties.** Contractor must provide, install, and maintain all shoring, bracing, and underpinning necessary to provide support to City's property and adjacent properties and improvements thereon. Contractor must provide notifications to adjacent property owners as may be required by Laws. See also, Section 7.15, Trenching of Five Feet or More.

(E) **Notification of Property Damage.** Contractor must immediately notify the City of damage to any real or personal property resulting from Work on the Project. Contractor must immediately provide a written report to City of any such property damage in excess of \$500 (based on estimated cost to repair or replace) within 24 hours of the occurrence. The written report must include: (1) the location and nature of the damage, and the owner of the property, if known; (2) the name and address of each employee of Contractor or any Subcontractor involved in the damage; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with another government agency, Contractor will provide a copy of the report to City.

## 7.6 Materials and Equipment.

(A) **General.** Unless otherwise specified, all materials and equipment required for the Work must be new, free from defects, and of the best grade for the intended purpose, and furnished in sufficient quantities to ensure the proper and expeditious performance of the Work. Contractor must employ measures to preserve the specified quality and fitness of the materials and equipment. Unless otherwise specified, all materials and equipment required for the Work are deemed to include all components required for complete installation and intended operation and must be installed in accordance with the manufacturer's recommendations or instructions. Contractor is responsible for all shipping, handling, and storage costs associated with the materials and equipment required for the Work. Contractor is responsible for providing security and protecting the Work and all of the required materials, supplies, tools and equipment at Contractor's sole cost until City has formally accepted the Project as set forth in Section 11.1, Final Completion. Contractor will not assign, sell, mortgage, or hypothecate any materials or equipment for the Project, or remove any materials or equipment that have been installed or delivered.

(B) **City-Provided.** If the Work includes installation of materials or equipment to be provided by City, Contractor is solely responsible for the proper examination, handling, storage, and installation in accordance with the Contract Documents. Contractor must notify City of any defects discovered in City-provided materials or equipment, sufficiently in advance of scheduled use or installation to afford adequate time to procure replacement materials or equipment as needed. Contractor is solely responsible for any loss of or damage to such items which occurs while the items are in Contractor's custody and control, the cost of which may be offset from the Contract Price and deducted from any payment(s) due to Contractor.

(C) **Intellectual Property Rights.** Contractor must, at its sole expense, obtain any authorization or license required for use of patented or copyright-protected materials, equipment, devices or processes that are incorporated into the Work. Contractor's indemnity obligations in Article 4 apply to any claimed violation of intellectual property rights in violation of this provision.

## 7.7 Substitutions.

(A) **"Or Equal."** Any Specification designating a material, product, or thing (collectively, "item") or service by specific brand or trade name, followed by the words "or equal," is intended only to indicate the quality and type of item or service desired, and Contractor may request use of any equal item or service. Unless otherwise stated in the Specifications, any reference to a specific brand or trade name for an item that is used solely for the purpose of describing the type of item desired, will be deemed to be followed by the words "or equal." A substitution will only be approved if it is a true "equal" item in every aspect of design, function, and quality, as determined by City, including dimensions, weight, maintenance requirements, durability, fit with other elements, and schedule impacts.

(B) **Request for Substitution.** A post-award request for substitution of an item or service must be submitted in writing to the Engineer for approval in advance, within the applicable time period provided in the Contract Documents. If no time period is specified, the substitution request may be submitted any time within 35 days after the date of award of the Contract, or sufficiently in advance of the time needed to avoid delay of the Work, whichever is earlier.

(C) **Substantiation.** Any available data substantiating the proposed substitute as an equal item or service must be submitted with the written request for substitution. Contractor's failure to timely provide all necessary substantiation, including any required test results as soon as they are available, is grounds for rejection of the proposed substitution, without further review.

(D) **Burden of Proving Equality.** Contractor has the burden of proving the equality of the proposed substitution at Contractor's sole cost. City has sole discretion to determine whether a proposed substitution is equal, and City's determination is final.

(E) **Approval or Rejection.** If the proposed substitution is approved, Contractor is solely responsible for any additional costs or time associated with the substituted item or service. If the proposed substitution is rejected, Contractor must, without delay, install the item or use the service as specified by City.

(F) **Contractor's Obligations.** City's approval of a proposed substitution will not relieve Contractor from any of its obligations under the Contract Documents. In the event Contractor makes an unauthorized substitution, Contractor will be solely responsible for all resulting cost impacts, including the cost of removal and replacement and the impact to other design elements.

## 7.8 Testing and Inspection.

(A) **General.** All materials, equipment, and workmanship used in the Work are subject to inspection and testing by City at all times and locations during construction and/or fabrication and at any Worksite, including at shops and yards as well as at the Project site. All manufacturers' application or installation instructions must be provided to the Inspector at least ten days prior to the first such application or installation. Contractor must, at all times, make the Work available for testing or inspection. Neither City's inspection or testing of Work, nor its failure to do so, operate to waive or limit Contractor's duty to complete the Work in accordance with the Contract Documents.

(B) **Scheduling and Notification.** Contractor must cooperate with City in coordinating the inspections and testing. Contractor must submit samples of materials, at Contractor's expense, and schedule all tests required by the Contract Documents in time to avoid any delay to the progress of the Work. Contractor must notify the Engineer no later than noon of the Working Day before any inspection or testing and must provide timely notice to the other necessary parties as specified in the Contract Documents. If Contractor schedules an inspection or test beyond regular Work hours, or on a Saturday, Sunday, or recognized City holiday, Contractor must notify the Engineer at least two Working Days in advance for approval. If approved, Contractor must reimburse City for the cost of the overtime inspection or testing. Such costs, including the City's hourly costs for required personnel, may be deducted from payments otherwise due to Contractor.

(C) **Responsibility for Costs.** City will bear the initial cost of inspection and testing to be performed by independent testing consultants retained by City, subject to the following exceptions:

(1) Contractor will be responsible for the costs of any subsequent tests which are required to substantiate compliance with the Contract Documents, and any associated remediation costs.

(2) Contractor will be responsible for inspection costs, at City's hourly rates, for inspection time lost because the Work is not ready or Contractor fails to appear for a scheduled inspection.

(3) If any portion of the Work that is subject to inspection or testing is covered or concealed by Contractor prior to the inspection or testing, Contractor will bear the cost of making that portion of the Work available for the inspection or testing required by the Contract Documents, and any associated repair or remediation costs.

(4) Contractor is responsible for properly shoring all compaction test sites deeper than five feet below grade, as required under Section 7.15 below.

(5) Any Work or material that is defective or fails to comply with the requirements of the Contract Documents must be promptly repaired, removed, replaced, or corrected by Contractor, at Contractor's sole expense, even if that Work or material was previously inspected or included in a progress payment.

(D) **Contractor's Obligations.** Contractor is solely responsible for any delay occasioned by remediation of defective or noncompliant Work or material. Inspection of the Work does not in any way relieve Contractor of its obligations to perform the Work as specified. Any Work done without the required inspection(s) will also be subject to rejection by City.

(E) **Distant Locations.** If required off-site testing or inspection must be conducted at a location more than 100 miles from the Project site, Contractor is solely responsible for the additional travel costs required for testing and/or inspection at such locations.

(F) **Final Inspection.** The provisions of this Section 7.8 also apply to final inspection under Article 11, Completion and Warranty Provisions.

**7.9 Project Site Conditions and Maintenance.** Contractor must at all times, on a 24-hour basis and at its sole cost, maintain the Project site and staging and storage areas in clean, neat, and sanitary condition and in compliance with all Laws pertaining to safety, air quality, and dust control. Adequate toilets must be provided, and properly maintained and serviced for all workers on the Project site, located in a suitably secluded area, subject to City's prior approval. Contractor must also, on a daily basis and at its sole cost, remove and properly dispose of the debris and waste materials from the Project site.

(A) **Air Emissions Control.** Contractor must not discharge smoke or other air contaminants into the atmosphere in violation of any Laws.

(B) **Dust and Debris.** Contractor must minimize and confine dust and debris resulting from the Work. Contractor must abate dust nuisance by cleaning, sweeping, and immediately sprinkling with water excavated areas of dirt or other materials prone to cause dust, and within one hour after the Engineer notifies Contractor that an airborne nuisance exists. The Engineer may direct that Contractor provide an approved water-spraying truck for this purpose. If water is used for dust control, Contractor will only use the minimum necessary. Contractor must take all necessary steps to keep waste water out of streets, gutters, or storm drains. See Section 7.19, Environmental Control. If City determines that the dust control is not adequate, City may have the work done by others and deduct the cost from the Contract Price. Contractor will immediately remove any excess excavated material from the Project site and any dirt deposited on public streets.

(C) **Clean up.** Before discontinuing Work in an area, Contractor must clean the area and remove all debris and waste along with the construction equipment, tools, machinery, and surplus materials.

(1) Except as otherwise specified, all excess Project materials, and the materials removed from existing improvements on the Project site with no salvage value or intended reuse by City, will be Contractor's property.

(2) Hauling trucks and other vehicles leaving the Project site must be cleaned of exterior mud or dirt before traveling on City streets. Materials and loose debris must be delivered and loaded to prevent dropping materials or debris. Contractor must immediately remove spillage from hauling on any publicly traveled way. Streets affected by Work on the Project must be kept clean by street sweeping.

(D) **Disposal.** Contractor must dispose of all Project debris and waste materials in a safe and legal manner. Contractor may not burn or bury waste materials on the Project site. Contractor will not allow any dirt, refuse, excavated material, surplus concrete or mortar, or any associated washings, to be disposed of onto streets, into manholes or into the storm drain system.

(E) **Completion.** At the completion of the Work, Contractor must remove from the Project site all of its equipment, tools, surplus materials, waste materials and debris, presenting a clean and neat appearance. Before demobilizing from the Project site, Contractor must ensure that all surfaces are cleaned, sealed, waxed, or finished as applicable, and that all marks, stains, paint splatters, and the like have been properly removed from the completed Work and the surrounding areas. Contractor must ensure that all parts of the construction are properly joined with the previously existing and adjacent improvements and conditions. Contractor must provide all cutting, fitting and patching needed to accomplish that requirement. Contractor must also repair or replace all existing improvements that are damaged or removed during the Work, both on and off the Project site, including curbs, sidewalks, driveways, fences, signs, utilities, street surfaces and structures. Repairs and replacements must be at least equal to the previously existing improvements, and the condition, finish and dimensions must match the previously existing improvements. Contractor must restore to original condition all property or items that are not designated for alteration under the Contract Documents and leave each Worksite clean and ready for occupancy or use by City.

(F) **Non-Compliance.** If Contractor fails to comply with its maintenance and cleanup obligations or any City clean up order, City may, acting in its sole discretion, elect to suspend the Work until the condition(s) is corrected with no increase in the Contract Time or Contract Price, or undertake appropriate cleanup measures without further notice and the cost will be deducted from any amounts due or to become due to Contractor.

**7.10 Instructions and Manuals.** Contractor must provide to City three copies each of all instructions and manuals required by the Contract Documents, unless otherwise specified. These must be complete as to drawings, details, parts lists, performance data, and other information that may be required for City to easily maintain and service the materials and equipment installed for this Project.

(A) **Submittal Requirements.** All manufacturers' application or installation instructions must be provided to City at least ten days prior to the first such application. The instructions and manuals, along with any required guarantees, must be delivered to City for review.

(B) **Training.** Contractor or its Subcontractors must train City's personnel in the operation and maintenance of any complex equipment or systems as a condition precedent to Final Completion, if required in the Contract Documents.

**7.11 As-built Drawings.** Contractor and its Subcontractors must prepare and maintain at the Project site a detailed, complete and accurate as-built set of the Plans which will be used



solely for the purpose of recording changes made in any portion of the original Plans in order to create accurate record drawings at the end of the Project.

(A) **Duty to Update.** The as-built drawings must be updated as changes occur, on a daily basis if necessary. City may withhold the estimated cost for City to have the as-built drawings prepared from payments otherwise due to Contractor, until the as-built drawings are brought up to date to the satisfaction of City. Actual locations to scale must be identified on the as-built drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, or otherwise concealed. Deviations from the original Plans must be shown in detail. The exact location of all main runs, whether piping, conduit, ductwork or drain lines, must be shown by dimension and elevation. The location of all buried pipelines, appurtenances, or other improvements must be represented by coordinates and by the horizontal distance from visible above-ground improvements.

(B) **Final Completion.** Contractor must verify that all changes in the Work are depicted in the as-built drawings and must deliver the complete set of as-built drawings to the Engineer for review and acceptance as a condition precedent to Final Completion and Final Payment.

#### **7.12 Existing Utilities.**

(A) **General.** The Work may be performed in developed, urban areas with existing utilities, both above and below ground, including utilities identified in the Contract Documents or in other informational documents or records. Contractor must take due care to locate identified or reasonably identifiable utilities before proceeding with trenching, excavation, or any other activity that could damage or disrupt existing utilities. This may include excavation with small equipment, potholing, or hand excavation, and, if practical, using white paint or other suitable markings to delineate the area to be excavated. Except as otherwise provided herein, Contractor will be responsible for costs resulting from damage to identified or reasonably identifiable utilities due to Contractor's negligence or failure to comply with the Contract Documents, including the requirements in this Article 7.

(B) **Unidentified Utilities.** Pursuant to Government Code § 4215, if, during the performance of the Work, Contractor discovers utility facilities not identified by City in the Contract Documents, Contractor must immediately provide written notice to City and the utility. City assumes responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project site if those utilities are not identified in the Contract Documents. Contractor will be compensated in accordance with the provisions of the Contract Documents for the costs of locating, repairing damage not due to Contractor's failure to exercise reasonable care, and removing or relocating utility facilities not indicated in the Plans or Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. Contractor will not be assessed liquidated damages for delay in completion of the Work, to the extent the delay was caused by City's failure to provide for removal or relocation of the utility facilities.

**7.13 Notice of Excavation.** Contractor must comply with all applicable requirements in Government Code §§ 4216 through 4216.5, which are incorporated by reference herein. Government Code § 4216.2 requires that, except in an emergency, Contractor must contact the appropriate regional notification center, or Underground Services Alert, at least two working days, but not more than 14 calendar days, before starting any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations. Contractor may not begin excavation until it has obtained and submitted to Engineer an inquiry identification number from Underground Services Alert.

**7.14 Trenching and Excavations of Four Feet or More.** As required by Public Contract Code § 7104, if the Work includes digging trenches or other excavations that extend deeper than four feet below the surface, the provisions in this Section apply to the Work and the Project.

(A) **Duty to Notify.** Contractor must promptly, and before the following conditions are disturbed, provide written notice to City if Contractor finds any of the following conditions:

(1) Material that Contractor believes may be a hazardous waste, as defined in § 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing Laws;

(2) Subsurface or latent physical conditions at the Project site differing from those indicated by information about the Project site made available to bidders prior to the deadline for submitting bids; or

(3) Unknown physical conditions at the Project site of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character required by the Contract Documents.

(B) **City Investigation.** City will promptly investigate the conditions and if City finds that the conditions materially differ from those indicated, apparent, or reasonably inferred from information about the Project site made available to bidders, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, City will issue a Change Order.

(C) **Disputes.** In the event that a dispute arises between City and Contractor regarding any of the conditions specified in subsection (B) above, or the terms of a Change Order issued by City, Contractor will not be excused from completing the Work within the Contract Time, but must proceed with all Work to be performed under the Contract. Contractor will retain any and all rights provided either by the Contract or by Laws which pertain to the resolution of disputes between Contractor and City.

**7.15 Trenching of Five Feet or More.** As required by Labor Code § 6705, if the Contract Price exceeds \$25,000 and the Work includes the excavation of any trench or trenches of five feet or more in depth, a detailed plan must be submitted to City for acceptance in advance of the excavation. The detailed plan must show the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. If the plan varies from the shoring system standards, it must be prepared by a California registered civil or structural engineer. Use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders is prohibited.

**7.16 New Utility Connections.** Except as otherwise specified, City will pay connection charges and meter costs for new permanent utilities required by the Contract Documents, if any. Contractor must notify City sufficiently in advance of the time needed to request service from each utility provider so that connections and services are initiated in accordance with the Project schedule.

**7.17 Lines and Grades.** Contractor is required to use any benchmark provided by the Engineer. Unless otherwise specified in the Contract Documents, Contractor must provide all lines and grades required to execute the Work. Contractor must also provide,

preserve, and replace if necessary, all construction stakes required for the Project. All stakes or marks must be set by a California licensed surveyor or a California registered civil engineer. Contractor must notify the Engineer of any discrepancies found between Contractor's staking and grading and information provided by the Contract Documents. Upon completion, all Work must conform to the lines, elevations, and grades shown in the Plans, including any changes directed by a Change Order.

#### **7.18 Historic or Archeological Items.**

(A) **Contractor's Obligations.** Contractor must ensure that all persons performing Work at the Project site are required to immediately notify the Project Manager, upon discovery of any potential historic or archeological items, including historic or prehistoric ruins, a burial ground, archaeological or vertebrate paleontological site, including fossilized footprints or other archeological, paleontological or historical feature on the Project site (collectively, "Historic or Archeological Items").

(B) **Discovery; Cessation of Work.** Upon discovery of any potential Historic or Archeological Items, Work must be stopped within an 85-foot radius of the find and may not resume until authorized in writing by City. If required by City, Contractor must assist in protecting or recovering the Historic or Archeological Items, with any such assistance to be compensated as Extra Work on a time and materials basis under Article 6, Contract Modification. At City's discretion, a suspension of Work required due to discovery of Historic or Archeological Items may be treated as Excusable Delay pursuant to Article 5, or as a suspension for convenience under Article 13.

#### **7.19 Environmental Control.** Contractor must not pollute any drainage course or its tributary inlets with fuels, oils, bitumens, acids, insecticides, herbicides or other harmful materials. Contractor must prevent the release of any hazardous material or hazardous waste into the soil or groundwater, and prevent the unlawful discharge of pollutants into City's storm drain system and watercourses as required below. Contractor and its Subcontractors must at all times in the performance of the Work comply with all Laws concerning pollution of waterways.

(A) **Stormwater Permit.** Contractor must comply with all applicable conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Stormwater Permit").

(B) **Contractor's Obligations.** If required for the Work, a copy of the Stormwater Permit is on file in City's principal administrative offices, and Contractor must comply with it without adjustment of the Contract Price or the Contract Time. Contractor must timely and completely submit required reports and monitoring information required by the conditions of the Stormwater Permit. Contractor also must comply with all other Laws governing discharge of stormwater, including applicable municipal stormwater management programs.

#### **7.20 Noise Control.** Contractor must comply with all applicable noise control Laws. Noise control requirements apply to all equipment used for the Work or related to the Work, including trucks, transit mixers or transient equipment that may or may not be owned by Contractor.

#### **7.21 Mined Materials.** Pursuant to the Surface Mining and Reclamation Act of 1975, Public Resources Code § 2710 et seq., any purchase of mined materials, such as construction aggregate, sand, gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation included on the AB 3098 List,

which is available online at:  
<ftp://ftp.consrv.ca.gov/pub/omr/AB3098%20List/AB3908List.pdf>.

## Article 8 - Payment

**8.1 Schedule of Values.** Prior to submitting its first application for payment, Contractor must prepare and submit to the Project Manager a schedule of values apportioned to the various divisions and phases of the Work, including mobilization and demobilization. If a Bid Schedule was submitted with Contractor's bid, the amounts in the schedule of values must be consistent with the Bid Schedule. Each line item contained in the schedule of values must be assigned a value such that the total of all items equals the Contract Price. The items must be sufficiently detailed to enable accurate evaluation of the percentage of completion claimed in each application for payment, and the assigned value consistent with any itemized or unit pricing submitted with Contractor's bid.

(A) **Measurements for Unit Price Work.** Materials and items of Work to be paid for on the basis of unit pricing will be measured according to the methods specified in the Contract Documents.

(B) **Deleted or Reduced Work.** Contractor will not be compensated for Work that City has deleted or reduced in scope, except for any labor, material or equipment costs for such Work that Contractor reasonably incurred before Contractor learned that the Work could be deleted or reduced. Contractor will only be compensated for those actual, direct and documented costs incurred, and will not be entitled to any mark up for overhead or lost profits.

**8.2 Progress Payments.** Following the last day of each month, or as otherwise required by the Special Conditions or Specifications, Contractor will submit to the Project Manager a monthly application for payment for Work performed during the preceding month based on the estimated value of the Work performed during that preceding month.

(A) **Application for Payment.** Each application for payment must be itemized to include labor, materials, and equipment incorporated into the Work, and materials and equipment delivered to the Project site, as well as authorized and approved Change Orders. Each payment application must be supported by the unit prices submitted with Contractor's Bid Schedule and/or schedule of values and any other substantiating data required by the Contract Documents.

(B) **Payment of Undisputed Amounts.** City will pay the undisputed amount due within 30 days after Contractor has submitted a complete and accurate payment application, subject to Public Contract Code § 20104.50. City will deduct a percentage from each progress payment as retention, as set forth in Section 8.5, below, and may withhold additional amounts as set forth in Section 8.3, below.

**8.3 Adjustment of Payment Application.** City may adjust or reject the amount requested in a payment application, including application for Final Payment, in whole or in part, if the amount requested is disputed or unsubstantiated. Contractor will be notified in writing of the basis for the modification to the amount requested. City may also deduct or withhold from payment otherwise due based upon any of the circumstances and amounts listed below. Sums withheld from payment otherwise due will be released when the basis for that withholding has been remedied and no longer exists.

(A) For Contractor's unexcused failure to perform the Work as required by the Contract Documents, including correction or completion of punch list items, City may

withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(B) For loss or damage caused by Contractor or its Subcontractors arising out of or relating to performance of the Work or any failure to protect the Project site, City may deduct an amount based on the estimated cost to repair or replace.

(C) For Contractor's failure to pay its Subcontractors and suppliers when payment is due, City may withhold an amount equal to the total of past due payments and may opt to pay that amount separately via joint check pursuant to Section 8.6(B), Joint Checks.

(D) For Contractor's failure to timely correct rejected, nonconforming, or defective Work, City may withhold or deduct an amount based on the City's estimated cost to correct or complete the Work.

(E) For any unreleased stop notice, City may withhold 125% of the amount claimed.

(F) For Contractor's failure to submit any required schedule or schedule update in the manner and within the time specified in the Contract Documents, City may withhold an amount equal to five percent of the total amount requested until Contractor complies with its schedule submittal obligations.

(G) For Contractor's failure to maintain or submit as-built documents in the manner and within the time specified in the Contract Documents, City may withhold or deduct an amount based on the City's cost to prepare the as-builts.

(H) For Work performed without Shop Drawings that have been accepted by City, when accepted Shop Drawings are required before proceeding with the Work, City may deduct an amount based on the estimated costs to correct unsatisfactory Work or diminution in value.

(I) For fines, payments, or penalties assessed under the Labor Code, City may deduct from payments due to Contractor as required by Laws and as directed by the Division of Labor Standards Enforcement.

(J) For any other costs or charges that may be withheld or deducted from payments to Contractor, as provided in the Contract Documents, including liquidated damages, City may withhold or deduct such amounts from payment otherwise due to Contractor.

**8.4 Early Occupancy.** Neither City's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of any part of the Work.

**8.5 Retention.** City will retain five percent of the full amount due on each progress payment (i.e., the amount due before any withholding or deductions pursuant to Section 8.3, Adjustment to Payment Application), or the percentage stated in the Notice Inviting Bids, whichever is greater, as retention to ensure full and satisfactory performance of the Work. Contractor is not entitled to any reduction in the rate of withholding at any time, nor to release of any retention before 35 days following City's acceptance of the Project.

(A) **Substitution of Securities.** As provided by Public Contract Code § 22300, Contractor may request in writing that it be allowed, at its sole expense, to substitute securities for the retention withheld by City. Any escrow agreement entered into pursuant to this provision must fully comply with Public Contract Code § 22300 and will be subject to approval as to form by City's legal counsel. If City exercises its right to draw upon such securities in the event of default pursuant to section (7) of the statutory Escrow Agreement for Security Deposits in Lieu of Retention, pursuant to subdivision (f) of Public

Contract Code § 22300 (“Escrow Agreement”), and if Contractor disputes that it is in default, its sole remedy is to comply with the dispute resolution procedures in Article 12 and the provisions therein. It is agreed that for purposes of this paragraph, an event of default includes City’s rights pursuant to these Contract Documents to withhold or deduct sums from retention, including withholding or deduction for liquidated damages, incomplete or defective Work, stop payment notices, or backcharges. It is further agreed that if any individual authorized to give or receive written notice on behalf of a party pursuant to section (10) of the Escrow Agreement are unavailable to give or receive notice on behalf of that party due to separation from employment, retirement, death, or other circumstances, the successor or delegee of the named individual is deemed to be the individual authorized to give or receive notice pursuant to section (10) of the Escrow Agreement.

(B) **Release of Undisputed Retention.** All undisputed retention, less any amounts that may be assessed as liquidated damages, retained for stop notices, or otherwise withheld pursuant to Section 8.3, Adjustment of Payment Application, will be released as Final Payment to Contractor no sooner than 35 days following recordation of the notice of completion, and no later than 60 days following acceptance of the Project by City’s governing body or authorized designee pursuant to Section 11.1(C), Acceptance, or, if the Project has not been accepted, no later than 60 days after the Project is otherwise considered complete pursuant to Public Contract Code § 7107(c).

**8.6 Payment to Subcontractors and Suppliers.** Each month, Contractor must promptly pay each Subcontractor and supplier the value of the portion of labor, materials, and equipment incorporated into the Work or delivered to the Project site by the Subcontractor or supplier during the preceding month. Such payments must be made in accordance with the requirements of Laws pertaining to such payments, and those of the Contract Documents and applicable subcontract or supplier contract.

(A) **Withholding for Stop Notice.** Pursuant to Civil Code § 9358, City will withhold 125% of the amount claimed by an unreleased stop notice, a portion of which may be retained by City for the costs incurred in handling the stop notice claim, including attorneys’ fees and costs, as authorized by law.

(B) **Joint Checks.** City reserves the right, acting in its sole discretion, to issue joint checks made payable to Contractor and a Subcontractor or supplier, if City determines this is necessary to ensure fair and timely payment for a Subcontractor or supplier who has provided services or goods for the Project. As a condition to release of payment by a joint check, the joint check payees may be required to execute a joint check agreement in a form provided or approved by the City Attorney’s Office. The joint check payees will be jointly and severally responsible for the allocation and disbursement of funds paid by joint check. Payment by joint check will not be construed to create a contractual relationship between City and a Subcontractor or supplier of any tier beyond the scope of the joint check agreement.

**8.7 Final Payment.** Contractor’s application for Final Payment must comply with the requirements for submitting an application for a progress payment as stated in Section 8.2, above. Corrections to previous progress payments, including adjustments to estimated quantities for unit priced items, may be included in the Final Payment. If Contractor fails to submit a timely application for Final Payment, City reserves the right to unilaterally process and issue Final Payment without an application from Contractor in order to close out the Project. For the purposes of determining the deadline for Claim submission pursuant to Article 12, the date of Final Payment is deemed to be the date that City acts to release undisputed retention as final payment to Contractor, or otherwise provides written notice to Contractor of Final Payment or that no undisputed funds remain available for Final Payment due to offsetting withholdings or deductions pursuant to

Section 8.3, Adjustment of Payment Application. If the amount due from Contractor to City exceeds the amount of Final Payment, City retains the right to recover the balance from Contractor or its sureties.

- 8.8 Release of Claims.** City may, at any time, require that payment of the undisputed portion of any progress payment or Final Payment be contingent upon Contractor furnishing City with a written waiver and release of all claims against City arising from or related to the portion of Work covered by those undisputed amounts subject to the limitations of Public Contract Code § 7100. Any disputed amounts may be specifically excluded from the release.
- 8.9 Warranty of Title.** Contractor warrants that title to all work, materials, or equipment incorporated into the Work and included in a request for payment will pass over to City free of any claims, liens, or encumbrances upon payment to Contractor.

## **Article 9 - Labor Provisions**

- 9.1 Discrimination Prohibited.** Discrimination against any prospective or present employee engaged in the Work on grounds of race, color, ancestry, national origin, ethnicity, religion, sex, sexual orientation, age, disability, or marital status is strictly prohibited. Contractor and its Subcontractors are required to comply with all applicable Laws prohibiting discrimination, including the California Fair Employment and Housing Act (Govt. Code § 12900 et seq.), Government Code § 11135, and Labor Code §§ 1735, 1777.5, 1777.6, and 3077.5.
- 9.2 Labor Code Requirements.**
- (A) **Eight Hour Day.** Pursuant to Labor Code § 1810, eight hours of labor constitute a legal day's work under this Contract.
- (B) **Penalty.** Pursuant to Labor Code § 1813, Contractor will forfeit to City as a penalty, the sum of \$25.00 for each day during which a worker employed by Contractor or any Subcontractor is required or permitted to work more than eight hours in any one calendar day or more than 40 hours per calendar week, except if such workers are paid overtime under Labor Code § 1815.
- (C) **Apprentices.** Contractor is responsible for compliance with the requirements governing employment and payment of apprentices, as set forth in Labor Code § 1777.5, which is fully incorporated by reference.
- (D) **Notices.** Pursuant to Labor Code § 1771.4, Contractor is required to post all job site notices prescribed by Laws.
- 9.3 Prevailing Wages.** Each worker performing Work under this Contract that is covered under Labor Code §§ 1720 or 1720.9, including cleanup at the Project site, must be paid at a rate not less than the prevailing wage as defined in §§ 1771 and 1774 of the Labor Code. The prevailing wage rates are on file with the City and available online at <http://www.dir.ca.gov/dlsr>. Contractor must post a copy of the applicable prevailing rates at the Project site.
- (A) **Penalties.** Pursuant to Labor Code § 1775, Contractor and any Subcontractor will forfeit to City as a penalty up to \$200.00 for each calendar day, or portion a day, for each worker paid less than the applicable prevailing wage rate. Contractor must also pay each worker the difference between the applicable prevailing wage rate and the amount actually paid to that worker.

(B) **Federal Requirements.** If this Project is subject to federal prevailing wage requirements in addition to California prevailing wage requirements, Contractor and its Subcontractors are required to pay the higher of the currently applicable state or federal prevailing wage rates.

**9.4 Payroll Records.** Contractor must comply with the provisions of Labor Code §§ 1776 and 1812 and all implementing regulations, which are fully incorporated by this reference, including requirements for electronic submission of payroll records to the DIR.

(A) **Contractor and Subcontractor Obligations.** Contractor and each Subcontractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in connection with the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct; and

(2) Contractor or the Subcontractor has complied with the requirements of Labor Code §§ 1771, 1811, and 1815 for any Work performed by its employees on the Project.

(B) **Certified Record.** A certified copy of an employee's payroll record must be made available for inspection or furnished to the employee or his or her authorized representative on request, to City, to the Division of Labor Standards Enforcement, to the Division of Apprenticeship Standards of the DIR, and as further required by the Labor Code.

(C) **Enforcement.** Upon notice of noncompliance with Labor Code § 1776, Contractor or Subcontractor has ten days in which to comply with the requirements of this section. If Contractor or Subcontractor fails to do so within the ten-day period, Contractor or Subcontractor will forfeit a penalty of \$100.00 per day, or portion a day, for each worker for whom compliance is required, until strict compliance is achieved. Upon request by the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties will be withheld from payments then due to Contractor.

**9.5 Labor Compliance.** Pursuant to Labor Code § 1771.4, the Contract for this Project is subject to compliance monitoring and enforcement by the DIR.

## **Article 10 - Safety Provisions**

**10.1 Safety Precautions and Programs.** Contractor and its Subcontractors are fully responsible for safety precautions and programs, and for the safety of persons and property in the performance of the Work. Contractor and its Subcontractors must at all times comply with all applicable health and safety Laws and seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect its employees and other persons at any Worksite, materials and equipment stored on or off site, and property at or adjacent to any Worksite.

(A) **Reporting Requirements.** Contractor must immediately notify the City of any death, serious injury or illness resulting from Work on the Project. Contractor must immediately provide a written report to City of each recordable accident or injury occurring at any Worksite within 24 hours of the occurrence. The written report must



include: (1) the name and address of the injured or deceased person; (2) the name and address of each employee of Contractor or of any Subcontractor involved in the incident; (3) a detailed description of the incident, including precise location, time, and names and contact information for known witnesses; and (4) a police or first responder report, if applicable. If Contractor is required to file an accident report with a government agency, Contractor will provide a copy of the report to City.

(B) **Legal Compliance.** Contractor's safety program must comply with the applicable legal and regulatory requirements. Contractor must provide City with copies of all notices required by Laws.

(C) **Contractor's Obligations.** Any damage or loss caused by Contractor arising from the Work which is not insured under property insurance must be promptly remedied by Contractor.

(D) **Remedies.** If City determines, in its sole discretion, that any part of the Work or Project site is unsafe, City may, without assuming responsibility for Contractor's safety program, require Contractor or its Subcontractor to cease performance of the Work or to take corrective measures to City's satisfaction. If Contractor fails to promptly take the required corrective measures, City may perform them and deduct the cost from the Contract Price. Contractor agrees it is not entitled to submit a Claim for damages, for an increase in Contract Price, or for a change in Contract Time based on Contractor's compliance with City's request for corrective measures pursuant to this provision.

**10.2 Hazardous Materials.** Unless otherwise specified in the Contract Documents, this Contract does not include the removal, handling, or disturbance of any asbestos or other Hazardous Materials. If Contractor encounters materials on the Project site that Contractor reasonably believes to be asbestos or other Hazardous Materials, and the asbestos or other Hazardous Materials have not been rendered harmless, Contractor may continue Work in unaffected areas reasonably believed to be safe, but must immediately cease work on the area affected and report the condition to City. No asbestos, asbestos-containing products or other Hazardous Materials may be used in performance of the Work.

**10.3 Material Safety.** Contractor is solely responsible for complying with § 5194 of Title 8 of the California Code of Regulations, including by providing information to Contractor's employees about any hazardous chemicals to which they may be exposed in the course of the Work. A hazard communication program and other forms of warning and training about such exposure must be used. Contractor must also maintain Safety Data Sheets ("SDS") at the Project site, as required by Laws, for materials or substances used or consumed in the performance of the Work. The SDS will be accessible and available to Contractor's employees, Subcontractors, and City.

(A) **Contractor Obligations.** Contractor is solely responsible for the proper delivery, handling, use, storage, removal, and disposal of all materials brought to the Project site and/or used in the performance of the Work. Contractor must notify the Engineer if a specified product or material cannot be used safely.

(B) **Labeling.** Contractor must ensure proper labeling on any material brought onto the Project site so that any persons working with or in the vicinity of the material may be informed as to the identity of the material, any potential hazards, and requirements for proper handling, protections, and disposal.

**10.4 Hazardous Condition.** Contractor is solely responsible for determining whether a hazardous condition exists or is created during the course of the Work, involving a risk of bodily harm to any person or risk of damage to any property. If a hazardous condition

exists or is created, Contractor must take all precautions necessary to address the condition and ensure that the Work progresses safely under the circumstances. Hazardous conditions may result from, but are not limited to, use of specified materials or equipment, the Work location, the Project site condition, the method of construction, or the way any Work must be performed.

- 10.5 Emergencies.** In an emergency affecting the safety or protection of persons, Work, or property at or adjacent to any Worksite, Contractor must take reasonable and prompt actions to prevent damage, injury, or loss, without prior authorization from the City if, under the circumstances, there is inadequate time to seek prior authorization from the City.

## **Article 11 - Completion and Warranty Provisions**

### **11.1 Final Completion.**

(A) ***Final Inspection and Punch List.*** When the Work required by this Contract is fully performed, Contractor must provide written notification to City requesting final inspection. The Engineer will schedule the date and time for final inspection, which must include Contractor's primary representative for this Project and its superintendent. Based on that inspection, City will prepare a punch list of any items that are incomplete, missing, defective, incorrectly installed, or otherwise not compliant with the Contract Documents. The punch list to Contractor will specify the time by which all of the punch list items must be completed or corrected. The punch list may include City's estimated cost to complete each punch list item if Contractor fails to do so within the specified time. The omission of any non-compliant item from a punch list will not relieve Contractor from fulfilling all requirements of the Contract Documents. Contractor's failure to complete any punch list item within the time specified in the punch list will not waive or abridge its warranty obligations for any such items that must be completed by the City or by a third party retained by the City due to Contractor's failure to timely complete any such outstanding item.

(B) ***Requirements for Final Completion.*** Final Completion will be achieved upon completion or correction of all punch list items, as verified by City's further inspection, and upon satisfaction of all other Contract requirements, including any commissioning required under the Contract Documents and submission of all final submittals, including instructions and manuals as required under Section 7.10, and complete, final as-built drawings as required under Section 7.11, all to City's satisfaction.

(C) ***Acceptance.*** The Project will be considered accepted upon City Council action during a public meeting to accept the Project, unless the Engineer is authorized to accept the Project, in which case the Project will be considered accepted upon the date of the Engineer's issuance of a written notice of acceptance. In order to avoid delay of Project close out, the City may elect, acting in its sole discretion, to accept the Project as complete subject to exceptions for punch list items that are not completed within the time specified in the punch list.

(D) ***Final Payment and Release of Retention.*** Final Payment and release of retention, less any sums withheld pursuant to the provisions of the Contract Documents, will not be made sooner than 35 days after recordation of the notice of completion. If Contractor fails to complete all of the punch list items within the specified time, City may withhold up to 150% of City's estimated cost to complete each of the remaining items from Final Payment and may use the withheld retention to pay for the costs to self-perform the outstanding items or to retain a third party to complete any such outstanding punch list item.

## 11.2 Warranty.

(A) **General.** Contractor warrants that all materials and equipment will be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor further warrants that the Work will be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor warrants that materials or items incorporated into the Work comply with the requirements and standards in the Contract Documents, including compliance with Laws, and that any Hazardous Materials encountered or used were handled as required by Laws. At City's request, Contractor must furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor's warranty does not extend to damage caused by normal wear and tear, or improper use or maintenance.

(B) **Warranty Period.** Contractor's warranty must guarantee its Work for a period of one year from the date of Project acceptance (the "Warranty Period"), except when a longer guarantee is provided by a supplier or manufacturer or is required by the Specifications or Special Conditions. Contractor must obtain from its Subcontractors, suppliers and manufacturers any special or extended warranties required by the Contract Documents.

(C) **Warranty Documents.** As a condition precedent to Final Completion, Contractor must supply City with all warranty and guarantee documents relevant to equipment and materials incorporated into the Work and guaranteed by their suppliers or manufacturers.

(D) **Subcontractors.** The warranty obligations in the Contract Documents apply to Work performed by Contractor and its Subcontractors, and Contractor agrees to be co-guarantor of such Work.

(E) **Contractor's Obligations.** Upon written notice from City to Contractor of any defect in the Work discovered during the Warranty Period, Contractor or its responsible Subcontractor must promptly correct the defective Work at its own cost. Contractor's obligation to correct defects discovered during the Warranty Period will continue past the expiration of the Warranty Period as to any defects in Work for which Contractor was notified prior to expiration of the Warranty Period. Work performed during the Warranty Period ("Warranty Work") will be subject to the warranty provisions in this Section 11.2 for a one-year period that begins upon completion of such Warranty Work to City's satisfaction.

(F) **City's Remedies.** If Contractor or its responsible Subcontractor fails to correct defective Work within ten days following notice by City, or sooner if required by the circumstances, City may correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor must reimburse City for its costs in accordance with subsection (H), below.

(G) **Emergency Repairs.** In cases of emergency where any delay in correcting defective Work could cause harm, loss or damage, City may immediately correct the defects to conform with the Contract Documents at Contractor's sole expense. Contractor or its surety must reimburse City for its costs in accordance with subsection (H), below.

(H) **Reimbursement.** Contractor must reimburse City for its costs to repair under subsections (F) or (G), above, within 30 days following City's submission of a demand for payment pursuant to this provision. If City is required to initiate legal action to compel Contractor's compliance with this provision, and City is the prevailing party in such action,

Contractor and its surety are solely responsible for all of City's attorney's fees and legal costs expended to enforce Contractor's warranty obligations herein in addition to any and all costs City incurs to correct the defective Work.

**11.3 Use Prior to Final Completion.** City reserves the right to occupy or make use of the Project, or any portions of the Project, prior to Final Completion if City has determined that the Project or portion of it is in a condition suitable for the proposed occupation or use, and that it is in its best interest to occupy or make use of the Project, or any portions of it, prior to Final Completion. City will notify Contractor in writing of its intent to occupy or make use of the Project or any portions of the Project, pursuant to this provision.

(A) **Non-Waiver.** Occupation or use of the Project, in whole or in part, prior to Final Completion will not operate as acceptance of the Work or any portion of it, nor will it operate as a waiver of any of City's rights or Contractor's duties pursuant to these Contract Documents, and will not affect nor bear on the determination of the time of substantial completion with respect to any statute of repose pertaining to the time for filing an action for construction defect.

(B) **City's Responsibility.** City will be responsible for the cost of maintenance and repairs due to normal wear and tear with respect to those portions of the Project that are being occupied or used before Final Completion. The Contract Price or the Contract Time may be adjusted pursuant to the applicable provisions of these Contract Documents if, and only to the extent that, any occupation or use under this Section actually adds to Contractor's cost or time to complete the Work within the Contract Time.

**11.4 Substantial Completion.** For purposes of determining "substantial completion" with respect to any statute of repose pertaining to the time for filing an action for construction defect, "substantial completion" is deemed to mean the last date that Contractor or any Subcontractor performs Work on the Project prior to City acceptance of the Project, except for warranty work performed under this Article.

## **Article 12 - Dispute Resolution**

**12.1 Claims.** This Article applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) **Definition.** "Claim" means a separate demand by Contractor, submitted in writing by registered or certified mail with return receipt requested, for a change in the Contract Time, including a time extension or relief from liquidated damages, or a change in the Contract Price, when the demand has previously been submitted to City in accordance with the requirements of the Contract Documents, and which has been rejected or disputed by City, in whole or in part. A Claim may also include that portion of a unilateral Change Order that is disputed by the Contractor.

(B) **Limitations.** A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and City. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to City in full compliance with Article 5 and Article 6, and subsequently rejected in whole or in part by City.

(C) **Scope of Article.** This Article is intended to provide the exclusive procedures for submission and resolution of Claims of any amount and applies in addition to the provisions of Public Contract Code § 9204 and § 20104 et seq., which are incorporated by reference herein.

(D) **No Work Delay.** Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of a Claim or other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

(E) **Informal Resolution.** Contractor will make a good faith effort to informally resolve a dispute before initiating a Claim, preferably by face-to-face meeting between authorized representatives of Contractor and City.

**12.2 Claims Submission.** The following requirements apply to any Claim subject to this Article:

(A) **Substantiation.** The Claim must be submitted to City in writing, clearly identified as a "Claim" submitted pursuant to this Article 12 and must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of City's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all known or estimated labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each component of claimed cost. Any Claim for an extension of time or delay costs must be substantiated with a schedule analysis and narrative depicting and explaining claimed time impacts.

(B) **Claim Format and Content.** A Claim must be submitted in the following format:

- (1) Provide a cover letter, specifically identifying the submission as a "Claim" submitted under this Article 12 and specifying the requested remedy (e.g., amount of proposed change to Contract Price and/or change to Contract Time).
- (2) Provide a summary of each Claim, including underlying facts and the basis for entitlement, and identify each specific demand at issue, including the specific Change Order request (by number and submittal date), and the date of City's rejection of that demand, in whole or in part.
- (3) Provide a detailed explanation of each issue in dispute. For multiple issues included within a single Claim or for multiple Claims submitted concurrently, separately number and identify each individual issue or Claim, and include the following for each separate issue or Claim:
  - a. A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
  - b. Identify and attach all documents that substantiate the Claim, including relevant provisions of the Contract Documents, RFIs, calculations, and schedule analysis (see subsection (A), Substantiation, above);
  - c. A chronology of relevant events; and
  - d. Analysis and basis for claimed changes to Contract Price, Contract Time, or any other remedy requested.

(4) Provide a summary of issues and corresponding claimed damages. If, by the time of the Claim submission deadline (below), the precise amount of the requested change in the Contract Price or Contract Time is not yet known, Contractor must provide a good faith estimate, including the basis for that estimate, and must identify the date by which it is anticipated that the Claim will be updated to provide final amounts.

(5) Include the following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim submittal are true and correct. Contractor warrants that this Claim submittal is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay not included herein are deemed waived."

(C) ***Submission Deadlines.***

(1) A Claim disputing rejection of a request for a change in the Contract Time or Contract Price must be submitted within 15 days following the date that City notified Contractor in writing that a request for a change in the Contract Time or Contract Price, duly submitted in compliance with Article 5 and Article 6, has been rejected in whole or in part. A Claim disputing the terms of a unilateral Change Order must be submitted within 15 days following the date of issuance of the unilateral Change Order. These Claim deadlines apply even if Contractor cannot yet quantify the total amount of any requested change in the Contract Time or Contract Price. If the Contractor cannot quantify those amounts, it must submit an estimate of the amounts claimed pending final determination of the requested remedy by Contractor.

(2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment or will be deemed waived.

(3) A Claim disputing the amount of Final Payment must be submitted within 15 days of the effective date of Final Payment, under Section 8.7, Final Payment.

(4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. ***Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.***

**12.3 City's Response.** City will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45-day period is extended by mutual agreement of City and Contractor or as otherwise allowed under Public Contract Code § 9204. However, if City determines that the Claim is not adequately substantiated pursuant to Section 12.2(A), Substantiation, City may first request in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that City may have against the Claim.

(A) ***Additional Information.*** If additional information is thereafter required, it may be requested and provided upon mutual agreement of City and Contractor. If Contractor's Claim is based on estimated amounts, Contractor has a continuing duty to update its Claim as soon as possible with information on actual amounts in order to facilitate prompt and fair resolution of the Claim.

(B) **Non-Waiver.** Any failure by City to respond within the times specified above will not be construed as acceptance of the Claim, in whole or in part, or as a waiver of any provision of these Contract Documents.

**12.4 Meet and Confer.** If Contractor disputes City's written response, or City fails to respond within the specified time, within 15 days of receipt of City's response or within 15 days of City's failure to respond within the applicable 45-day time period under Section 12.3, respectively, Contractor may notify City of the dispute in writing sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute City's response in writing within the specified time, Contractor's Claim will be deemed waived.

(A) **Schedule Meet and Confer.** Upon receipt of the demand to meet and confer, City will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.

(B) **Location for Meet and Confer.** The meet and confer conference will be scheduled at a location at or near City's principal office.

(C) **Written Statement After Meet and Confer.** Within ten working days after the meet and confer has concluded, City will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.

(D) **Submission to Mediation.** If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute, the Contractor may identify in writing disputed portion(s) of the Claim, which will be submitted for mediation, as set forth below.

## **12.5 Mediation and Government Code Claims.**

(A) **Mediation.** Within ten working days after the City issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, City and Contractor will mutually agree to a mediator, as provided under Public Contract Code § 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. If there are multiple Claims in dispute, the parties may agree to schedule the mediation to address all outstanding Claims at the same time. The parties will share the costs of the mediator and mediation fees equally, but each party is otherwise solely and separately responsible for its own costs to prepare for and participate in the mediation, including costs for its legal counsel or any other consultants.

(B) **Government Code Claims.**

(1) Timely presentation of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract. Compliance with the Claim submission requirements in this Article 12 is a condition precedent to filing a Government Code Claim.

(2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim pursuant to Section 12.2, above, until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a

Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

- 12.6 Tort Claims.** This Article does not apply to tort claims and nothing in this Article is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.
- 12.7 Arbitration.** It is expressly agreed, under Code of Civil Procedure § 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.
- 12.8 Burden of Proof and Limitations.** Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to speculative, special, or consequential damages, including home office overhead or any form of overhead not directly incurred at the Project site or any other Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract. The Eichleay Formula or similar formula will not be used for any recovery under the Contract. The City will not be directly liable to any Subcontractor or supplier.
- 12.9 Legal Proceedings.** In any legal proceeding that involves enforcement of any requirements of the Contract Documents, the finder of fact will receive detailed instructions on the meaning and operation of the Contract Documents, including conditions, limitations of liability, remedies, claim procedures, and other provisions bearing on the defenses and theories of liability. Detailed findings of fact will be requested to verify enforcement of the Contract Documents. All of the City's remedies under the Contract Documents will be construed as cumulative, and not exclusive, and the City reserves all rights to all remedies available under law or equity as to any dispute arising from or relating to the Contract Documents or performance of the Work.
- 12.10 Other Disputes.** The procedures in this Article 12 will apply to any and all disputes or legal actions, in addition to Claims, arising from or related to this Contract, including disputes regarding suspension or early termination of the Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by City. Nothing in this Article is intended to delay suspension or termination under Article 13.

### **Article 13 - Suspension and Termination**

- 13.1 Suspension for Cause.** In addition to all other remedies available to City, if Contractor fails to perform or correct Work in accordance with the Contract Documents, including non-compliance with applicable environmental or health and safety Laws, City may immediately order the Work, or any portion of it, suspended until the circumstances giving rise to the suspension have been eliminated to City's satisfaction.
- (A) **Notice of Suspension.** Upon receipt of City's written notice to suspend the Work, in whole or in part, except as otherwise specified in the notice of suspension, Contractor and its Subcontractors must promptly stop Work as specified in the notice of suspension; comply with directions for cleaning and securing the Worksite; and protect the completed and in-progress Work and materials. Contractor is solely responsible for



any damages or loss resulting from its failure to adequately secure and protect the Project.

(B) **Resumption of Work.** Upon receipt of the City's written notice to resume the suspended Work, in whole or in part, except as otherwise specified in the notice to resume, Contractor and its Subcontractors must promptly re-mobilize and resume the Work as specified; and within ten days from the date of the notice to resume, Contractor must submit a recovery schedule, prepared in accordance with the Contract Documents, showing how Contractor will complete the Work within the Contract Time.

(C) **Failure to Comply.** Contractor will not be entitled to an increase in the Contract Time or Contract Price for a suspension occasioned by Contractor's failure to comply with the Contract Documents.

(D) **No Duty to Suspend.** City's right to suspend the Work will not give rise to a duty to suspend the Work, and City's failure to suspend the Work will not constitute a defense to Contractor's failure to comply with the requirements of the Contract Documents.

**13.2 Suspension for Convenience.** City reserves the right to suspend, delay, or interrupt the performance of the Work in whole or in part, for a period of time determined to be appropriate for City's convenience. Upon notice by City pursuant to this provision, Contractor must immediately suspend, delay, or interrupt the Work and secure the Project site as directed by City except for taking measures to protect completed or in-progress Work as directed in the suspension notice, and subject to the provisions of Section 13.1(A) and (B), above. If Contractor submits a timely request for a Change Order in compliance with Articles 5 and 6, the Contract Price and the Contract Time will be equitably adjusted by Change Order pursuant to the terms of Articles 5 and 6 to reflect the cost and delay impact occasioned by such suspension for convenience, except to the extent that any such impacts were caused by Contractor's failure to comply with the Contract Documents or the terms of the suspension notice or notice to resume. However, the Contract Time will only be extended if the suspension causes or will cause unavoidable delay in Final Completion. If Contractor disputes the terms of a Change Order issued for such equitable adjustment due to suspension for convenience, its sole recourse is to comply with the Claim procedures in Article 12.

**13.3 Termination for Default.** City may declare that Contractor is in default of the Contract for a material breach of or inability to fully, promptly, or satisfactorily perform its obligations under the Contract.

(A) **Default.** Events giving rise to a declaration of default include Contractor's refusal or failure to supply sufficient skilled workers, proper materials, or equipment to perform the Work within the Contract Time; Contractor's refusal or failure to make prompt payment to its employees, Subcontractors, or suppliers or to correct defective Work or damage; Contractor's failure to comply with Laws, or orders of any public agency with jurisdiction over the Project; evidence of Contractor's bankruptcy, insolvency, or lack of financial capacity to complete the Work as required within the Contract Time; suspension, revocation, or expiration and nonrenewal of Contractor's license or DIR registration; dissolution, liquidation, reorganization, or other major change in Contractor's organization, ownership, structure, or existence as a business entity; unauthorized assignment of Contractor's rights or duties under the Contract; or any material breach of the Contract requirements.

(B) **Notice of Default and Opportunity to Cure.** Upon City's declaration that Contractor is in default due to a material breach of the Contract Documents, if City determines that the default is curable, City will afford Contractor the opportunity to cure

the default within ten days of City's notice of default, or within a period of time reasonably necessary for such cure, including a shorter period of time if applicable.

(C) **Termination.** If Contractor fails to cure the default or fails to expediently take steps reasonably calculated to cure the default within the time period specified in the notice of default, City may issue written notice to Contractor and its performance bond surety of City's termination of the Contract for default.

(D) **Waiver.** Time being of the essence in the performance of the Work, if Contractor's surety fails to arrange for completion of the Work in accordance with the Performance Bond within seven calendar days from the date of the notice of termination pursuant to paragraph (C), City may immediately make arrangements for the completion of the Work through use of its own forces, by hiring a replacement contractor, or by any other means that City determines advisable under the circumstances. Contractor and its surety will be jointly and severally liable for any additional cost incurred by City to complete the Work following termination, where "additional cost" means all cost in excess of the cost City would have incurred if Contractor had timely completed Work without the default and termination. In addition, City will have the right to immediate possession and use of any materials, supplies, and equipment procured for the Project and located at the Project site or any Worksite on City property for the purposes of completing the remaining Work.

(E) **Compensation.** Within 30 days of receipt of updated as-builts, all warranties, manuals, instructions, or other required documents for Work installed to date, and delivery to City of all equipment and materials for the Project for which Contractor has already been compensated, Contractor will be compensated for the Work satisfactorily performed in compliance with the Contract Documents up to the effective date of the termination pursuant to the terms of Article 8, Payment, subject to City's rights to withhold or deduct sums from payment otherwise due pursuant to Section 8.3, and excluding any costs Contractor incurs as a result of the termination, including any cancellation or restocking charges or fees due to third parties. If Contractor disputes the amount of compensation determined by City, its sole recourse is to comply with the Claim Procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of the total compensation to be paid by City.

(F) **Wrongful Termination.** If Contractor disputes the termination, its sole recourse is to comply with the Claim procedures in Article 12. If a court of competent jurisdiction or an arbitrator later determines that the termination for default was wrongful, the termination will be deemed to be a termination for convenience, and Contractor's damages will be strictly limited to the compensation provided for termination for convenience under Section 13.4, below. Contractor waives any claim for any other damages for wrongful termination including special or consequential damages, lost opportunity costs, or lost profits, and any award of damages is subject to Section 12.8, Burden of Proof and Limitations.

**13.4 Termination for Convenience.** City reserves the right, acting in its sole discretion, to terminate all or part of the Contract for convenience upon written notice to Contractor.

(A) **Compensation to Contractor.** In the event of City's termination for convenience, Contractor waives any claim for damages, including for loss of anticipated profits from the Project. The following will constitute full and fair compensation to Contractor, and Contractor will not be entitled to any additional claim or compensation:

(1) **Completed Work.** The value of its Work satisfactorily performed as of the date notice of termination is received, based on Contractor's schedule of values

and unpaid costs for items delivered to the Project site that were fabricated for incorporation in the Work;

(2) **Demobilization.** Demobilization costs specified in the schedule of values, or if demobilizations cost were not provided in a schedule of values pursuant to Section 8.1, then based on actual, reasonable, and fully documented demobilization costs; and

(3) **Termination Markup.** Five percent of the total value of the Work performed as of the date of notice of termination, including reasonable, actual, and documented costs to comply with the direction in the notice of termination for convenience, and demobilization costs, which is deemed to cover all overhead and profit to date.

(B) **Disputes.** If Contractor disputes the amount of compensation determined by City pursuant to paragraph (A), above, its sole recourse is to comply with the Claim procedures in Article 12, by submitting a Claim no later than 30 days following notice from City of total compensation to be paid by City.

**13.5 Actions Upon Termination for Default or Convenience.** The following provisions apply to any termination under this Article, whether for default or convenience, and whether in whole or in part.

(A) **General.** Upon termination City may immediately enter upon and take possession of the Project and the Work and all tools, equipment, appliances, materials, and supplies procured or fabricated for the Project. Contractor will transfer title to and deliver all completed Work and all Work in progress to City.

(B) **Submittals.** Unless otherwise specified in the notice of termination, Contractor must immediately submit to City all designs, drawings, as-built drawings, Project records, contracts with vendors and Subcontractors, manufacturer warranties, manuals, and other such submittals or Work-related documents required under the terms of the Contract Documents, including incomplete documents or drafts.

(C) **Close Out Requirements.** Except as otherwise specified in the notice of termination, Contractor must comply with all of the following:

(1) Immediately stop the Work, except for any Work that must be completed pursuant to the notice of termination and comply with City's instructions for cessation of labor and securing the Project and any other Worksites(s).

(2) Comply with City's instructions to protect the completed Work and materials, using best efforts to minimize further costs.

(3) Contractor must not place further orders or enter into new subcontracts for materials, equipment, services or facilities, except as may be necessary to complete any portion of the Work that is not terminated.

(4) As directed in the notice, Contractor must assign to City or cancel existing subcontracts that relate to performance of the terminated Work, subject to any prior rights, if any, of the surety for Contractor's performance bond, and settle all outstanding liabilities and claims, subject to City's approval.

(5) As directed in the notice, Contractor must use its best efforts to sell any materials, supplies, or equipment intended solely for the terminated Work in a manner and at market rate prices acceptable to City.

(D) **Payment Upon Termination.** Upon completion of all termination obligations, as specified herein and in the notice of termination, Contractor will submit its request for Final Payment, including any amounts due following termination pursuant to this Article 13. Payment will be made in accordance to the provisions of Article 8, based on the portion of the Work satisfactorily completed, including the close out requirements, and consistent with the previously submitted schedule of values and unit pricing, including demobilization costs. Adjustments to Final Payment may include deductions for the cost of materials, supplies, or equipment retained by Contractor; payments received for sale of any such materials, supplies, or equipment, less re-stocking fees charged; and as otherwise specified in Section 8.3, Adjustment of Payment Application.

(E) **Continuing Obligations.** Regardless of any Contract termination, Contractor's obligations for portions of the Work already performed will continue and the provisions of the Contract Documents will remain in effect as to any claim, indemnity obligation, warranties, guarantees, submittals of as-built drawings, instructions, or manuals, record maintenance, or other such rights and obligations arising prior to the termination date.

#### **Article 14 - Miscellaneous Provisions**

- 14.1 Assignment of Unfair Business Practice Claims.** Under Public Contract Code § 7103.5, Contractor and its Subcontractors agree to assign to 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. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract or any subcontract. This assignment will be effective at the time City tenders Final Payment to Contractor, without further acknowledgement by the parties.
- 14.2 Provisions Deemed Inserted.** Every provision of law required to be inserted in the Contract Documents is deemed to be inserted, and the Contract Documents will be construed and enforced as though such provision has been included. If it is discovered that through mistake or otherwise that any required provision was not inserted, or not correctly inserted, the Contract Documents will be deemed amended accordingly.
- 14.3 Waiver.** City's waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents will not be effective unless it is in writing and signed by City. City's waiver of any breach, failure, right, or remedy will not be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor will any waiver constitute a continuing waiver unless specified in writing by City.
- 14.4 Titles, Headings, and Groupings.** The titles and headings used and the groupings of provisions in the Contract Documents are for convenience only and may not be used in the construction or interpretation of the Contract Documents or relied upon for any other purpose.
- 14.5 Statutory and Regulatory References.** With respect to any amendments to any statutes or regulations referenced in these Contract Documents, the reference is deemed to be the version in effect on the date that that bids were due.
- 14.6 Survival.** The provisions that survive termination or expiration of this Contract include Contract Section 11, Notice, and subsections 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6, of Section 12, General Provisions; and the following provisions in these General Conditions: Section 2.2(J), Contractor's Records, Section 2.3(C), Termination, Section 3.7,

Ownership, Section 4.2, Indemnity, Article 12, Dispute Resolution, and Section 11.2, Warranty.

END OF GENERAL CONDITIONS

## **Special Conditions**

### **1. Authorized Work Days and Hours.**

**1.1 Authorized Work Days.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project on the following days of the week, excluding holidays observed by City:  
Monday through Friday.

**1.2 Authorized Work Hours.** Except as expressly authorized in writing by City, Contractor is limited to performing Work on the Project during the following hours:  
Monday through Friday: 7:00 a.m. – 5:00 p.m. local time

If Contractor is authorized in writing by the City to perform Work on weekends, Contractor is limited to performing Work on the Project during the following hours:

Saturday: 9:00 a.m. – 5:00 p.m.

Sunday: 9:00 a.m. – 4:00 p.m.

**1.3 Worker Arrival and Parking.** Workers may arrive at the Project site no earlier than 7:00 a.m.

**1.4 Equipment and Material Delivery and Off-Haul Hours.** No equipment or material may be delivered or off-hauled except between the hours of 7:00 a.m. and 5:00 p.m. No equipment that has a safety backup beeper may be operated before 7:00 a.m. on any day.

**2. Noise Limitation.** No non-construction noise will be allowed, this includes amplified music, radio or other noise not due to construction activities.

**3. Pre-Construction Conference.** City will designate a date and time for a pre-construction conference with Contractor following Contract execution. Project administration procedures and coordination between City and Contractor will be discussed, and Contractor must present City with the following information or documents at the meeting for City's review and acceptance before the Work commences:

**3.1** Name, 24-hour contact information, and qualifications of the proposed on-site superintendent;

**3.2** List of all key Project personnel and their complete contact information, including email addresses and telephone numbers during regular hours and after hours;

**3.3** Staging plans that identify the sequence of the Work, including any phases and alternative sequences or phases, with the goal of minimizing the impacts on residents, businesses and other operations in the Project vicinity;

**3.4** If required, traffic control plans associated with the staging plans that are signed and stamped by a licensed traffic engineer;

**3.5** Draft baseline schedule for the Work as required under Section 5.2, to be finalized within ten days after City issues the Notice to Proceed;

**3.6** Breakdown of lump sum bid items, to be used for determining the value of Work completed for future progress payments to Contractor;

- 3.7 Schedule with list of Project submittals that require City review, and list of the proposed material suppliers;
- 3.8 Plan for coordination with affected utility owner(s) and compliance with any related permit requirements;
- 3.9 Videotape and photographs recording the conditions throughout the pre-construction Project site, showing the existing improvements and current condition of the curbs, gutters, sidewalks, signs, landscaping, streetlights, structures near the Project such as building faces, canopies, shades and fences, and any other features within the Project area limits; and
- 3.10 Any other documents specified in the Special Conditions or Notice of Potential Award.
4. **Insurance Requirements.** The insurance requirements under Section 4.3 of the General Conditions are modified for this Contract, as set forth below. Except as expressly stated below, all other provisions in Section 4.3 are unchanged and remain in full force and effect.
- 4.1 **Pollution Liability Insurance Waived.** The pollution liability insurance policy requirement set forth in subsection 4.3(A)(4) of the General Conditions is hereby waived and does not apply to this Contract.
- 4.2 **Builders Risk Insurance Waived.** The builder's risk insurance policy requirement set forth in subsection 4.3(A)(5) of the General Conditions is hereby waived and does not apply to this Contract.
5. **Construction Manager Role and Authority.** 4Leaf or CSG Consultants will be the Construction Manager for this Project. The Construction Manager will assist City in the management of the construction of the Project. The Construction Manager may perform services in the areas of supervision and coordination of the work of Contractor and/or other contractors, scheduling the Work, monitoring the progress of the Work, providing City with evaluations and recommendations concerning the quality of the Work, recommending the approval of progress payments to Contractor, or other services for the Project in accordance with the Construction Manager's contract with City.
- 5.1 **Communications.** Contractor must submit all notices and communications relating to the Work directly to the Construction Manager in writing, as follows:
- To be Determined
- With a copy to the Engineer:  
Susan Michael, CIP Manager  
City of Cupertino  
[susanm@cupertino.org](mailto:susanm@cupertino.org)  
408-777-1328
- 5.2 **On-Site Management and Communication Procedures.** The Construction Manager will provide and maintain a management team on the Project site to provide contract administration as an agent of City, and will establish and implement coordination and communication procedures among City, the Design Professional, Contractor, and others.

- 5.3 Contract Administration Procedures.** The Construction Manager will establish and implement procedures for reviewing and processing requests for clarifications and interpretations of the Contract Documents, Shop Drawings, samples, other submittals, schedule adjustments, Change Order proposals, written proposals for substitutions, payment applications, and maintenance of logs.
- 5.4 Pre-Construction Conference.** Contractor will attend the pre-construction conference, during which the Construction Manager will review the Contract administration procedures and Project requirements.
- 5.5 Contractor's Construction Schedule.** The Construction Manager will review Contractor's construction schedules and will verify that each schedule is prepared in accordance with the requirements of the Contract Documents.
- 6. Lines and Grades Verification.** All Work must be done to the lines, grades, and elevations indicated on the Plans and Specifications, and in accordance with all applicable codes and laws. Contractor is required to verify forms and other work comply with lines, grades and elevations. Prior to pouring or placing any concrete or asphalt Contractor must have a California licensed land surveyor or civil engineer field verify lines, grades and elevations prior to proceeding with the placement of concrete or asphalt. The land surveyor or civil engineer must have at least five years of relevant experience, and must be acceptable to the City. Contractor must provide City verification of the licensing and experience for each proposed land surveyor or civil engineer. Contractor must provide City with inspection results for form and grade work. Contractor must remedy any non-compliant Work at no additional cost to City.
- 7. Bond Act Sign.** The Contractor shall install a sign acknowledging the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 as the funding source for the project. The sign must be installed before construction and remain in place after the date of project completion. The size and information on the sign shall be per the Procedural Guide for the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 Per Capita Program dated September 2020 or after. No additional compensation will be paid for installation of the sign and maintenance until after the date of project completion.
- 8. Construction and Demolition Debris Management Plan**  
A completed construction and demolition (C&D) Debris Management Plan must be submitted using the City's Green Halo on-line application. All debris disposal and recycling from the construction project must be tracked throughout the duration of the project. The contractor must use [Green Halo cupertino.wastetracking.com](http://GreenHalo.cupertino.wastetracking.com) to create their Plan and to submit all construction waste generation tonnage information. No additional compensation will be paid for implementation of the Debris Management Plan and failure to meet all plan requirements may result in work stoppage, fines, and/or backcharges. For additional information, visit [www.cupertino.org/greendev](http://www.cupertino.org/greendev)
- 9. Mitigation Measures**  
The following construction impact mitigation measures shall be observed at all times:
- 9.1** All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- 9.2** All haul trucks transporting soil, sand, or other loose material off-site shall be covered.



- 9.3** All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- 9.4** All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 9.5** All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- 9.6** Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- 9.7** All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- 9.8** Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
- 9.9** The project shall utilize off-road diesel-powered construction equipment that is rated by the U.S. Environmental Protection Agency (EPA) as Tier 4 or higher for equipment more than 25 horsepower. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Tier 4 interim emissions standard for a similarly sized engine, as defined by the California Air Resources Board's (CARB) regulations. Applicable construction documents shall clearly show the selected emission reduction strategy for construction equipment over 25 horsepower.
- 9.10** The construction contractor shall maintain a list of all operating equipment in use on the project site for verification by the City. The construction equipment list shall state the makes, models, and number of construction equipment onsite.
- 9.11** Provide a proposed noise notice sign which includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. This sign shall be posted at job site entrances at least 10 days prior to the commencement of construction activities and shall remain in place until construction concludes.
- 9.12** Haul routes shall avoid the greatest amount of sensitive use areas and submit to the City of Cupertino Public Works Department for approval prior to the start of the construction phase.
- 9.13** During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. The Contractor will use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and law.

10. **Notification of Residents, Schools and Businesses** – The Contractor shall notify, in writing, residents, businesses and schools within a 300 foot radius of project limits at a minimum of two times prior to start of construction. The first notice shall be given to all residents, businesses and schools within the project area **five working days** prior to any construction operation. The second notice shall be given to residents, businesses and schools **two working days** prior to any construction operation. Both notices shall be in writing and submitted to the Engineer for review and approval.

Sample notice is below. Notices shall include the project name, describe the nature and duration of the Contractor's operations, and provide a toll-free telephone number or (408) area code number at which a Contractor's representative may be contacted **24 hour per day** for problems or emergencies encountered by residents and/or businesses. Answering machines and voice mail shall not be permitted. Then notice will also contain the City's Construction Management contact information. A separate notice shall be given at least **two working days** prior to any anticipated service/utility disruption or temporary closure of access to any driveway. The notice shall indicate the duration of the disruption. The Contractor shall submit a written request to the Engineer regarding the temporary closure of access to any driveway. No driveway access shall be closed by the Contractor at any time without prior written authorization from the Engineer. If construction operations are delayed for any reason beyond the duration stipulated in the notices, the Contractor shall re-issue written notices that explain the delay and provide a revised schedule. All written notices to residents, schools, businesses, agencies, etc. shall be submitted to the City for review and approval. Provide the City with a schedule of the notification deliveries so that the City can confirm that the notification was completed. Payment for compliance with this section shall be deemed included in the various other items of work, and no additional compensation will be allowed therefore.

**SAMPLE NOTICE:**

**NOTICE TO RESIDENTS / BUSINESS OWNERS**

Date: [MONTH] [DAY], [YEAR]

Subject: [NAME OF PROJECT] – [One Week OR Two Day] Notice

This notice is to inform you that the City of Cupertino, Department of Public Works, has contracted with [CONTRACTOR NAME] to [SCOPE OF WORK] along [STREET NAME] from [ADJACENT CROSS STREET] to [ADJACENT CROSS STREET].

This [SCOPE OF WORK] will mainly occur on [WEEKDAYS, SEE "SCHEDULE OFWORKING DAYS/HOURS"] from [START TIME] to [END TIME] and is scheduled to start in your area **APPROXIMATELY seven days from the date of this notice and will continue from [START DATE] until [END DATE]**. Please be aware that there may be construction activities that cause traffic delays.

[CONTRACTOR NAME] will make every effort to maintain normal traffic access and minimize disruption in your neighborhood. No Parking / Tow-Away signs will be posted in affected areas two working days in advance of enforcement. Access to driveways will be maintained at ALL times during the construction.

Prior to activities in your immediate area, you will be sent a notification **TWO WORKING DAYS** before work begins. [CONTRACTOR NAME] and the City of Cupertino, Department of Public Works, apologize for any inconvenience due to these activities. If you have any questions or need assistance as these activities progress, please call the number(s) listed below:

**[CONTRACTOR NAME]**

**[NAME OF PROJECT MANAGER, CONTRACTOR]**

Project Manager

**(XXX) XXX-XXXX (24-hour number)**

**City of Cupertino**

**(NAME OF CONSTRUCTION MANAGEMENT FIRM IF ONE)**

**(PERSON'S NAME FROM CONSTRUCTION MANAGEMENT FIRM)**

**(XXX) XXX-XXXX (24-hour number)**

City Office: **(408)777-3354** Department of Public Works

Thank you for your patience and cooperation,

**[NAME OF PROJECT MANAGER, CONTRACTOR]**, Project Manager

**[NAME OF CONSTRUCTION FIRM]**

END OF SPECIAL CONDITIONS

**Technical Specifications**  
**SECTION 01 20 00**  
**MEASUREMENT AND PAYMENT**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. Methods of Measurement
- B. Description of Bid Items

**1.2 METHODS OF MEASUREMENT**

- A. Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.
- B. Measurement shall be in accordance with U.S. Standard Measures. A pound is an avoirdupois pound. A ton is 2,000 pounds avoirdupois. The unit of liquid measure is the U.S. gallon. The unit of length is feet. The unit of volume is cubic yards.
- C. Material not used from a transporting vehicle shall be determined by the City Engineer and deducted from the certified tag.
- D. When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the Contractor in writing and approved by the City Engineer in writing, the material will be weighed and converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the City Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.
- E. Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefore.
- F. Quantities of material wasted or disposed of in a manner not called for under the contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the plans or given by the City Engineer; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will not be included in the final total quantities. No compensation will be allowed for hauling rejected material.
- G. Bid items include all work necessary to complete the specific item described and not otherwise included in other bid items. The Contractor shall include each bid item all costs required to construct the work in accordance with the Contract Documents and as identified below.

**1.3 DESCRIPTION OF BID ITEMS**

- A. Bid Item #1: Mobilization

1. The lump sum bid price for this item shall constitute full compensation for mobilization including but not limited to equipment shipping and delivery, equipment set up, materials shipping and delivery, equipment set up, materials shipping and delivery, utility coordination, permitting, removal of equipment and project closeout. The Mobilization bid item shall not be in excess of five percent (5%) of the total bid schedule. Twenty-five percent (25%) of the total Mobilization bid price shall be considered the cost of Demobilization and will not be paid until completion of the work.
- B. Bid Item #2: Modify Irrigation
  1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide any irrigation modification as required in the Contract Documents.
- C. Bid Item #3: Clearing and Grubbing
  1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide Clearing and Grubbing required for the work as required in the Contract Documents.
- D. Bid Item #4: Temporary Construction Fencing
  1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide all temporary fencing as required in the Contract Documents.
- E. Bid Item #5: Temporary Drainage Inlet Protection
  1. The unit price per inlet shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide inlet protection as required in the Contract Documents.
- F. Bid Item #6: Remove Existing Drainage Inlet and Piping
  1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to remove the existing drainage outlet and pipe as required in the Project Plans.
- G. Bid Item #7: Remove Asphalt Walkway
  1. The unit bid price per square foot for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to remove the existing asphalt walkway as required in the Project Plans.
- H. Bid Item #8: Court and Walkway Excavation
  1. The unit bid price per cubic yard for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary for excavation for the court and walkway as required in the Project Plans.
- I. Bid Item #9: Imported Engineered Fill
  1. The unit bid price per cubic yard for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to place imported engineered fill in the court and walkway area as required in the Project Plans.
- J. Bid Item #10: Class 2 Aggregate base
  1. The unit bid price per cubic yard for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary for excavation for the court and walkway as required in the Project Plans.
- K. Bid Item #11: Minor Concrete Walkway

1. The unit bid price per square foot for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to construct the concrete walkway as required by the Project Plans.
- L. Bid Item #12: Contour Grading Backfill
1. The unit bid price per cubic yard for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to place backfill on site as required by the Project Plans.
- M. Bid Item #13: Hot Mix Asphalt (Type A)
1. The unit bid price per ton for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to place 4" of Type A hot mix asphalt as required in the Project Plans.
- N. Bid Item #14: Concrete Mowband
1. The unit bid price per linear foot for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to install the concrete mowband as required in the Project Plans.
- O. Bid Item #15: 24" CIDH Pier
1. The unit bid price per pier shall constitute full compensation for all material, labor, equipment, tools, and services necessary to place 24" concrete piers as required in the Project Plans
  2. Price shall include pier excavation.
  3. Price shall include reinforcement.
- P. Bid Item #16: Drainage Swale With Underdrain, Inlet and Cleanouts
1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to install the concrete swale as required in the Project Plans
- Q. Bid Item #17: Basketball Hoop Equipment
1. The unit price per goal shall constitute full compensation for all material, labor, equipment, tools, and services necessary to install goal posts, backboards, hoops and nets as required in the Project Plans.
- R. Bid Item #18: Surface Paint System
1. The unit bid price per square foot for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to apply surface coating system per manufacturer's recommendations and as required in the project plans.
- S. Bid Item #19: Line Marking
1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide line marking as required in the Project Plans.
- T. Bid Item #20: Hydroseed Disturbed Areas
1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to hydroseed all disturbed areas as required in the Project Plans.
- U. Bid Alternate Item #A-1.1: Deduct Court and Walkway Excavation
1. Deduct payment for Court and Walkway Excavation shall constitute full

compensation for all material, labor, equipment, tools, and services necessary for excavation for the court and walkway as required by the Contract Documents for bid alternate one.

- V. Bid Alternate Item #A-1.2: Deduct Contour Grading Backfill
  - 1. Deduct payment for Contour Grading Backfill shall constitute full compensation for all material, labor, equipment, tools, and services necessary to place backfill on site as required by the Contract Documents for bid alternate one.
- W. Bid Alternate Item #A-1.3: Deduct Imported Engineered Fill
  - 1. Deduct payment for Imported Engineered Fill shall constitute full compensation for all material, labor, equipment, tools, and services necessary to place imported engineered fill in the court and walkway area as required by the Contract Documents for bid alternate one.
- X. Bid Alternate Item #A-1.4: Court and Walkway Lime Treated Sub-Base
  - 1. The unit bid price per cubic yard for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary for sub-base lime treatment as required by the Contract Documents for bid alternate one.

#### **END OF SECTION**

**SECTION 01 56 39**  
**TEMPORARY TREE PROTECTION**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.
- B. Related Sections
  - 1. SECTION 31 10 00 – SITE CLEARING
  - 2. SECTION 31 20 00 – EARTH MOVING
  - 3. SECTION 32 84 00 – IRRIGATION WORK
  - 4. SECTION 32 90 00 - PLANTING
  - 5. SECTION 32 91 13 – SOIL PREPERATION

**1.2 DESCRIPTION OF WORK**

- A. Protection and operational requirements of working around existing trees, as shown on the plans. Including but not limited to protection of root zones, tree trunk and canopy.
- B. These tree protection specifications apply to any existing tree on site that will not be removed and will be within or near any area where demo or construction will occur. This includes any tree that is not located in an area that is completely fenced off from construction with a perimeter construction fence. If any portion of the canopy of a tree outside the construction zone overhangs a perimeter construction fence, these specifications shall apply to such trees as well.
- C. Preconstruction reviews.
- D. Tree protection fencing and other requirements of tree protections measures.
- E. Pruning, irrigation and maintenance during construction.

**1.3 REFERENCED STANDARDS**

- A. American Society of Consulting Arborists (ASCA).
- B. Best Management Practices. Tree Pruning. 2008. International Society of Arboriculture, PO Box 3129, Champaign, IL 61826-3129. 217-355-9411.
- C. ANSI Z1331 American National Standards for Tree Care Operations. 2006 Edition. National Arborist Association, Inc. American National Standards Institute, 11 West 42nd St., New York, New York, 10036. (Covers safety)
- D. ANSI A300 Pruning Standards. 2008 Edition. Ibid. (Covers tree care methodology)
- E. Pruning practices shall conform to recommendations “Structural Pruning: A Guide for the Green Industry”; Published by Urban Tree Foundation, Visalia, California; most current edition.
- F. Glossary of Arboricultural Terms, International Society of Arboriculture, Champaign IL, most current edition.



#### 1.4 DEFINITIONS

- A. City's Representative: The person appointed by the City to represent their interest in the review and approval of the work and to serve as the contracting authority with the Contractor. The City's Representative may appoint other persons to review and approve any aspects of the work.
- B. Reasonable and reasonably: When used in this specification is intended to mean that the conditions cited will not affect the establishment or long-term stability, health or growth of the plant. This specification recognizes that plants are not free of defects, and that plant conditions change with time. This specification also recognizes that some decisions cannot be totally based on measured findings and that profession judgment is required. In cases of differing opinion, the City's Representative expert shall determine when conditions within the plant are judged as reasonable.
- C. Shrub: Woody plants with mature height approximately less than 25 feet.
- D. Tree and Plant Protection Area: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and defined by a circle centered on the trunk with each tree with a radius equal to the crown dripline unless otherwise indicated by the City's representative.
- E. Tree: Single and multi-stemmed plants, including palms with anticipated mature height approximately greater than 25 feet or any plant identified on the plans as a tree.

#### 1.5 SUBMITTALS:

- A. Product Data: Submit manufacturer product data and literature describing all products required by this section to the City's Representative for approval. Provide submittal four weeks before the start of any work at the site.

#### 1.6 PRE-CONSTRUCTION CONFERENCE

- A. Prior to commencement of any construction activities, schedule a pre-construction meeting with the City's representative, at least seven (7) days prior to beginning of work. Review of tree protection measures and project work schedule, as well as any questions the contractor may have will be discussed.
  - 1. The following shall attend the conference:
    - a. General Contractor
    - b. Contractor's Project Arborist
    - c. City's Representative
    - d. Subcontractors, including those involved with demolition, earthwork, planting and irrigation.
    - e. Subcontractors responsible for work in areas adjacent to the existing trees to remain.
- B. Prior to this meeting, mark all trees to remain. Provide sample of tree protection zone fencing for review.

#### 1.7 QUALITY ASSURANCE

- A. Arborist qualifications
  - 1. Arborist shall be a registered Consulting Arborist® (RCA) with American Society of Consulting Arborists or an ISA Board Certified Master Arborist and have a minimum of 5 years of experience.
- B. Contractor qualifications
  - 1. All pruning, branch tie back, tree removal, root pruning, and fertilizing required by this section shall be performed by or under the direct supervision of ISA Certified Arborist Submit aforementioned individual's qualifications for approval by the City's Representative.
- C. Certified Pest Applicator Qualifications
  - 1. All applications of pesticide or herbicide shall be performed by a person maintaining a current state license to apply chemical pesticides valid in the jurisdiction of the project. Submit copies of all required state licensing certificates including applicable chemical applicator licenses.

## **PART 2 – PRODUCTS**

### **2.1 PROTECTION FENCING**

- A. Protective fencing shall be at least four (4) feet high, clearly visible, mounted on steel post. Fencing shall comply with Caltrans Standard Specification 16-2.03 Temporary High Visibility Fence
- B. Posts shall be 2" x 6' galvanized steel posts driven into the ground with 8' minimum spacing between posts.

### **2.2 SIGNAGE**

- A. Laminated 8 ½" x 11 paper or metal.
- B. Signs, 8.5 inches x 11 inches, white colored background with black 2 inch high or larger block letters. The signs shall be attached to the tree protection fence every 20 feet o.c.
- C. The tree protection sign shall read "Keep Out – Tree Protection Zone" in 2" high or larger letters. Beneath this in ¾" high letters, sign shall read: "No unauthorized entry, storage of construction materials or debris, or vehicle or equipment will be allowed within fence. See "City of Cupertino Tree Protection Requirements".

### **2.3 MATTING**

- A. Matting for vehicle and work protection shall be heavy duty matting designed for vehicle loading over tree roots, Alturnamats as manufactured by Alturnamats, Inc. Franklin, PA 16323 or approved equal.
- B. Submit supplier's product data that product meets the requirements for approval.

### **2.4 GEOGRID**

- A. Geogrid shall be woven polyester fabric with PVC coating, Uni-axial or biaxial geogrid, inert to biological degradation, resistant to naturally occurring chemicals, alkalis, acids.
  - 1. Geogrid shall be Miragrid 2XT as manufactured by Ten Cate Nicolon,

Norcross, GA. <http://www.tencate.com> or approved equal.

- B. Submit supplier's product data that product meets the requirements for approval.

## 2.5 FILTER FABRIC

- A. Filter Fabric shall be nonwoven polypropylene fibers, inert to biological degradation and resistant of naturally occurring chemicals, alkalis and acids.
  - 1. Mirafi 135 N as manufactured by Ten Cate Nicolon, Norcross, GA. <http://www.tencate.com> or approved equal.
- B. Submit supplier's product data that product meets the requirements for approval.

## 2.6 MULCH

- A. Mulch shall be coarse, ground, from tree and woody brush sources. The minimum range of fine particles shall be 3/8 inch or less in size and a maximum size of individual pieces shall be approximately 1 to 1-1/2 inch in diameter and maximum length of approximately 4 to 8 inches. No more than 25% of the total volume shall be fine particles and no more than 20% of total volume be large pieces.
- B. Submit supplier's product data that product meets the requirements and one quart sample sealed in a container, for approval.

# PART 3 – EXECUTION

## 3.1 GENERAL TREE PROTECTION

- A. Prior to construction activities, the General Contractor shall hire a Project Arborist to prepare an Arborist Report and Evaluation of the existing trees designated on the plans to remain and be protected. The Project Arborist shall be contracted to perform observation services throughout the project schedule, including but not limited to the following:
  - 1. Pre-construction conference.
  - 2. Tree Protection Zone / Fencing Review meeting.
  - 3. Monthly progress evaluations and field report.
  - 4. On-site observation and review as needed during constructions activities.
  - 5. Valuation of any trees damaged during construction.
- B. The General Contractor is responsible to see that these tree protection specifications are implemented and that all people working at the site are aware and adhere to these specifications. A copy of these Specifications is to remain and be accessible at the site at all times.
- C. The General Contractor is responsible for coordination of all subcontractors that may impact tree health.
- D. Contractor shall repair or replace all existing trees, shrubs, or ground cover vegetation not designated for removal that are damaged by construction operations, in a manner acceptable to City's Representative. This may include the hiring of a licensed arborist by the Contractor to provide repair recommendations, per the discretion of the City's Representative.
- E. The Tree and Plant Protection Area or Zone is defined as all areas indicated on the tree protection plan. Where no limit of the Tree and Plant Protection area is

defined on the drawings, the limit shall be the drip line (outer edge of the branch crown) of each tree.

1. Prior to any construction activity at the site including utility work, grading, storage of materials, or installation of temporary construction facilities, install all tree protection fencing, Filter Fabric, silt fence, tree protection signs, Geogrid, Mulch and or Wood Chips as shown on the drawings, or as designated by the Project Arborist.
- F. No vehicle parking or equipment storage shall be allowed within drip lines of trees not designated for removal.
1. If unavoidable vehicle traffic within the tree protection zone is necessary, protection of the soil to reduce compaction must be accomplished through one of the following:
    - a. Apply 6-12" of woodchip mulch to the area.
    - b. Lay plywood or 4x4 wood beams over a 4" thick layer of wood chip mulch.
    - c. Apply 4 to 6" of gravel over a taut, staked geotextile fabric.
    - d. Placing commercial matting on top of a 4" thick woodchip mulch later.
  2. Materials exceeding 4" in depth shall be removed after work in the area has been completed, to allow the roots to breath.
- G. No dumping of cement tailings, chemicals or other waste products into any future landscape area and the tree protection area. Storage of materials, refuse, excavated spoils or dumping of poisonous materials on or around trees and roots. Poisonous materials include, but are not limited to, paint, petroleum products, concrete or stucco mix, dirty water or any other material which may be deleterious to tree health.
- H. The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function is prohibited within the tree protection fence.
- I. Trees to be removed/demolished shall be chipped on site. Store chips onsite in an area designated by the City's Representative or within tree protection zones. These chips shall be used as mulch for trees to remain as determined by the City's representative or consulting arborist. Trees with allelopathic inhibitors, such as Black Walnut or Eucalyptus, are not allowed to be chipped and used on site, but must be hauled off site.
- J. Any damage or injury to trees shall be reported within six hours (6 hr.) to the Project Arborist and job superintendent so that mitigation can take place. All mechanical or chemical injury to branches, trunk or to roots over two inches (2") in diameter shall be reported in the monthly inspection report.
1. Root injury: SEE 3.04 Root Treatment.
  2. Bark or trunk wounding: Current bark tracing and treatment methods shall be performed by a qualified tree care specialist within two (2) days.
  3. Scaffold branch or leaf canopy injury: Remove broken or torn branches back to an appropriate branch capable of resuming terminal growth within five (5) days. If leaves are heat scorched from equipment exhaust pipes, consult the Project Arborist within six (6) hours.

### 3.2 PRE-DEMOLITION / CONSTRUCTION

- A. The demolition contractor shall meet with the City's representative before

beginning work to discuss work procedures and tree protection. No cutting of any part of project trees, including roots, shall be done without securing approval and direct supervision from the City.

- B. Contractor shall tag and identify existing trees which are to remain within the project limits PRIOR to start of any work. Tree Protection fencing as described in 3.01 D shall be installed.
- C. Existing groundcover or lawn shall be left in place and not ripped out until necessary and permanent irrigation and mulch is installed. When clearing is required, it shall be accomplished with hand-operated equipment.
- D. Pruning
  - 1. Pruning shall be performed by a qualified tree service with an ISA Certified Arborist on staff, in a supervisory position for the work, and pre-approved by the Project Arborist. The tree pruner shall follow the most current version of the arboriculture industry standards- See References.
  - 2. Pruning protected trees prior to construction should be as little as possible, and only what is required for demolition and construction clearance from structures and activities. Trees shall be pruned to reduce hazards and develop a strong framework. Aesthetic pruning can be done later, if necessary. Branches that must be shortened should be cut back to appropriately sized lateral branches whenever possible, and not to stubs.
  - 3. If urgent pruning is necessary for immediate construction clearance this may be done by the general or demolition contractor. In this case a short stub should be left which can be removed by a qualified tree service at a later time. Please consult with the arborist prior to such pruning.
  - 4. Where temporary clearance is needed for access, branches shall be tied back to hold them out of the clearance zone.
  - 5. Pruning shall not be performed during periods of flight of adult boring insects because fresh wounds attract pests. Pruning shall be performed only when the danger of infestation is past.
  - 6. Pruning cuts that expose heartwood and are larger than 4" in diameter shall be avoided.
  - 7. No more than 25% of foliage shall be removed within the trees.
  - 8. Interior branches shall not be stripped out.
  - 9. Tree(s) to be removed that have branches extending into the canopy of tree(s) to remain must be removed by an International Society of Arboriculture (ISA) qualified arborist or tree worker and not by demolition or construction contractors. The qualified arborist shall remove the tree in a manner that causes no damage to the tree(s) and understory to remain.
  - 10. Where tree specific disease vectors require, sterilize all pruning tools between the work in individual trees, per ISA standards.
- E. Tree Root Pruning
  - 1. Root prune as directed by the Project Arborist, if required.
- F. Mulch
  - 1. Refer to 3.06 MULCH below for further information.
- G. Fertilizer
  - 1. Apply a single dose of fertilizer to protected trees per the Project Arborist

recommendation prior to construction, if required.

### 3.3 FENCING AND SIGNAGE

- A. Before any construction may commence, the Contractor shall provide and install temporary fencing to protect all existing trees and vegetation not designated for removal. Protective fencing shall be placed at a distance of 6 times the diameter of the tree's trunk measured 4.5 feet above the natural grade.
- B. If fence must be placed on an impermeable surface, the post must be inserted into post stands. If the impervious surface is later removed, the posts must be replaced into the ground.
- C. Allow a 24" gap between one set of posts to provide access for tree work and monitoring.
- D. If it is not possible to fence a tree, then the Contractor shall wrap the trunk with 2" x 4" vertically stacked lumber from the ground up, with a gap of 1" to 2" between the boards, fastened to the tree with rope or metal straps at the top, bottom and middle of its height. The lumber is then wrapped in 2 layers of orange plastic ski fencing. Such trees also require ground protection underneath as much of the dripline as possible.
- E. Tree protection signage shall be posted on the fencing every 20 feet and attached with ties on all four corners. Signage shall proclaim that there shall be no unauthorized work or persons within the tree protection zone, no dumping of chemicals or storage of materials or equipment, and who to contact regarding this.

### 3.4 TREE ROOT TREATMENT

- A. Preconstruction root exploration is necessary for all existing trees adjacent to trenching, grade reduction or other activities that require exposure or removal of soil from the critical root zone. Roots shall be located using non-invasive exploration procedures, such as hand digging using small tools, pressurized water or a pneumatic air device, such as an Air-Spade®. This tool uses compressed air to displace soil without damage to roots. Once exposed, the roots can be examined and determinations by the City's representative and/or the Project Arborist are made regarding the feasibility of root removal or root severance.
- B. Contractor shall notify the City's Representative if any roots over 2" in diameter are required to be cut. In this case, all work within the drip line of the tree shall be suspended until notified by the City's Representative and/or Project Arborist.
- C. Methods of root pruning (in order of preference):
  - 1. Selective root cutting after exposing the roots as indicated in 3.04A, leaving roots intact (digging underneath) when possible.
  - 2. Cutting roots with a root cutting machine (e.g. Dosco or Vermeer root pruner) along a predetermined line on the surface. Cleanly cut necessary roots. Bark should adhere to the wood without tearing. Wood fibers should remain intact without shattering.
  - 3. Mechanically excavating (e.g. with trencher or backhoe) and hand pruning what is left of the roots. Work slowly and have ground crew cleanly cut roots as soon as possible after encountered.
- D. The following tools are acceptable for use:

1. Round blade shovel
  2. Tree pruning handsaw designed for root cutting
  3. Hand pruners
  4. Loppers with 1 inch capacity reciprocating saw with wood cutting blade
  5. Concrete circular saw (rock or root cutting saw, e.g. Stihl TS-400 with 12" blade, preferably carbon-tipped- start with new blade).
  6. Chainsaw (for large roots over 4 inches in diameter- start with new chain).
- E. Proper pruning technique shall encourage callusing of the roots. Root cutting and removal shall not exceed thirty-five (35%) of total root surface.
- F. Exposed Roots
1. Temporarily cover exposed roots with wet burlap to prevent roots from drying out, maintain moist condition of burlap at all times and remove burlap and cover with earth as soon as possible (within two hours). If the air temperature is 80 degrees Fahrenheit or greater, the burlap must be inspected every hour and re-wet as necessary to maintain a constant cool moist condition. If air temperature is below 80 degrees Fahrenheit, the burlap must be inspected every 4 hours and re-wet as necessary to maintain a constant cool moist condition. Small roots can dry out and die in 10-15 minutes. Larger roots can succumb in an hour or less under unfavorable weather conditions.
- G. Injured / Damaged Roots
1. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with approved tools/equipment. Crushed or torn roots are more likely to allow decay to begin; sharply cut roots produce a flush of new roots helping the tree to recover from injury. If any roots over two inches (2") in diameter are severed during any excavation, the following procedure shall be followed:
    - a. The roots shall be shaded by immediately covering the entire trench with plywood, or by covering the sides of the trench with burlap sheeting that is kept moist by watering twice (2x) per day.
    - b. When ready to backfill, each root shall be severed cleanly with a handsaw. Where practical, they should be cut back to a side root or 2" behind the ragged end. Immediately, a plastic bag shall be placed over the fresh cut, and secured with a rubber band or electrical tape. Shading should immediately be placed until backfilling occurs.
    - c. Plastic bags shall be removed prior to backfilling.
    - d. Backfill shall be clean, native material free of debris, gravel or wood chips.
- H. Contractor shall pay the City the value of existing trees to remain that died or were damaged because of the contractor's failure to provide adequate protection and maintenance. In accordance with the schedule of values, using "tree caliper" method established in the most recent issue of the guide for establishing values of tree and other plants prepared by the council of tree if it is determined that the contractor has willfully or negligently damaged or destroyed the existing trees to remain, the values shall be tripled to reimburse City for inconvenience and damages.

### 3.5 TRENCHING / SITE WORK

A. Demolition

1. Removal of existing pavement must be done carefully and slowly around protected trees. Jack hammering pavement to break into manageable pieces to be hand removed is preferred. SEE 3.6 MULCH for additional information.

B. Grading

1. If heavy grading equipment is used around the protected trees and roots are encountered that must be removed, grading must stop and the roots shall be cut immediately by the above methods. Tearing back roots toward the trunk to snap them or break them by continuing to operate heavy equipment is not acceptable.
2. When using heavy machinery around protected trees, the equipment shall sit on existing pavement and work backwards so as to remain on the pavement or otherwise outside the tree protection zones, or at least as far away from the trunk as possible. Machine operator shall work very slowly, removing soil in 6 inch lifts. Contractor shall have a ground crew with shovels to watch for and expose tree roots while the machines are excavating. The equipment operator should 'feel' for roots while excavating around protected trees and notify ground crew to cut roots per the above methods if the roots are smaller than 2".
3. Soil Compaction: If compaction of the soil occurs, it shall be mitigated as outlined in Soil Compaction Damage, and/or Soil Improvement.
4. Grading Limitations within the Tree Protection Zone (TPZ):
  - a. Grade changes outside of the TPZ shall not significantly alter drainage to the tree.
  - b. Grade changes within the TPZ are not permitted.
  - c. Grade changes under specifically approved circumstances shall not allow more than six (6) inches of fill soil added or allow more than four (4) inches of existing soil to be removed from natural grade unless mitigated.

C. Trenching

1. Spoil from trench, footing, utility or other excavation shall not be placed within the tree protection zone, neither temporarily or permanently.
2. All underground utilities, drain lines or irrigation lines shall be routed outside the tree protection zone. If lines must traverse through the protection area, they shall be tunneled or bored under the tree as directed by the City/Project Arborist.
3. Open trenching in the root zone of any tree is prohibited except in cases where the trenching fall outside the drip-line of the tree involved. Exception will be allowed if, in the opinion of the Project Arborist, the impact of trenching upon the tree will be negligible. Project Arborist approval is required.
4. In the event trenches for irrigation and/or lighting are required within a tree's canopy, they shall be installed by hand in a radial direction to the trees' trunks. If irrigation trenches cannot be routed as such, the work may need to be performed using a pneumatic air device, such as an Air-Spade®, to avoid unnecessary root damage.

### 3.6 MULCHING

- A. Apply 4-6" of wood chip mulch within the tree protection zone and maintain during



construction. Mulch material may be chipped trees from on-site demolished trees. Contractor shall maintain 6-12" clear around the base of the trunk. The mulch will help regenerate new fine roots in the soil just beneath the mulch. This can help to compensate for some of the root loss or root damage that trees experience.

- B. If pavement is removed within the tree protection zone, the contractor shall wet the soil underneath the removed pavement to a maximum depth of 6", and apply mulch per above.

### 3.7 CLEAN-UP

- A. During tree and plant protection work, keep the site free of trash, pavements reasonably clean and work area in an orderly condition at the end of each day. Remove trash and debris in containers from the site no less than once a week.
- B. Immediately clean up any spilled or tracked soil, fuel, oil, trash or debris deposited by the Contractor from all surfaces within the project or on public right of ways and neighboring property.
- C. Once tree protection work is complete, wash all soil from pavements and other structures. Ensure that Mulch is confined to planting beds.
- D. Make all repairs to grades, ruts, and damage to the work or other work at the site.
- E. Remove and dispose of all excess Mulch, Wood Chips, packaging, and other material brought to the site by the Contractor.

### 3.8 REMOVAL OF FENCING AND OTHER TREE AND PLANT PROTECTION

- A. At the end of the construction period or when requested by the City's Representative remove all fencing, Wood Chips or Mulch, Geogrids and Filter Fabric, trunk protection and or any other Tree and Plant Protection material.

### 3.9 DAMAGE OR LOSS TO EXISTING PLANTS TO REMAIN

- A. Any trees or plants designated to remain and which are damaged by the Contractor shall be replaced in kind by the Contractor at their own expense. Trees shall be replaced with a tree of similar species and of equal size or 6 inch caliper whichever is less. Shrubs shall be replaced with a plant of similar species and equal size or the largest size plants reasonably available whichever is less. Where replacement plants are to be less than the size of the plant that is damaged, the City's Representative shall approve the size and quality of the replacement plant.
- B. All trees and plants shall be installed per the requirements of Specification Section Planting Work.
- C. Plants that are damaged shall be considered as requiring replacement or appraisal in the event that the damage affects more than 25 % of the crown, 25% of the trunk circumference, or root protection area, or the tree is damaged in such a manner that the tree could develop into a potential hazard. Trees and shrubs to be replaced shall be removed by the Contractor at his own expense.
- D. The City's Representative may engage an independent arborist to assess any tree or plant that appears to have been damaged to determine their health or condition.
- E. Any tree that is determined to be dead, damaged or potentially hazardous by the City's arborist and upon the request of the City's Representative shall be immediately removed by the Contractor at no additional expense to the City. Tree

removal shall include all cleanup of all wood parts and grinding of the stump to a depth sufficient to plant the replacement tree or plant, removal of all chips from the stump site and filling the resulting hole with topsoil.

- F. Any remedial work on damaged existing plants recommended by the consulting arborist shall be completed by the Contractor at no cost to the City. Remedial work shall include but is not limited to: soil compaction remediation and vertical mulching, pruning and or cabling, insect and disease control including injections, compensatory watering, additional mulching, and could include application tree growth regulators (TGR).
- G. Remedial work may extend up to two years following the completion of construction to allow for any requirements of multiple applications or the need to undertake applications at required seasons of the year.

#### **END OF SECTION**

**SECTION 02 41 13**  
**SELECTIVE SITE DEMOLITION**

**PART 1 – GENERAL**

1.1 SUMMARY

A. SECTION INCLUDES:

1. This work consists of the removal and disposal of abandoned utilities, pipes, sidewalks, appurtenances, fences, foundations, pavements, picnic tables and any other obstructions that are not designated or permitted to remain. It shall also include salvaging, stockpiling and loading salvable materials, sandblasting, plugging structures, and sawing and cutting to facilitate controlled breaking and removal of concrete and asphalt to a neat line. Except in areas to be excavated, the resulting trenches, holes, and pits shall be backfilled.
2. Materials removed and not designated to be salvaged or incorporated into the WORK shall become the property of contractor.

1.2 REFERENCES

- A. Section 31 20 00 Earth Moving

**PART 2 – PRODUCTS**

NOT APPLICABLE

**PART 3 – EXECUTION**

3.1 GENERAL

- A. Contractor shall raze, remove, and dispose of all structures and obstructions which are identified on the Project Plans, except utilities, structures and obstructions removed under other contractual agreements or as otherwise provided for in the contract documents, and salvable material designed to remain the property of City.
- B. Salvable Material
1. All salvable material designated in the contract or by the City Engineer to remain the property of City shall be removed without damage, in sections or pieces which may be readily transported, and shall be stockpiled by contractor at specified locations within the project limits.
  2. Contractor shall safeguard salvable materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work, or is loaded onto City's equipment by contractor.
- C. Demolish and completely remove underground utilities as shown on the plans. Where utilities are shown to abandon in place, grout solid as directed with Controlled Low Strength Material (CLSM). CLSM shall be 1 sack cement sand slurry with a compressive strength of no less than 50 psi and no greater than 150 psi.

- D. Pavements, Sidewalks, and Curbs:
  - 1. All concrete pavements, sidewalks, structures, etc., designated for removal, shall be disposed of offsite by contractor at contractor's expense.
  - 2. Sawing of concrete and asphalt shall be done to a true line, with a vertical face, unless otherwise specified.
  - 3. The minimum depth of a saw cut shall be two (2) inches.
  - 4. For reinforced concrete, the minimum depth shall be two (2) inches, or to the depth of the reinforcing steel, whichever occurs first.
- E. Completely fill below-grade areas and voids resulting from demolition work. Provide fill consisting of approved fill material, gravel or sand, free of trash and debris, roots or other organic matter, in accordance with the geotechnical investigation. See Section 31 20 00 – EARTH MOVING for compaction requirements.
- F. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to City's Representative in written, accurate detail. Pending receipt of directive from City's Representative, rearrange selective demolition schedule as necessary to continue overall job progress without delay.

### 3.2 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish, and other materials resulting from demolition operations from project site. Transport and legally dispose of materials off site on a daily basis and as dumpsters become full.
- B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution. Notify City's Representative immediately.
- C. Burning of removed materials is not permitted.
- D. A completed construction and demolition (C&D) Debris Management Plan must be submitted by the Contractor to the Building Division. All debris disposal and recycling from the construction project must be tracked throughout the duration of the project. Contractors must use Green Halo [cupertino.wastetracking.com](http://cupertino.wastetracking.com) to create their Plan and to submit all construction waste generation tonnage information. A hold on issuance of the building permit will be placed until the Plan is submitted and approved. A hold will also be placed on the final inspection until all waste tonnage information for the project has been entered into Green Halo and approved by the Environmental Programs Division. For additional information, please visit [www.cupertino.org/greendev](http://www.cupertino.org/greendev)

**END OF SECTION**

**SECTION 03 20 00**  
**CONCRETE REINFORCEMENT**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.

**1.2 SUMMARY**

- A. This Section Includes the following
  - 1. Reinforcing steel bars and accessories for cast-in-place concrete.
- B. Related Sections include the following:
  - 1. Section 03 10 00 - Concrete Formwork.
  - 2. Section 03 30 00 - Cast-in-Place Concrete.

**1.3 REFERENCED STANDARDS**

- A. ACI 117 – Standard Specifications for Tolerances for Concrete Construction and Materials.
- B. ACI 301 - Structural Concrete for Buildings.
- C. ACI 315 – Details and Detailing of Concrete Reinforcing.
- D. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- E. ASTM A706 – Low Alloy Steel Deformed Bars for Concrete Reinforcement.
- F. AWS D1.4 - Structural Welding Code for Reinforcing Steel.

**1.4 SUBMITTALS**

- A. Submit under the provisions of the General Conditions- Submittals.
- B. Shop Drawings: Shall be completely detailed, including bending schedules and bending diagrams, and submitted for review. Shop drawings shall show placing details, size and location of reinforcing steel, and any welding to be done. Shop drawings shall clearly specify locations of bars. On elevations of beams and columns locate sleeves that conflict with typical details or reinforcing. Shop drawings shall not be copies of Construction Drawings.
- C. Contract documents shall be reviewed for location for anchors, inserts, conduits, sleeves, and any other items which are required to be cast in concrete. Provisions shall be made so that reinforcing steel will not interfere with the placement of such embedded items.
- D. Reinforcing steel shall not be fabricated or placed before the shop drawings have been reviewed by the City Engineer.
- E. Review of shop drawings is of a general nature only, and responsibility for conformance with intent of drawings shall remain with the Contractor. Review does not imply or state that fabricator has correctly interpreted the construction drawings.

- F. Mill Test Reports: Certified mill test reports (tensile and bending strength) for each heat or melt of reinforcing steel shall be submitted before delivery of any material to the site. All sizes of reinforcing for the project shall have a test report. Where reinforcing is to be welded, mill test reports shall verify the weldability of the steel.

## 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301.
- B. Maintain one copy of latest construction documents on site, including design drawings, approved shop drawings and permit drawings.
- C. Special inspections, as required by Section 1705.3 of the California Building Code, shall be provided during construction by City representative.
- D. All materials and equipment incorporated in the work shall be new unless otherwise specified. Materials and equipment not covered by detailed requirements in the Contract Documents shall be of the best commercial quality, suitable for the purpose intended, and approved by the City prior to use in the work. The Contractor shall provide proper storage facilities and exercise such measures as will ensure the preservation of the required quality and fitness of all materials and equipment. Materials or equipment not conforming to the requirements of the Contract Documents shall be rejected and immediately removed from the site of the work.

## PART 2 – PRODUCTS

### 2.1 REINFORCEMENT

- A. Reinforcing Steel:
  - 1. ASTM A615, Grade 60, deformed bar, unless noted otherwise.
  - 2. ASTM A706, deformed bars where reinforcement is to be welded.
  - 3. Spiral Reinforcement: ASTM A615 Grade 60, deformed bar.
  - 4. Shall be new, free from rust, scale, oil, and dirt.

### 2.2 ACCESSORIES

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, and Spacers: Plastic, sized and shaped for strength and support of reinforcement during concrete placement conditions.
- C. Matting for vehicle and work protection shall be heavy duty matting designed for vehicle loading over tree roots, AlturnaMats as manufactured by AlturnaMats, Inc. Franklin, PA 16323 or approved equal.
- D. Submit supplier's product data that product meets the requirements for approval.
- E. Where supports bear on earth, use concrete blocks. For surfaces exposed to view, stainless steel support chairs, spacers, or bolsters shall be used.
- F. The use of wood or organic supports or spacers inside the forms is not permitted.
- G. Mechanical Splices: Lenton Standard Coupler (A2), capable of providing a Type 2 splice per ACI 318, as manufactured by Erico or equal with prior approval.
- H. Headed Reinforcement: Lenton Terminator (D6), capable of providing the

equivalent of a hooked bar development, as manufactured by Erico or equal with prior approval.

## 2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with ACI 301 and applicable portions of ASTM A1094 and appendices.
- B. Weld reinforcement in accordance with AWS D1.4. As a minimum, use E70 electrodes.
- C. Reinforcing splices not indicated on drawings shall be located at points of minimum stress and approved by the City Engineer prior to placement.
- D. In case of fabrication errors do not re-bend reinforcement in a manner that will damage or weaken the material.

## PART 3 – EXECUTION

### 3.1 PLACEMENT

- A. Reinforcing steel shall be placed in accordance with the Construction Drawings, the reviewed shop drawings, and the requirements of the references. Place, support and secure reinforcement against displacement due to workmen and the placement of concrete. Do not deviate from required position.
- B. Maintain concrete cover around reinforcing as follows unless noted otherwise:

Item	Coverage
Formed, Exposed to Weather	2 inches
Formed, Exposed to Earth or Weather	3 inches
Concrete Formed Against Earth	3 inches

- C. Obstructions: Where conduits, piping, inserts, sleeves, etc., interfere with placing of reinforcing steel, obtain acceptance from the City's Representative for resolution before placing concrete.
- D. Accommodate placement of formed openings.
- E. Tying: Push in tie wire so that concrete placement will not force the wire ends to the surface of exposed concrete.
- F. Splicing: Locate splices as specified in the Construction Drawings. Stagger splices in adjacent bars wherever possible.
- G. Field Bending: All reinforcing shall be bent cold. Assure that minimum bend radiuses are maintained. Do not rebend reinforcement within 6 inches of previously bent areas without approval from the City's Representative. Reinforcing partially embedded in concrete shall not be field bent.

### 3.2 FIELD QUALITY CONTROL

- A. Schedule inspections with special inspectors and Structural Engineer a minimum of 48 hours prior to placing concrete.
- B. Provide free access to Work and cooperate with City and City's Representative.

## END OF SECTION

**SECTION 03 30 00  
CAST-IN-PLACE CONCRETE**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.

**1.2 SUMMARY**

- A. This Section includes the following:
  - 1. Cast-in-place concrete required for this Work as indicated on the drawings and includes, but not necessarily limited to: foundations, piles and beams.
- B. Related Sections include the following:
  - 1. Section 03 20 00 - Concrete Reinforcement.
  - 2. Section 31 63 00 – Drilled Concrete Piers.

**1.3 REFERENCES**

- A. ACI 117 – Standard Specifications for Tolerances for Concrete Construction and Materials.
- B. ACI 301 - Structural Concrete for Buildings.
- C. ACI 302 - Guide for Concrete Floor and Slab Construction.
- D. ACI 308 - Standard Practice for Curing Concrete.
- E. ACI 309 - Guide for Consolidation of Concrete.
- F. ASTM C33 - Concrete Aggregates.
- G. ASTM C94 - Ready-Mixed Concrete.
- H. ASTM C150 - Portland Cement.
- I. ASTM C309 - Liquid Membrane-Forming Compounds.
- J. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.

**1.4 SUBMITTALS FOR REVIEW**

- A. Submit under the provisions of the General Conditions- Submittals.
- B. Submit to the City's Representative, the proposed concrete mix designs stamped by a structural or civil engineer currently licensed in the State of California. The submittal should include a history of uses and test reports and product data sheets. All materials, source of materials, admixtures and their proportions. Shrinkage limits of mix design. Whether mix is appropriate for pumping and pump or hose size required to deliver concrete.
- C. Submit curing method for review by the City's Representative.
- D. Submit schedule of concrete placement operations before commencing



work. Show on one or more plans and/or elevations, locations of construction, contraction and expansion joints.

- E. Submit coordination drawings, indicating all embedded items, penetrations, openings, and other coordination items related to the finished concrete work.

#### 1.5 SUBMITTALS AT PROJECT CLOSEOUT

- A. Accurately record actual locations of embedded items, utilities, and components which are concealed from view. Submit to the City at project closeout.
- B. All test and inspection reports. All transit mix delivery slips.

#### 1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301.
- B. Maintain one copy of latest construction documents on site, including design drawings, approved shop drawings and permit drawings.
- C. Acquire cement and aggregate from same source for all work.
- D. Special Inspections: The following special inspections, as required by Section 1705.3 of the California Building Code, shall be provided by the City's Representative during construction on the following types of work. The City's Representative shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the City. The City shall bear costs of tests and/or inspections. Re-testing due to defective materials or workmanship will be back charged to the Contractor.
  - 1. Concrete, per Section 1705.3; Inspection of concrete placement and compression tests.
  - 2. Reinforcing Steel, per Section 1705.3, during placement of reinforcing.
- E. All materials and equipment incorporated in the work shall be new unless otherwise specified. Materials and equipment not covered by detailed requirements in the Contract Documents shall be of the best commercial quality, suitable for the purpose intended, and approved by the City prior to use in the work. The Contractor shall provide proper storage facilities and exercise such measures as will ensure the preservation of the required quality and fitness of all materials and equipment. Materials or equipment not conforming to the requirements of the Contract Documents shall be rejected and immediately removed from the site of the work.

### PART 2 – PRODUCTS

#### 2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type II, and shall be provided by one manufacturer.
- B. Pozzolan: ASTM C618, Class F Fly Ash
- C. Aggregates:
  - 1. Coarse shall conform to ASTM C33 size 57 or 67, or 7.
  - 2. Fine shall conform to ASTM C33.

- 3. Pea Gravel or smooth aggregate shall not be used.
- D. Water: Clean, potable, and not detrimental to concrete.

## 2.2 ADMIXTURES

- A. No admixtures shall be allowed without written acceptance by the City's Representative. Admixtures that have a negative impact on concrete finish shall not be used. When more than one admixture is used, admixtures shall be compatible. Provide letter from admixture manufacturer that it is appropriate for proposed mix design.
- B. Air Entrainment: ASTM C260; "Daravair", "Micro-Air", manufactured by W.R. Grace, Master Builders or equal.
- C. Shrinkage reducing admixture manufactured by W.R. Grace, Master Builders or equal.
- D. Superplasticizer admixture may be used to assist placing in concrete moment frame elements such as Daracem 100 manufactured by W.R. Grace, Master Builders or equal.
- E. A calcium nitrite based corrosion inhibitor shall be added to the mix at a minimum dosage of two gallons per cubic yard.

## 2.3 ACCESSORIES

- A. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days. SIKAGROUT 212 or approved equal.
- B. Epoxy Grout: Two-part epoxy adhesive product that conforms to the requirements of Simpson SET-XP High Strength Epoxy (ICC-ES-ESR-2508) by Simpson Strong Tie or equal product with prior written approval of the City's Representative. Installation shall be in strict conformance with the manufacturer's recommendations.
- C. Waterstops: self-adhesive bentonite waterstop strip intended to seal cold joints in concrete that conforms to the requirements of Superstop by Tremco Sealants or approved equal.

## 2.4 CONCRETE MIX

- A. Mix and deliver concrete in accordance with ASTM C94.
- B. Addition of water to the mix after leaving the plant is not permitted.
- C. Provide concrete to the following criteria:
  - 1. Compressive Strength (28 day): 3,000 psi.
  - 2. Normal Weight Aggregate.
  - 3. Water/Cementitious Material Ratio (maximum): 40 percent by weight.
  - 4. 20% of total cementitious material shall be Fly-Ash (class F).
  - 5. Aggregate Size (maximum): ¾ inch.
  - 6. Slump: 4 inches.
  - 7. Drying Shrinkage Limit: 0.04 percent. Drying shrinkage limit is

percentage of change in length after 21 days of drying when tested per ASTM C157.

### **PART 3 – EXECUTION**

#### **3.1 EXAMINATION**

- A. Verify requirements for concrete cover over reinforcement.
- B. Verify that anchors, seats, plates, water stops, sleeves, reinforcement, and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

#### **3.2 PREPARATION**

- A. Prepare joints in previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
- B. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

#### **3.3 PLACING CONCRETE**

- A. Place concrete in accordance with ACI 301.
- B. Notify City's Representative and Special Inspector minimum 48 hours prior to commencement of operations. Do not place concrete until forms and reinforcement as well as other required inspections have occurred and the Special Inspector is present to perform observations and testing during placement.
- C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
- D. Separate slabs on grade from vertical surfaces with 1/2 inch thick joint filler, unless noted otherwise on plans or details. Place joint filler to required elevations. Secure to resist movement by wet concrete.
- E. Extend joint filler from bottom of slab to within 1/8 inch of finished slab surface.
- F. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- G. Place concrete continuously between predetermined contraction joints.
- H. Do not interrupt successive placement; do not permit cold joints to occur.
- I. Form contraction joints as detailed on plans. Joints shall be formed immediately after final finishing with an approved "SOFF-Cut" concrete-sawing machine as manufactured by Husqvarna. Avoid dislodging aggregates. Unless otherwise indicated or directed, the joints shall be 1/8 inch wide and 1" deep. Do not use zip-strips. Saw contraction joints to true alignment with "SOFF-Cut" concrete-sawing machines adequate in number and power and with sufficient replacement blades to complete the sawing at the required rate. Joints shall be cut as the concrete has hardened sufficiently to permit walking on the slab, and as recommended by the saw manufacturer. Unless otherwise approved, saw joints in the sequence of concrete placement. Remove cutting debris. Saw cuts shall be made in accordance with manufacturer's instructions.

- J. Screed slabs on grades shown, maintaining surface to tolerance of 1/4 inch maximum in 10 feet.

### 3.4 CONCRETE FINISHING

- A. Provide formed concrete surfaces to be left exposed with a smooth-form finish in accordance with ACI 301, unless noted otherwise.
- B. Exposed Surfaces: Unless indicated otherwise, concrete that will be exposed in the completed structure shall receive the following finishes as indicated:
  - 1. Smooth Form Finish: Conform to ACI 301.
  - 2. Smooth Rubbed Finish: Conform to ACI 301.
  - 3. Grout Cleaned Finish: Conform to ACI 301.
  - 4. Unspecified Finish: When finish is not indicated, provide "smooth form finish" as specified above.
- C. Provide formed concrete surfaces to be permanently concealed from view with a rough-form finish in accordance with ACI 301, unless noted otherwise.
- D. Concrete to receive membrane waterproofing shall receive a smooth-form finish in accordance with ACI 301 unless noted otherwise.
- E. Finish concrete floor surfaces in accordance with ACI 301. Provide a non-slip surface where concrete floor surfaces are left exposed, unless noted otherwise.
- F. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains as indicated on drawings.
- G. Provide a 3/4" chamfer on all exposed concrete edges, unless noted otherwise.

### 3.5 CURING AND PROTECTION

- A. Curing of concrete shall comply with applicable requirements of ACI 301 and ACI 308, except that the curing duration shall be a minimum period of seven days. Curing with earth, sand, sawdust, straw, and hay will not be permitted.
- B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- C. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- D. Spraying: Spray water over floor slab areas and maintain wet for 7 days.

### 3.6 FIELD QUALITY CONTROL

- A. Provide free access to Work and cooperate with City's Representative.
- B. Submit proposed mix design of each class of concrete to special inspection and testing firm for review prior to commencement of Work.
- C. Tests of cement and aggregates may be performed to ensure conformance with specified requirements.
- D. One additional test cylinder will be taken during cold weather concreting,

cured on job site under same conditions as concrete it represents.

- E. At a minimum one slump test will be taken for each set of test cylinders taken.

### 3.7 PATCHING

- A. Allow City's Representative to inspect concrete surfaces immediately upon removal of forms if defects are present.
- B. Excessive honeycomb, cracking or embedded debris in concrete is not acceptable. Notify City's Representative upon discovery. City's Representative shall determine if concrete is defective.
- C. Patch imperfections in accordance with ACI 301 or as directed by City's Representative.

### 3.8 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, quality standards, details, dimensions, tolerances, crack widths greater than 0.015", excessive voids or honeycombs or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the City's Representative.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction the City's Representative for each individual area.
- D. Methods of placing of concrete, pour sequence, and locations of construction joints shall be at the discretion of the contractor unless noted otherwise. Any surface cracks 0.015" or greater in the cured concrete will be repaired by the Contractor using pressure epoxy injection methods in strict conformance with the epoxy manufacturer's recommendations. The repairs will be performed to the satisfaction of the City's Representative and at no additional cost to the City.
- E. No additional compensation will be allowed for repair of defective concrete.

**END OF SECTION**

## SECTION 11 68 00

### SPORTS EQUIPMENT AND STRUCTURES

#### PART 1 – GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.
- B. Related Sections:
  - 1. Section 32 11 23 – Aggregate Base Courses.
  - 2. Section 31 63 00 – Drilled Concrete Piers.

##### 1.2 DESCRIPTION OF WORK

- A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the installation of freestanding and composite equipment.

##### 1.3 SUBMITTALS

- A. General: Submit under the General and Special Provisions section of the Project Specifications provided by the City.
- B. Product Data: Submit manufacturer's "cut-sheets," technical data, installation instructions, warranties, and finish/color samples for all equipment listed, in compliance with General and Special Provisions Section "Submittal Procedures".
- C. Qualification Data: For the qualified installer and Equipment to be IPEMA certification.
- D. Product Certificates: For each type of fitness equipment, from the manufacturer.
- E. Warranty: Sample product warranty.
- F. Material Certificates: For the following items, from the manufacturer:
  - 1. Shop finishes.
  - 2. Recycled plastic.

##### 1.4 JOB CONDITIONS

- A. Contractor is solely responsible to protect all equipment from any damage or vandalism until acceptance of project, or written acceptance of individual equipment.

##### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installation must be completed by a manufacturer approved installer.
- B. Safety Standards: Provide fitness equipment complying with or exceeding the requirements in ASTM F 1487-17.
- C. Manufacturer Qualifications: A firm whose fitness equipment components have been certified by IPEMA's third-party product certification service.

- D. All materials and equipment incorporated in the work shall be new unless otherwise specified. Materials and equipment not covered by detailed requirements in the Contract Documents shall be of the best commercial quality, suitable for the purpose intended, and approved by the City prior to use in the work. The Contractor shall provide proper storage facilities and exercise such measures as will ensure the preservation of the required quality and fitness of all materials and equipment. Materials or equipment not conforming to the requirements of the Contract Documents shall be rejected and immediately removed from the site of the work.

#### 1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fitness equipment that fails in materials or workmanship within the specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures.
    - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- B. Warranty period: Five years from date of contract acceptance.

### PART 2 – PRODUCTS

#### 2.1 SPORTS EQUIPMENT

- A. Basis of Design Manufacturers:
  - 1. Goalsetter Systems Inc. Contact: Goalsetter.com
  - 2. Or Approved Equal.
- B. Product: Model MVP – Signature Series with 72" backboard, with pinlock and in-ground mounting using reinforced drilled piers as specified in the drawings.
- C. Material: Backboard shall be acrylic.
- D. Colors: Pole and frame shall be black, others through submittal process.
- E. Finishes: Shall be Powder Coat.

### PART 3 – EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, site surface and subgrade drainage, and other conditions affecting performance of the Work.
  - 1. Do not begin installation before final grading required for placing protective surfacing is completed unless otherwise permitted by City Engineer.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Verify locations of perimeter curb and pathways. Verify that layout and equipment locations comply with requirements for each type and

component of equipment.

### 3.3 EQUIPMENT INSTALLATION

- A. All equipment to be installed per the manufacturer's specifications.
- B. To guide installation, each structure shall be accompanied by bills of materials, written instructions, an erection plan view drawing, and a footing plan location drawing to be furnished prior to or with the delivery of the structure. To facilitate assembly, each part shall be indelibly stenciled with an easily-read identification number keyed to the bills of materials and erection drawings. All components shall be shipped unitized, protectively wrapped, banded for mechanical handling and ready for assembly.
  - 1. Maximum Equipment Height: Coordinate installed heights of equipment and components with finished elevations of protective surfacing. Set equipment so fall heights and elevation requirements for age group use and accessibility are within required limits. Verify that fitness equipment elevations comply with requirements for each type and component of equipment.
- C. Immediately after installation of adjacent paving, plantings, or other fixtures, contractor shall completely wash down equipment contained within the area until clean and free of debris.
- D. Post and Footing Excavation: Excavate holes for posts and footings as indicated in firm, undisturbed or compacted subgrade soil.
- E. Post Set on Subgrade: Level bearing surfaces with drainage fill to required elevation.
- F. Post Set with Concrete Footing: Comply with ACI 301 for measuring, batching, mixing, transporting, forming, and placing concrete.
  - 1. Set equipment posts in concrete footing. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at the correct angle, alignment, height, and spacing.
    - a. Place concrete around posts and vibrate or tamp for consolidation. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.
  - 2. Embedded Items: Use setting drawings and manufacturer's written instructions to ensure correct installation of anchorages for equipment.
  - 3. Concrete Footings: Install per SECTION 31 63 00 – Drilled Concrete Piers. Smooth top, and shape to shed water.

### 3.4 QUALITY CONTROL

- A. Upon completion of the installation of fitness equipment products/parts, the fitness area shall be inspected and certified compliant by:
  - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Notify the City's representative 48 hours in advance of date and time of final inspection.



3.5 MAINTENANCE

- A. Contractor shall maintain all equipment in a first-class, new condition until project final acceptance, or written acceptance of individual equipment.

**END OF SECTION**

**SECTION 31 10 00**  
**SITE PREPARATION**

**PART 1 – GENERAL**

1.1 SECTION INCLUDES:

- A. Locate and mark existing utilities within the limits of work.
- B. Remove existing trees, including root ball, within the area of work, as indicated on plan.
- C. Remove existing surface improvements within the area of work as indicated on plan.
- D. Remove existing subsurface utilities, including appurtenances, within the area of work, as indicated on plan.
- E. Properly dispose of all excess and unsuitable material.
- F. Strip all areas within the limits of work as indicated on the plan.
- G. Deploy and subsequently remove temporary construction area and tree protection fencing at completion of construction.
- H. Install and maintain erosion control measures.

1.2 RELATED SECTIONS

- A. Section 31 20 00 - Earth Moving
- B. Section 31 23 16 - Trenching, Backfilling and Compaction
- C. Section 31 25 00 – Erosion and Sedimentation Controls

1.3 REFERENCES

- A. Caltrans Standard Plans and Specifications.
- B. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

**PART 2 – PRODUCTS – NOT USED**

**PART 3 – EXECUTION**

3.1 CLEARING AND GRUBBING

- A. Install tree protective fencing around trees designated to be saved, prior to the start of demolition work. See Plans and Specifications. Install fencing as far from the trunk as possible to allow for construction of proposed improvements. Maintain fencing throughout duration of construction.
- B. The area above the natural ground surface shall be cleared of all vegetation such as trees not designated to be saved, roots, brush, grass, weeds, and all other objectionable material including buildings (footings, slabs, etc.), asphalt, concrete,

curbs, mulch, header board, ramps, stairs, utility piping (including appurtenances), bike racks, fences/gates, site furniture, and similar materials, within the limits of construction.

- C. All concrete and asphalt pavements and other existing improvements within the areas to be developed should be removed during site demolition. At the Contractor's option, salvaged class 2 aggregate base material may be stockpiled for reuse.
- D. The natural ground surface within the entire site, except within the tree protection zones, shall be grubbed to a depth necessary to remove all stumps, buried logs, roots over 2-inches in diameter, and all other unsuitable material. Stumps shall be removed to a depth of at least 24" below original grade.
- E. Existing utilities designated to be removed that do not conflict with proposed improvements may be abandoned in place. If they are abandoned in place, the utility shall be slurried and capped. Any portions of these utilities that conflict with the new improvements shall be removed.
- F. All unsuitable material shall be removed from the construction area and disposed of properly. Comply with hazardous material abatement regulations that may apply.

### 3.2 DEMOLITION SEQUENCING

- A. Permanent and/or temporary facilities may need to be installed prior to demolition to limit utility outages. Any planned and or necessary interruption of existing utilities shall be coordinated with the Construction Manager. A minimum of one week's notice shall be provided before any such interruption.

### 3.3 STRIPPING

- A. The upper soils containing grass, small roots, and other vegetation, to a depth of 4+/- inches, shall be stripped from and removed from the site. Deeper stripping may be required in localized areas to remove roots or other concentrations of organic material.
- B. Dust control shall be performed by the contractor during all phases of the construction. Payment for the dust control work involved shall be considered included in the items of work and no additional allowance will be made therefor.
- C. The Geotechnical Engineer will observe the clearing and stripping operations and recommend the maximum depth of stripping required and any additional excavation necessary due to contamination of materials or concentrations of vegetation.
- D. All suitable stripped material in excess of those needed to backfill landscape and/or planter areas shall be removed from the project site and disposed of properly.

### 3.4 CLEARED MATERIAL

- A. The objectionable cleared material including curbs, mulch, header board, ramps, utility piping (including appurtenances), fences/gates, site furniture, etc., shall be removed from the project site and disposed of properly.

### 3.5 STRIPPED MATERIAL

- A. Excess and objectionable stripped material including asphalt and concrete

pavements, grass/vegetation, etc. shall be removed from the project site and disposed of properly. Contractor is encouraged to recycle the existing aggregate base materials for use in hardscape areas only (non-building).

### 3.6 EROSION AND SEDIMENT CONTROL

- A. Install and maintain erosion control devices/measures, including, but not limited to drainage inlet protection, fiber rolls, silt fence, etc., until such time as all vegetative and hard surface improvements within their individual tributary areas are completed. Provide periodic maintenance of all such devices, and following completion of said improvements, remove and dispose of erosion control devices and repair surfaces to match final specified surface finishes.
- B. Any areas where ground has been disturbed, and where final landscaping has not been installed by October 15, will require the installation and maintenance of erosion control devices by the Contractor, as generally noted in the Erosion Control Notes on the plans.
- C. Additionally, the Contractor shall implement and adhere to the requirements of the Erosion and Sediment Control Plan.

### 3.7 SURFACE IMPROVEMENT AND UTILITY REMOVAL AND RELOCATION

- A. The Contractor shall have Underground Service Alert mark all existing public utilities as a first order of work. Additionally, the Contractor shall have a locating service mark all existing private utilities within the limits of work.
- B. The Contractor shall pothole each existing utility that will be extended or reused at its point of cut and removal to confirm the actual locations and depths as well as all proposed crossings as shown on the drawings. Notify the City Engineer of results via the RFI process.
- C. Existing water, sewer, storm drain, gas, electrical, communication (data) services and laterals to be abandoned or removed as indicated on the plans shall be provided with replacement facilities as to comply with construction sequencing requirements and limit utility/service outages as required by the City.
- D. See plans for detailed removal/replacements requirements.

### 3.8 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.

## END OF SECTION

**SECTION 31 20 00**  
**EARTH MOVING**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. Description of suitable materials for earth moving operations.
- B. Definitions of terms.
- C. Description of the duties and responsibilities of the Geotechnical Engineer.
- D. Excavate earth, rock, and all material regardless of character and subsurface conditions.
- E. Requirements for excavation, over excavation, and disposal of surplus and unsuitable material off the project site.
- F. Dewatering of excavations.
- G. Spread and compact engineered/import/select fill.

**1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the Division 01 Specification Section, apply to this Section.
- B. Related Sections include the following:
  - 1. Section 31 10 00 - Site Preparation.
  - 2. Section 31 23 16 - Trenching, Backfilling and Compaction.

**1.3 EXISTING CONDITIONS**

- A. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.
- B. The project site is underlain by lean to fat clay with medium to high expansive potential.
- C. It is the Contractor's responsibility to achieve the finished grades shown on the plan, and to determine the quantity of and provide for soil import or export required to achieve plan grades. The design intent is to balance on-site native cut and fill quantities to minimize trucking. The unsuitable over-excavated material may be used for on-site fill mounding and final contours may be adjusted in the field to balance quantities and achieve a pleasing appearance in consultation with the City's representative. Imported engineered fill is required for backfill of over-excavated areas below pavements, aggregate bases, and pavements unless bid alternate 1 is chosen and lime treatment is used.

**1.4 GEOTECHNICAL ENGINEER**

- A. The work covered by these specifications shall be performed under the observation of the Geotechnical Engineer, who shall be retained and paid by the City. The Geotechnical Engineer will be present at the site intermittently during the conduct of work to observe the work, and to perform field and laboratory tests

to evaluate material quality and compaction. The Contractor shall cooperate with the Geotechnical Engineer in performing the observations and tests. The Geotechnical Engineer shall notify the Contractor of failing test results. The Contractor shall rework these areas until the specified degree of compaction is obtained. At the completion of his work, the Geotechnical Engineer shall submit a report to the City, including a tabulation of all tests performed. The Geotechnical Engineer's costs for observing and testing the repair of unsatisfactory work performed by the Contractor shall be billed to the City. The City shall pay them and then shall deduct the amount from monies due the Contractor.

## 1.5 SUBMITTALS

- A. Submit test reports and compaction curve analysis for engineered fill required in accordance with the General Provisions.

## 1.6 DEFINITIONS

- A. Standard Specifications
  - 1. Where referred to in these specifications, "Standard Specifications" shall mean the State of California Standard Specifications, latest edition. All work shall be carried out in conformance with the Standard Specification, unless otherwise specified herein.
  - 2. Where referred to in these specifications, "City" shall mean the latest edition of the standard plans and drawings for the City of Cupertino. All work shall be carried out in conformance with the standards.
  - 3. Site Grading shall comply with the applicable sections of Title 24 and of Appendix J of the California Building Code, latest adopted edition.
- B. Percent Compaction -- As referred to in these specifications, percent compaction is the required in-place dry density of the material, expressed as a percentage of the maximum dry density of the same material determined by the ASTM D 1557 test procedure.
- C. Optimum Moisture Content -- As referred to in these specifications, optimum moisture content is the moisture content, percent (by dry weight), corresponding to the maximum dry density of the same material as determined by the ASTM D 1557 test procedure.
- D. Soil Subgrade -- Where used in these specifications, soil subgrade shall mean within exterior slab areas, the surface on which aggregate base material is placed.

## PART 2 – PRODUCTS

### 2.1 IMPORTED SELECT FILL

- A. Imported select fill shall be granular and non-expansive material that:
  - 1. is free of organic material.
  - 2. has no more than 20% passing the 200 sieve.
  - 3. has a maximum particle size of 2.5 inches.
- B. The onsite soils will not be suitable for use as select fill below courts or pavements.

- C. The onsite soils will be suitable for use in non- fill below mounded landscape areas if they are prepared as described below.
- D. Import select fill shall be approved by the Geotechnical Engineer prior to importing. Materials shall not be imported to the jobsite without written approval by the City Engineer.

### **PART 3 – EXECUTION**

#### **3.1 SPILLAGE, DUST AND EROSION CONTROL**

- A. The Contractor shall prevent spillage when hauling on or adjacent to any public streets or highways. In the event that such occurs, the Contractor shall remove all spillage and sweep, wash or otherwise clean such streets or highways as required by local City and County authorities and/or the State of California.
- B. The Contractor shall take all precautions needed to prevent a dust nuisance to adjacent public or private properties and to prevent erosion and transportation of soil to downstream adjacent properties. Any damage so caused shall be corrected or repaired by the Contractor at no cost to the City.

#### **3.2 EXCAVATION**

- A. Following clearing and stripping, over excavate existing subgrade materials in basketball court and walkway pavement areas to 24 inches below the aggregate base. The over excavations should extend two feet beyond the edges of exterior hardscape edges, as required. The over excavated materials may be stockpiled and reused as properly placed compacted native fill. Any excess and unsuitable excavated material shall be disposed of properly, offsite.
- B. The upper 12" of all exposed subgrade soils shall be scarified, thoroughly moisture- conditioned to 2-4% above optimum moisture content, and compacted to 88-90% relative compaction.
- C. Once compacted, the subgrade materials should be maintained at 2-4 percentage points above optimum moisture content prior to placement of additional fill or aggregate base material. This is likely to require periodic sprinkling during the dry season. If drying of the soils occurs, they should again be scarified, moisture- conditioned to the proper moisture content and re-compacted.
- D. Re-compacted subgrade shall have a firm and unyielding surface under the observation of the Geotechnical Engineer or their designated representative. If excessive pumping or instability is observed, over excavation and the placement of a stabilizing fabric and a 12" to 18" thick layer of class 2 aggregate base may be required by the project Geotechnical Engineer.
- E. Final surfaces exposed by the completed excavations (cutting) shall be finished true to line and grade. Depressions shall be filled and compacted, and loose material shall be removed.
- F. Temporary construction slopes shall not exceed requirements set forth in Cal-OSHA Industrial Safety Orders, or ratio suggested in the field by the Geotechnical Engineer.
- G. It is the Contractor's responsibility to achieve the finished grades shown on the plan, and to determine the quantity of and provide for soil import or export required to achieve plan grades.
- H. Refer to the Geotechnical Investigation Report for further requirements.

### 3.3 FIELD QUALITY CONTROL

- A. The Geotechnical Engineer will observe the excavation, soil removal, moisture-conditioning and re-compaction operations. After the completion of these operations and before placement of fill, the Contractor shall obtain the Geotechnical Engineer's approval of the site preparation in each area.

### 3.4 DEWATERING

- A. During excavation activities, groundwater may be encountered. The contractor is responsible for accounting in their bid the necessary equipment required to remove groundwater from excavations to allow for the proper placement of fill per the Geotechnical investigation Report.
- B. Groundwater shall be discharged through a silt-sack type device at the outlet end of the discharge pipe to allow for filtration.
- C. Silty water shall not be discharged to any storm drain.

### 3.5 PLACEMENT MOISTURE CONDITIONING AND COMPACTION

- A. Exposed subgrade materials shall be ripped, moisture-conditioned, and compacted as noted in Paragraph 3.2.B above. Select Imported fill materials to be used in exterior hardscape areas should subsequently be placed in loose, horizontal lifts of 8 inches thick or less, moisture-conditioned to within 2% of optimum moisture content or as directed in the field by the project Geotechnical Engineer, and uniformly compacted to at least 90% relative compaction. Native fill for non-hardscape and landscape areas should be placed in loose, horizontal lifts of 8 inches thick or less, moisture-conditioned to within 2% of optimum moisture content or as directed in the field by the project Geotechnical Engineer, and uniformly compacted to at least 85% relative compaction.
- B. All site preparation and fill placement should be observed by a representative of the Geotechnical Engineer.
- C. Where field density tests indicate that required compaction and/or moisture content has not been attained, the fill shall be reconditioned as necessary and re-compacted to the required density and/or moisture content prior to placing additional material. The Contractor shall be responsible for placing, moisture conditioning and compacting approved material in accordance with these specifications.
- D. Sufficient testing and inspection should be performed to assure compliance with the recommended compaction standards. Samples of proposed native or imported fill should be submitted to the Geotechnical Engineer material testing laboratory for assessment at least 48 hours prior to placement or importing to the site (whichever is soonest).

### 3.6 FINISH

- A. Fill slopes shall be compacted by slope rolling and trimming or shall be overfilled and trimmed back to planned grade. The completed fill shall be finished true to line and grade. Depressions shall be filled and compacted and all loose material shall be removed.
- B. After completion of compaction and finish grading operations, fill slopes, horizontal surfaces disturbed by construction operations, and cut slopes shall be moisture conditioned and track-walked to provide a firm and uniformly roughened surface free of loose material.



- C. See also requirements in specifications for slope and landscaped area requirements.
- 3.7 CLEAN-UP
- A. Remove all debris and stains resulting from the work of this section, including any and all excess material, which shall be removed from the project site.

**END OF SECTION**

**SECTION 31 23 16**  
**TRENCHING, BACKFILLING AND COMPACTION**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. Locate and mark existing utilities within the limits of work.
- B. Trenching and other excavation needed for the installation of pipe (storm drain, water, sanitary sewer and gas) and appurtenances.
- C. Provide and install bedding material as specified for each type of utility.
- D. Backfill and compact trenches and excavations with suitable material, as specified
- E. Provide and install sub-bedding material as required.

**1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the Division 01 Specification Sections apply to this Section.
- B. Section 33 40 00 - Site Drainage.

**1.3 SUBMITTALS**

- A. In accordance with General Provisions:
  - 1. Sand equivalent and gradation analysis of bedding and backfill materials.

**1.4 REFERENCES**

- A. Where referred to in these specifications, "Standard Specifications" shall mean the State of California Department of Transportation Standard Specifications, latest edition. All work shall be carried out in conformance with the Standard Specifications unless otherwise specified herein.
- B. Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

**1.5 EXISTING SITE CONDITIONS**

- A. The Contractor shall have Underground Service Alert mark all existing public utilities as a first order of work. Additionally, the Contractor shall have a locating service mark all existing private utilities within the limits of work.
- B. The Contractor shall pothole each existing utility that will be extended or reused at its point of cut and removal to confirm the actual locations and depths, as well as all proposed crossings as shown on the drawings. Notify the City Engineer of results via the RFI process.
- C. Existing water, sewer, storm drain, gas, electrical, communication (data), etc. services and laterals to be abandoned or removed as indicated on the plans shall be provided with replacement facilities as to comply with construction sequencing requirements and limit utility/service outages as required by the City. See Civil plans for detailed removal/replacements requirements
- D. The Contractor shall acquaint himself with all site conditions. If

unknown/unmarked active utilities are encountered during the work, the City Engineer shall be promptly notified for instruction via the RFI process. Failure to notify will make the Contractor liable for damage to these utilities arising from Contractor's operations subsequent to his discovery of such unknown/unmarked utilities.

- E. The Contractor shall review the Geotechnical Investigation and plan their work accordingly.

#### 1.6 QUALITY ASSURANCE

- A. Testing Agency: The project Geotechnical Engineer representative (Inspector) shall verify the adequacy of sub-bedding conditions and monitor bedding, backfilling, and compaction operations.
- B. Unsatisfactory Conditions: The Inspector will advise the Contractor immediately if unsatisfactory conditions or test results are observed. The area where compaction is unsatisfactory shall be reworked until the required density has been attained. The Inspector shall have the authority to reject structural bedding or backfill until unsuitable material has been replaced and/or rework, as needed, has taken place. It shall be the sole responsibility of the Contractor to achieve the specified degree of compaction.
- C. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

#### 1.7 PROTECTION FROM CAVING

- A. Construction Safety Orders
  - 1. Nothing in this section shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders. The Contractor shall take all necessary measures to protect the workers and adjacent areas and structures from the hazards of the trenching or excavation operations. Sheet piling and other sheeting shall be withdrawn in such a manner as to prevent caving at the walls of excavation or damage to piping or other structures. Except as may be hereinafter modified, no sheeting shall be left in the trench and no backfill shall be made against the sheeting before it is removed. Any sheeting extending below the invert of the pipe shall be left in place by cutting off in a manner satisfactory to the Inspector.
- B. Liability
  - 1. Nothing in this section shall be construed to impose tort liability on the Design Engineer.

### PART 2 – PRODUCTS

#### 2.1 TRENCH STABILIZATION SUB-BEDDING

- A. Drain rock for trench stabilization sub-bedding shall be of the nominal sizes designated as 3/4" x 1/4"

#### 2.2 BEDDING MATERIAL (STORM DRAIN, WATER AND SANITARY SEWER)

- A. Bedding material shall be well graded sand free from vegetable matter and refuse.
- B. The minimum sand equivalent value shall be 30.
- C. The grading shall conform to the following:

Sieve	Percentage Passing	
	Minimum	Maximum
1"	100	100
3/4"	100	100
3/8"	100	100
No. 4	90	100
No. 200	0	5

## 2.3 BACKFILL

- A. Native material is not suitable for backfill.
- B. The backfill material shall be free of stone and lumps exceeding 2.5 inches in greatest dimension.
- C. Backfill material shall have minimum Plastic Index (PI) value of 15. Liquid limit (LL) value shall be no more than 40.

## 2.4 GRANULAR BACKFILL MATERIAL

- A. Within paved and other hardscape areas, the upper 12" of backfill for trenches shall be Class 2 aggregate base.
- B. Granular backfill material, above bedding material, and below class 2 aggregate base, shall be gravel, sand or rock material free from deleterious materials, shall be used in hardscape areas.
- C. Minimum sand equivalent value shall be 25.
- D. Granular backfill material shall conform to the following:

Sieve Size	Percentage Passing
3"	100
3/4"	-
3/8"	-
No. 4	40 - 100
No. 30	10-100
No. 200	-

## PART 3 – EXECUTION

### 3.1 EXCAVATION

- A. The Contractor shall make all necessary excavations to construct the work shown on the Drawings and in accordance with trench detail appropriate to the utility being installed and the City Standards.
- B. The Contractor shall perform all excavations of every description and all substances encountered to the depth indicated on the drawings. During excavation, that material suitable for backfilling shall be deposited in an orderly manner, a sufficient distance from the banks for the trench to avoid overloading

and to prevent slides or cave-ins. All excavated material not required or suitable for backfill shall be removed and properly disposed of offsite.

- C. Excavation shall include the removal of all materials or surface obstructions of any nature that would interfere with the execution of the work, and such items shall be returned to their equivalent preconstruction condition after installation of utilities.
- D. All trench excavation work shall conform to the Division of Industrial Safety Construction Safety Orders, which are currently in use.

### 3.2 TRENCH WIDTH AND DEPTH

#### A. Width

- 1. The maximum allowable width of trench measured at the top of the pipe shall be the outside diameter of the pipe exclusive of bells and collars, plus twenty-four (24) inches, and such maximum width shall be inclusive of all trench sheeting.
- 2. Minimum width of trench for pipes 18" diameter and less shall be pipe diameter plus 6".
- 3. Maximum width of trench for pipes 18" diameter and less shall be pipe diameter plus 9".
- 4. Minimum width of trench for pipes 18" diameter and greater shall be pipe diameter plus 9".
- 5. Maximum width of trench for pipes 18" diameter and greater shall be pipe diameter plus 12".
- 6. Whenever the maximum allowable trench width is exceeded for any reason, the Contractor shall, at their expense, embed or cradle the pipe in concrete in a manner satisfactory to the Engineer.

- B. The trench shall be excavated to the dimensions and depth shown on the Drawings and in a manner, which will produce a firm foundation for supporting the entire length of each section of pipe. Bell holes shall be provided so that the load is carried on the pipe barrel.

- C. Minimum cover for domestic and recycled/reclaimed water lines shall be 24".

- D. Minimum cover for fire water lines shall be 42".

- E. Minimum cover for gas lines shall be 30".

### 3.3 CONTROL OF WATER

- A. The Contractor, at his own expense, shall provide sufficient pumping equipment, and the operation thereof, to remove ground water from the excavation.
- B. Water shall be disposed of in such a manner as to cause no injury to public or private property, nor be a menace to the public health. Discharges directly to storm drainage systems, ditches, and creeks shall not be allowed.
- C. Dewatering shall be performed under a Contractor obtained permit from Cupertino Sanitary District (if discharge is to the sewer system) or the City of Cupertino and the Regional Water Quality Control Board (if discharge is to the storm drain system). The Contractor is advised that all of these agencies may require testing of the proposed dewatering discharge for contaminants. It shall be the sole responsibility of the Contractor to apply for and obtain the necessary

permits, obtain and pay for any required water quality tests, design shoring and dewatering systems, and pay any fees associated with discharging the water to the sanitary sewer system if that option is selected. Permits must be obtained prior to any discharge occurring.

#### 3.4 UNSUITABLE SUB-BEDDING

- A. Where soft, wet, spongy, or unsuitable trench foundation is encountered, sub-bedding material shall be placed under the pipe to facilitate construction. The cost of furnishing and placing sub-bedding material shall be included in the price bid for the job.

#### 3.5 BRACING EXCAVATIONS

- A. Excavations shall be so braced and supported that they will be safe, and the ground alongside the excavation will not slide or settle, and all existing improvements of any kind, either on public or private property will be fully protected from damage.
- B. If any damage does result to such improvements, the Contractor shall make the necessary repairs or reconstruction at his own expense.

#### 3.6 PIPE BEDDING (STORM DRAIN)

- A. Bedding material shall be placed under the pipe before the pipe joints have been completed and inspected.
- B. Bedding material shall be placed carefully around and under the pipe in horizontal layers 4 inches thick after compaction.
- C. The bedding material shall be brought up uniformly on each side of the pipe.
- D. Bedding material shall have the proper moisture content to assure maximum compaction by using hand or pneumatic tampers.
- E. Bedding shall be accomplished in a manner which will not disturb the pipe but will secure a relative compaction of 90 percent.
- F. Bedding shall be installed up to 4 inches below and 12" over the top of the pipe.

#### 3.7 TRENCH BACKFILL

- A. Backfill material shall be placed after the pipe and bedding have been inspected by the Inspector. Native backfill may be used, at the contractor's option, outside of exterior slab and pavement areas. All other areas shall use Caltrans Class 2 aggregate base in the upper 12 inches of the trench backfill. All trenches shall be backfilled to pavement or exterior slab structural section subgrade, or to finished grade in unpaved areas.
- B. Backfill and compaction of utility trenches in and immediately adjacent to building pads, driveways, parking, and other flatwork areas should be such that no settlement will occur.
- C. Where trenches closely parallel a footing and the trench bottom is within a 2 horizontal to 1 (one) vertical plane, projected outward and downward from any structural element, grout slurry should be utilized to backfill that portion of the trench below this plane. The use of slurry backfill is not required where a narrow trench crosses a footing at or near a right angle.

D. Granular Backfill (Non-native)

1. The backfill material shall be placed in layers not exceeding 6" in uncompacted thickness.
2. Compaction may be accomplished by adding sufficient water to the material as it is placed in the trench to achieve 90 percent relative compaction.
3. Vibratory or other compaction equipment shall be used whenever necessary to obtain the required compaction, and must be used within 12 inches of pavement subgrade in paved areas, where compaction is required to be 95% R.C.

3.8 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.

**END OF SECTION**

**SECTION 31 25 00**  
**EROSION AND SEDIMENTATION CONTROLS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

**A. Section Includes:**

1. Procedures, requirements, and guidelines for Contractor designed, constructed, and maintained erosion and sediment control measures.

**1.2 REFERENCES**

- A. California Stormwater Quality Association (CASQA) Construction Best Management Practices (BMP) Handbook.
- B. State of California, Department of Transportation (Caltrans), 2018 Standard Plans.
- C. Caltrans Standard Specifications, 2018 Edition, Section 13, "Water Pollution Control".
- D. Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

**1.3 SUBMITTALS**

- A. General: Submit under the provisions of the General Requirements of the Project Specifications. All submittals shall be reviewed and checked by the Contractor prior to submittal to City for review. Contractor shall stamp and sign each submittal indicating they have reviewed, checked, and approved the submittal for compliance with all the requirements of the plans and specifications. Submit all substitutions to the City.
- B. Erosion and Sediment Control Plan (ESCP): Develop and submit an ESCP detailing the construction measures that will be implemented to minimize erosion and control the movement of sediment for the duration of the project. Contractor shall complete the ESCP form attached to these specifications or an equivalent document that provides the same information.
- C. Product Data: Submit data on fabrics, aggregates, and other erosion control products.
- D. Test Reports: Indicate certified tests results for fabric and aggregates.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

**1.4 QUALITY ASSURANCE**

- A. Perform Work in accordance with Caltrans Standard Plans and Specifications.
- B. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.



## **PART 2 - PRODUCTS**

### **2.1 STRAW ROLLS**

- A. Biodegradable natural jute fiber straw rice wattle, 8" diameter (1.6 lbs. per ft.) from Earth Saver Erosion Control Products, Yolo, CA 866/ 928-8537 or approved equal. Install per manufacturer's specifications.

### **2.2 SEDIMENT FILTER BAGS**

- A. Maintain sediment filter bags and replace when full per Section 13-6.03A, "General", of the Caltrans Standard Specifications.

## **PART 3 - EXECUTION**

### **3.1 TEMPORARY EROSION CONTROL**

- A. Temporary erosion control shall consist of, but not be limited to, constructing such facilities and taking such measures as are necessary to prevent, control, and abate water, mud, and erosion damage to public and private property as a result of the construction of this project. Also, measures shall be taken as are necessary to prevent siltation runoff.
- B. Temporary erosion control features as are necessary to prevent damage. If earthwork in any area has not progressed to a point where all or part of the erosion control for that area can be constructed, the Contractor shall construct such supplementary temporary erosion control facilities as are necessary or as directed by the City or representative.
- C. The Contractor shall conduct his operations in such a manner that storm runoff will be contained within the project or channeled into the storm drain system which serves the runoff area with no increased turbidity to the watershed.
- D. Mud and silt shall be settled out of the storm runoff before said runoff enters the storm drain system.
- E. Contour graded areas shall be protected against erosion and the resulting siltation of downstream facilities. Temporary measures shall prevent increased turbidity and may include, but shall not be limited to, straw wattles and sediment filter bags to filter silt and sediment from runoff.

### **3.2 EROSION PROTECTION**

- A. Erosion Control measures implemented shall be in compliance with all Federal, State, and local regulations and standards. At a minimum, mitigation measures shall include BMPs recommended in the current CASQA Construction Handbook. Contractor shall protect all exposed graded areas from wind and water erosion until stabilization is achieved in accordance with these specifications, as follows:
  - 1. Erosion and siltation control devices shall be installed.
  - 2. Authorized field changes in protection measures shall be made to assure effective operation and implementation of erosion and siltation control.
  - 3. Earthwork shall comply with local grading ordinance requirements and specifications with regard to protection against erosion and siltation of downstream waterways and structures.

### 3.3 SITE STABILIZATION

- A. Incorporate erosion control devices indicated on the Drawings into the Project at the earliest practicable time.
- B. Construct, stabilize, and activate erosion controls before site disturbance within tributary areas of those controls.
- C. Stabilize any disturbed area of affected erosion control devices on which activity has ceased.

**END OF SECTION**

**SECTION 31 63 00**  
**DRILLED CONCRETE PIERS**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.

**1.2 SUMMARY**

- A. This Section Includes the following:
  - 1. Drilled concrete piers suitable for structural support of designated site improvements.
- B. Related Sections include the following:
  - 1. Section 31 20 00 - Earth Moving.
  - 2. Section 03 20 00 - Concrete Reinforcement.
  - 3. Section 03 30 00 - Cast-in-Place Concrete.
  - 4. Supply of electrical items for placement by this Section.

**1.3 REFERENCES**

- A. Geotechnical Investigation Report BUTANO GEOTECHNICAL ENGINEERING, DATED OCTOBER 2021.

**1.4 QUALITY ASSURANCE**

- A. Geotechnical Engineer shall be contacted 48 hours prior to all pier drilling operations. All provisions contained within the Geotechnical Investigation shall be observed. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.
- B. Comply with governing codes and regulations.
- C. All materials and equipment incorporated in the work shall be new unless otherwise specified. Materials and equipment not covered by detailed requirements in the Contract Documents shall be of the best commercial quality, suitable for the purpose intended, and approved by the City prior to use in the work. The Contractor shall provide proper storage facilities and exercise such measures as will ensure the preservation of the required quality and fitness of all materials and equipment. Materials or equipment not conforming to the requirements of the Contract Documents shall be rejected and immediately removed from the site of the work.

**PART 2 – PRODUCTS.**

**2.1 MATERIALS**

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 03 20 00 - Concrete Reinforcement

### **PART 3 – EXECUTION**

#### **3.1 INSTALLATION**

- A. Construct drilled holes for concrete piers only after earthwork operations in immediate area are completed.
- B. Concrete filling for cast in place concrete piers shall be as specified in section 03 30 00 titled "CAST-IN-PLACE CONCRETE". The concrete filling for cast in place concrete piles shall be dense and homogeneous. Concrete placed in drilled holes shall be placed against undisturbed material. Concrete shall be vibrated in the upper 15 feet of the pier.
- C. The contractor is to notify the project Geotechnical Engineer four working days prior to commencement of drilling operations.
- D. All holes for concrete piers cast in drilled holes shall be, at a minimum, drilled to the diameters shown on the plan and to the depths shown on the plans and may be increased as determined by the project Geotechnical Engineer.
- E. All holes shall be examined for straightness and any hole showing an out of plumb tolerance in excess of 2% of the total hole depth shall be rejected. If the tolerances noted herein are exceeded, the contractor shall furnish and pay for any corrective design and construction that may be required. Suitable casings shall be furnished and placed when necessary to control water or to prevent caving of the hole.
- F. All loose material existing at the bottom of the hole after drilling operations have been completed shall be removed before placing reinforcing steel or concrete in the hole. Surface water shall not be permitted to enter the hole and all water which may have infiltrated into the hole shall be removed prior to placing concrete therein.
- G. Casing, if used in drilling operations, shall be removed from the hole as concrete is placed therein. The bottom of the casing shall be maintained not more than five feet nor less than one foot below the top of the concrete during withdrawal and placing operations. Separation of the concrete by hammering or otherwise vibrating the casing during withdrawal operations shall be avoided.

**END OF SECTION**

## **SECTION 32 11 13.13**

### **LIME TREATMENT**

#### **PART 1 – GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Description of suitable materials for lime treatment.
- B. Definitions of terms.
- C. Description of the duties and responsibilities of the Geotechnical Engineer.
- D. Excavate earth, rock, and all material regardless of character and subsurface conditions.
- E. Requirements for excavation, over excavation, and treatment.
- F. Dewatering of excavations.

##### **1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the Division 01 Specification Section, apply to this Section.
- B. Lime treatment shall comply with section 24-2 of the 2018 Caltrans Standard Specifications
- C. Related Sections include the following:
  - 1. Section 31 10 00 - Site Preparation.
  - 2. Section 31 20 00 - Earth Moving.

##### **1.3 EXISTING CONDITIONS**

- A. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.
- B. The project site is underlain by lean to fat clay with medium to high expansive potential.
- C. It is the Contractor's responsibility to achieve the finished grades shown on the plan, and to determine the quantity of and provide for soil import or export required to achieve plan grades. The design intent is to balance on-site native cut and fill quantities to minimize trucking. The unsuitable over-excavated material may be used for on-site fill mounding and final contours may be adjusted in the field to balance quantities and achieve a pleasing appearance in consultation with the City's representative.

##### **1.4 GEOTECHNICAL ENGINEER**

- A. The work covered by these specifications shall be performed under the observation of the Geotechnical Engineer, who shall be retained and paid by the City. The Geotechnical Engineer will be present at the site intermittently during the conduct of work to observe the work, and to perform field and laboratory tests to evaluate material quality and compaction. The Contractor shall cooperate with the Geotechnical Engineer in performing the observations and tests. The

Geotechnical Engineer shall notify the Contractor of failing test results. The Contractor shall rework these areas until the specified degree of compaction is obtained. At the completion of his work, the Geotechnical Engineer shall submit a report to the City, including a tabulation of all tests performed. The Geotechnical Engineer's costs for observing and testing the repair of unsatisfactory work performed by the Contractor shall be billed to the City. The City shall pay them and then shall deduct the amount from monies due the Contractor.

#### 1.5 SUBMITTALS

- A. Submit test reports and compaction curve analysis for lime treated subbase required in accordance with the General Provisions.

#### 1.6 DEFINITIONS

- A. Standard Specifications
  - 1. Where referred to in these specifications, "Standard Specifications" shall mean the State of California Standard Specifications, latest edition. All work shall be carried out in conformance with the Standard Specification, unless otherwise specified herein.
  - 2. Where referred to in these specifications, "City" shall mean the latest edition of the standard plans and drawings for the City of Cupertino. All work shall be carried out in conformance with the standards.
  - 3. Site Grading shall comply with the applicable sections of Title 24 and of Appendix J of the California Building Code, latest adopted edition.
- B. Percent Compaction -- As referred to in these specifications, percent compaction is the required in-place dry density of the material, expressed as a percentage of the maximum dry density of the same material determined by the ASTM D 1557 test procedure.
- C. Optimum Moisture Content -- As referred to in these specifications, optimum moisture content is the moisture content, percent (by dry weight), corresponding to the maximum dry density of the same material as determined by the ASTM D 1557 test procedure.
- D. Soil Subgrade -- Where used in these specifications, soil subgrade shall mean within exterior slab areas, the surface on which aggregate base material is placed.

### PART 2 – PRODUCTS

#### 2.1 QUICK LIME

- A. Clayey soil shall be treated with 4% quick lime by weight as determined by ASTM D-6276 run by Butano Geotechnical Engineering on a representative sample of the clay at the site. Lime must comply with ASTM C977 as required by the Caltrans Standard Specifications Section 24-2.02.

### PART 3 – EXECUTION

#### 3.1 SPILLAGE, DUST AND EROSION CONTROL

- A. The Contractor shall prevent spillage when hauling on or adjacent to any public streets or highways. In the event that such occurs, the Contractor shall remove all spillage and sweep, wash or otherwise clean such streets or highways as required by local City and County authorities and/or the State of California.
- B. The Contractor shall take all precautions needed to prevent a dust nuisance to adjacent public or private properties and to prevent erosion and transportation of soil to downstream adjacent properties. Any damage so caused shall be corrected or repaired by the Contractor at no cost to the City.

### 3.2 EXCAVATION

- A. Following clearing and stripping, lime treat existing subgrade materials in basketball court and walkway pavement areas to 24 inches below the aggregate base. The lime treated subbase should extend two feet beyond the edges of exterior hardscape edges, as required. The over excavated materials may be stockpiled and reused as properly placed compacted native fill. Any excess and unsuitable excavated material shall be disposed of properly, offsite.
- B. It is the Contractor's responsibility to achieve the finished grades shown on the plan, and to determine the quantity of and provide for soil import or export required to achieve plan grades.
- C. Refer to the Geotechnical Investigation Report for further requirements.

### 3.3 FIELD QUALITY CONTROL

- A. The Geotechnical Engineer will observe the excavation, lime treatment, moisture-conditioning and re-compaction operations. After the completion of these operations and before placement of aggregate base, the Contractor shall obtain the Geotechnical Engineer's approval of the site preparation in each area.

### 3.4 DEWATERING

- A. During excavation activities, groundwater may be encountered. The contractor is responsible for accounting in their bid the necessary equipment required to remove groundwater from excavations to allow for the proper placement of fill per the Geotechnical investigation Report.
- B. Groundwater shall be discharged through a silt-sack type device at the outlet end of the discharge pipe to allow for filtration.
- C. Silty water shall not be discharged to any storm drain.

### 3.5 PLACEMENT MOISTURE CONDITIONING AND COMPACTION

- A. The Geotechnical Engineer determines the final application rate for each lime product proposed from the samples submitted based on California Test 373. Wherever the basement material to be stabilized changes, the Geotechnical Engineer changes the application rate. The Geotechnical Engineer provides the optimum moisture content determined under California Test 373 for each application rate. Whenever lime in slurry form is used, report the quantity of slurry placed by measuring the volume of slurry in the holding tank once per 40,000 sq ft stabilized, or twice per day, whichever is greater. The Geotechnical Engineer verifies the application rate of lime used in dry form with a calibrated tray, or equal, once per 40,000 sq ft of stabilized soil, or twice per day, whichever is greater. All site preparation and treatment should be observed by a representative of the Geotechnical Engineer.

- B. During mixing operations, measure and record the ground temperature at full mixing depth.  
Mix lime on the same day it is applied. After the initial mixing, allow a mellowing period for at least 36 hours before final mixing. You may add water and mix during the mellowing period. Complete all the mixing work within 7 days of the initial application of lime.  
Take a composite sample from 5 random locations after initial mixing. Testing shall be in accordance with 2018 Caltrans Standard Specifications section 24-2.01D(2)(b).  
  
After mixing and before compacting, determine maximum density under California Test 216 from composite samples of mixed material samples from 5 random locations and at each distinct change in material. Test the gradation for compliance with 2018 Caltrans Standard Specifications section 24-2.03D. Test the moisture content of the mixed material under California Test 226.  
  
Moisture content during the mellowing period determined under California Test 226 must be at least 3 percent higher than the optimum moisture content.
- C. Test relative compaction on a wet weight basis.
- D. Do not use vibratory rollers.
- E. Start compacting immediately after mixing. Compact the lime stabilized soil to at least 95% relative compaction.  
After initial compaction determine the in-place density under California Test 231 and moisture content under California Test 226, at the same locations. Perform one test per 500 cu yd of lime stabilized soil.  
Test in 0.50-foot depth intervals.

### 3.6 FINISH

- A. The finished surface of the stabilized soil must not vary more than 0.08 foot above or below the grade established by the Engineer unless the stabilized soil is to be covered by material paid for by the cubic yard, in which case the finished surface must not vary above the grade established by the Engineer.  
Maintain the moisture content of the lime stabilized soil at a minimum of 3 percent above optimum moisture content through the entire finish grading operation.  
Wherever lime stabilized soil is below the allowable tolerance, you may use trimmed material to fill low areas only if final grading and final compaction occurs within 48 hours of beginning initial compaction. Before placing trimmed material, scarify the surface of the area to be filled at least 2 inches deep.
- B. Choose the method of curing and apply the chosen curing method within 48 hours of completing the sheepsfoot or segmented wheel compaction and within the same day of any trimming and finish grading.

### 3.7 CLEAN-UP

- A. Remove all debris and stains resulting from the work of this section, including any and all excess material, which shall be removed from the project site.

**END OF SECTION**



**SECTION 32 11 23**  
**AGGREGATE BASE COURSES**

**PART 1 – GENERAL**

**1.1 SUMMARY**

**A. SECTION INCLUDES:**

1. Procedures, requirements and guidelines for contractor furnished and installed Aggregate Base course.

**1.2 REFERENCES**

- A. Standards listed below, with their designation in parenthesis, apply where designation is cited in this Section. Where the applicable year of adoption or revision is not listed below, the latest edition applies.
- B. State of California, Department of Transportation's "Standard Specification's" (CSS).
1. Interpretation of Standard Specifications:
    - a. Wherever the term Commission of Department occurs, it shall mean the City or representative. Whenever the term Director or Executive Officer occurs, it shall mean City or representative.
    - b. All references to statistical testing are deleted.
    - c. Whenever a discrepancy occurs between the Standard Specifications and this specification, this specification governs.
- C. State of California, Department of Transportation's "Testing Manual", "Method of Preparation of Bituminous Mixtures for Testing" (California Test 304).
- D. American Society for Testing and Materials (ASTM):
1. ASTM C136: Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  2. ASTM D421: Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants.
  3. ASTM D1241: Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses.
  4. ASTM D1557: Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
  5. ASTM D2419: Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
  6. ASTM D2844: Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils.
  7. ASTM D2922: Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
  8. ASTM D3017: Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
  9. ASTM D3744: Test Method for Aggregate Durability Index.

- E. State of California, Department of Transportation (Caltrans), Standard Specifications.
  - 1. Section 17 Watering.
  - 2. Section 26 Aggregate Bases.
- F. Project Specifications:
  - 1. Refer to Section 31 20 00 – Earth moving
- G. Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

### 1.3 SUBMITTALS

- A. Product Data: Submit source, gradation, R-value, sand equivalent, and durability for the proposed base material.
- B. Test Reports: Submit plant and field test reports as specified in sections 2.02 and 3.05 herein.
- C. Submit the following:
  - 1. Certificates of compliance with specified standards for natural materials and manufactured items.
  - 2. For manufactured items, the manufacturer's technical data of physical properties.
  - 3. Samples as requested by the City or representative.

### 1.4 QUALITY ASSURANCE

- A. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

### 1.5 DEFINITIONS

- A. (Pavement) Subgrade: The material in excavation or embankments underlying the lowest layer of subbase, base, pavement surfacing or other specified layer which is to be placed. (The surface upon which embankment is to be placed is sometimes called "subgrade" in other sections, not to be confused with pavement subgrade).
- B. Structural Section: The planned traffic support layers of specified materials, normally consisting of subbase, base, and pavement placed over the pavement subgrade. The structural section is also commonly called the pavement structural section.
- C. Subbase: A layer of aggregate of designed thickness and specified quality placed on the pavement subgrade as the foundation for a base.

## PART 2 - PRODUCTS

### 2.1 AGGREGATE BASE MATERIAL

- A. Aggregate Base (AB): Class 2, R-value 78 minimum,  $\frac{3}{4}$ " inch maximum size, meeting the requirements of CSS Section 26-1.

- B. Aggregate Subbase: Class 2, R-value 50 minimum, CSS Section 25.
- C. Aggregate for base course at the time the base material is deposited on the prepared sub grade or sub base shall conform with ASTM D1241 and the following requirements:

1. Class 2 Aggregate Base:

- a. Class 2 aggregate base shall be free of vegetable matter, reclaimed asphalt, concrete, glass and other deleterious substances. Coarse aggregate, material contained on the No. 4 sieve, shall consist of material of which 25 percent by weight shall be crushed particles.  $\frac{3}{4}$ " Class 2 aggregate base shall conform to the following grading, determined in accordance with ASTM C136:

Sieve Sizes	Percentage Passing Sieves	
	1-1/2 inch	3/4-inch
	Maximum	Maximum
2-inch	100	-----
1-1/2 inch	90-100	-----
1-inch	-----	100
3/4-inch	50-85	90-100
No. 4	25-45	35-55
No. 30	10-25	10-30
No. 200	2-9	3-9

Class 2 aggregate base shall conform to the following additional requirements:

ASTM Standards

Tests	Method	Minimum Requirements
Resistance (R-Value)	D2844	78
Sand Equivalent	D2419	30
Durability Index	D3744	35

- 2. Where aggregate base is used as finish surfacing, it shall be virgin material.
- D. Pipe Bedding: see Section 33 40 00 "Storm Drainage", Section 33 30 00 "Sanitary Sewer", and project plans.

## 2.2 SOURCE QUALITY CONTROL

- A. The Contractor shall perform sampling and tests of the aggregate base material in accordance with the ASTM Test Methods herein specified and provide copies of such tests to the City or representative, to determine compliance with specified requirements. Samples shall be taken from material as delivered to the site, and shall be prepared in accordance with ASTM D421, as applicable.
- B. Aggregate grading or sand equivalent test shall represent no more than 500 cubic yards of base material or one days production, whichever is the greater amount.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. The Contractor shall call for an inspection and obtain written acceptance of the prepared sub grade or sub base before proceeding with the placement of aggregate base course.
- B. The sub grade or sub base to receive aggregate base course, immediately prior to spreading, shall conform to the compaction and elevation tolerances indicated for the material involved and shall be free of standing water and loose or extraneous material.
- C. Examine areas to receive aggregate base and verify the following:
  - 1. That abutting improvements have been set at proper elevations.
  - 2. That gradients and elevations of pavement subgrade are correct.
  - 3. That wet receiving surfaces or other conditions that adversely affect execution of this Work are absent.
- D. Do not start work until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION STANDARDS

- A. Aggregate base shall be applied over the prepared sub grade or sub base and compacted (95% relative compaction unless otherwise noted) in accordance with Section 26 of the Caltrans Standard Specifications.
- B. Aggregate base shall have minimum uniform thickness after compaction of dimensions indicated. Where not indicated, compacted thickness shall be 6 inches.
- C. All compaction expressed in percentages in this section refers to the maximum dry density as determined by ASTM D1557.

### 3.3 PREPARATION

- A. If after initial preparation, the pavement subgrade is allowed to stand or is used by construction equipment, or is otherwise damaged, repair at no additional cost to the City.
- B. Proof-roll the pavement subgrade for pumping. Where moisture appears on the pavement subgrade surface after rolling, repair as directed by City or representative at no additional cost to the City.
- C. Protect existing Work from damage. Protect concrete Work from staining with asphalt materials. Shield from overspray.
- D. Damaged asphalt and areas completely saturated by oil and grease should be removed and replaced as required.

### 3.4 SPREADING OF MATERIAL

- A. Aggregate for base shall be delivered as uniform mixture of fine and coarse aggregate and shall be spread in layers without segregation.
- B. Aggregate base material shall be free from pockets of large and fine material. Segregated materials shall be remixed until uniform.
- C. Aggregate base material shall be moisture-conditioned to at least 2% over optimum moisture content.
- D. Aggregate base 6 inches and less in thickness may be spread and compacted in one layer. For thickness greater than 6 inches, the base course aggregate shall

be spread and compacted in two or more layers of uniform thickness not greater than 6 inches each per Caltrans Standard Specification Section 26.

- E. Spread and compact in accordance with CSS Section 26, to thickness, lines and grades noted, with a maximum deviation of plus 0.0 and minus 0.05 feet from plan grade.
- F. Do not incorporate into the completed section any base material used for construction traffic.
- G. Moisture Treat the compacted base in accordance with CSS Section 17.

### 3.5 COMPACTING

- A. Compact subgrade to 95 percent relative compaction for at least a depth of 0.5 feet below the grading plane between the outer edges of shoulders and 2.5 feet below finished grade for the width of the travelled way plus 3 feet on each side.
- B. Relative compaction of each layer of compacted aggregate base material shall be not less than 95 percent as determined by ASTM D1557.
- C. Thickness of finished base course shall not vary more than 3/4 inch from the indicated thickness at any point. Base that does not conform to this requirement shall be reshaped or reworked, watered, and re-compacted to achieve compliance with specified requirements.
- D. The surface of the finished aggregate base course at any point shall not vary more than 0.05 feet above or below the indicated grade.

### END OF SECTION

**SECTION 32 12 16**  
**ASPHALT PAVING**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. Provide, spread, and compact aggregate base as shown on the Contract Documents and as specified herein.
- B. Provide, spread, and compact asphaltic concrete pavement.
- C. Adjust to finish grade: any, and all, new or existing utility cleanouts, drainage structures, valve boxes, etc., which are included in the limits of work.

**1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the Division 01 Specification Sections apply to this Section.
- B. Related Sections includes, but are not limited to the following:
  - 1. Section 31 20 00 - Earth Moving.
  - 2. Section 31 23 16 - Trenching, Backfilling and Compaction.
  - 3. Section 32 11 23 - Aggregate Base Course.
  - 4. Section 32 13 13 - Concrete Paving.

**1.3 REFERENCES**

- A. Caltrans Standard Specifications.
- B. Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

**1.4 QUALITY ASSURANCE**

- A. Testing and inspection of the aggregate base, aggregate subbase and asphaltic concrete shall be done by a testing laboratory retained and paid for by the City. Any areas receiving failing tests shall be reworked by the Contractor to achieve the minimum specified degree of compaction. It shall be the sole responsibility of the Contractor to achieve satisfactory results.
- B. Test Methods: Unless otherwise indicated, tests shall be made in conformance with the following standard methods:
  - 1. Relative compaction shall be determined by Test Method No. California 216 and 231.
  - 2. Caltrans Standards and Specifications, most recent edition.
- C. All grading activities shall be in accordance with the project Geotechnical Investigation, prepared by Butano Geotechnical Engineering, dated October 2021.

**1.5 SUBMITTALS**

- A. Submit certificate of compliance for aggregate base.

- B. Submit gradation and strength analysis of any recycled Class 2 aggregate base.
- C. Submit asphalt mix design parameters and certificates of compliance.
- D. Submittals shall conform to the requirements of the General Provisions.

## **PART 2 – PRODUCTS**

### **2.1 ASPHALT CONCRETE**

- A. The asphalt concrete in pedestrian (Basketball Court) areas shall be Type A, ½ inch maximum, medium and shall conform to the applicable portions of Section 39 of the Caltrans Standard Specifications.

## **PART 3 – EXECUTION**

### **3.1 TACK COAT**

- A. Apply tack coat of RS-1 or CRS1 Emulsion to vertical surfaces of existing surfacing that will come into contact with asphalt concrete.

### **3.2 SPREADING AND COMPACTING ASPHALT CONCRETE**

- A. Shall be in accordance with Section 39 of the Caltrans Standard Specifications.

### **3.3 STRUCTURE ADJUSTMENT**

- A. The Contractor shall mark the location of all structures to be adjusted to grade and shall be responsible for their location after paving operations are completed.
- B. After surfacing or resurfacing is completed, the Contractor shall construct or reconstruct the structures to grade as shown on the plans.

### **3.4 FLOW TEST**

- A. Finished pavement areas shall be flow tested in the presence of the Inspector of record to confirm that positive gradients, that facilitate proper and complete surface drainage, have been achieved in all paved areas.
- B. Any areas that fail the flow test, defined as any area where depth of ponding water exceeds 1/8 inch or where the surface of a ponding area exceeds 10 square feet, shall be repaved to achieve positive drainage.

### **3.5 CLEAN UP**

- A. Remove all debris and stains resulting from the work of this section.

## **END OF SECTION**

**SECTION 32 13 13**  
**CONCRETE PAVING**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.
- B. Related Sections:
  - 1. Section 03 30 00 - Cast-In-Place Concrete.
  - 2. Section 31 20 00 - Earth Moving.
  - 3. Section 32 11 23 - Aggregate Base Courses.

**1.2 DESCRIPTION OF WORK**

- A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the:
  - 1. Installation of forming for walks, curbs, footings and paving.
  - 2. Placing reinforcement.
  - 3. Placing and finishing concrete.
  - 4. Curing of concrete.

**1.3 SUBMITTALS**

- A. Comply with City Standard Specifications and ACI 301, ACI 302.1R, ACI 305 R, ACI 306 R, ACI 306 R, ACI 308, ACI 309 R, ACI 318 & ACI 347.
- B. SHOP DRAWINGS: for reinforcing showing layout, dimensions and materials.
- C. REPORTS/TESTS:
  - 1. Certificates or mill test reports indicating physical and chemical properties of reinforcing.
  - 2. Compressive strength test reports from previous applications for each class of concrete.
- D. PRODUCT DATA: Concrete design mix, Color admixtures, non-shrink grout, curing compound, absorptive mats, expansion joint filler, and bonding agent.
- E. Design Mixes: For each type of integrally colored concrete.
- F. Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.
- G. Qualification Data: For firms indicated in "Quality Assurance" Article, including list of completed projects.



- H. MOCK-UPS: For a textured or colored concrete surface, construct a 48-by-48-inch test panel for each type of texture and color.
  - 1. Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project. Record specific information pertinent to the installation.
  - 2. Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in remaining work.
  - 3. Accepted mockup provides visual standard for work of Section.
  - 4. Mockup shall remain through completion of work for use as a quality standard for finished work, therefore install at a location suitable.
  - 5. Remove mockup when directed.

#### 1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301.
- B. Maintain one copy of latest construction documents on site, including design drawings, approved shop drawings and permit drawings, and special inspection and testing agreement.
- C. Acquire cement and aggregate from same source for all work.
- D. Tolerances for sub-grade, subbase and finished grade shall be as specified by the Standard Specifications except that Contractor shall install the aggregate base and concrete to the minimum thickness shown. No combination of high and low tolerances will be permitted.
- E. All concrete work installed that does not conform to the approved samples shall be removed and replaced by Contractor at Contractor's expense.

#### 1.5 JOB CONDITIONS

- A. Weather Conditions: Construct concrete surface course only when atmospheric temperature is above 40 degrees F. and below 85 degrees F, when the underlying base is dry, and when weather is not rainy.
- B. Grade Control: Establish and maintain the required lines and grades, including cross- slope during construction operations.
- C. Integrally Colored Concrete Environmental Requirements:
  - 1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
  - 2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
  - 3. Comply with professional practices described in ACI 305R and ACI 306R.
- D. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.

#### 1.6 PRE-CONSTRUCTION CONFERENCE

- A. One week prior to placement of integrally colored concrete a meeting will be held to discuss the Project and application materials.

- B. It is suggested that the City's Representative, General Contractor, Subcontractor, Ready-Mix Concrete Representative, and a Manufacturer's Representative be present.

## 1.7 REFERENCES

- A. In addition to complying with all pertinent standards, codes and regulations, comply with all requirements of:
1. ACI 308 - Standard Practice for Curing Concrete.
  2. ACI 309 - Guide for Consolidation of Concrete.
  3. ACI 303.1 "Standard Specification for Cast-In-Place Architectural Concrete".
  4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete".
  5. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete".
  6. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete".
  7. ASTM C33 - Concrete Aggregates.
  8. ASTM C94 - Ready-Mixed Concrete.
  9. ASTM C150 - Portland Cement.
  10. ASTM C309 - Liquid Membrane-Forming Compounds.
  11. AASHTO M194 "Chemical Admixtures".

## PART 2 – PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURER

- A. Basis of Design - Davis Colors.
- B. Scofield Colors.
- C. Or approved equal.

### 2.2 MATERIALS

- A. Forming Materials:
1. Formwork for seat walls to be smooth finish form boards.
    - a. MDO or HDO formboards.
    - b. Fiberglass ties to match color of concrete.
  2. Unless otherwise indicated, materials for formwork shall be wood, steel, fiber or reinforced plastic and of suitable quality to achieve required finishes. Contractor shall conform to considerations and recommendations in ACI-347, Chapter 3.
  3. Unless otherwise indicated, contact surfaces in fabricated forms shall be smooth and uniform without warps, bends, dents, sags or irregular absorptive conditions and imperfections.
    4. Form ties and spreaders shall leave a hole not larger than 7/8-inch nor less than 1/2-inch in diameter in the concrete surface. The portion of the

tie remaining in the concrete shall be at least 1-inch back from the concrete surface that will be exposed to view, painted, damp proofed or waterproofed.

5. Radiused chamfer strips shall be milled from clear straight-grain lumber, surfaced on all sides. Other material of equal quality may be used only as authorized by the City. Radii shall be as detailed in the Landscape drawings.
6. Form coatings and bond breaking materials shall be non-staining and completely compatible with finish materials and other surface treatment materials to be used.

B. Reinforcement:

1. Reinforcing Bars: Deformed, new billet-steel bars, conforming to ASTM Designation A 615, Grade 60 or ASTM A706 unless noted otherwise.
2. Tie wires: ASTM A82.
3. Reinforcement supports:
  - a. At reinforcing placed over sand or earth, use precast concrete cubes.
  - b. At reinforcing placed over forms, provide supports with legs which are hot dip galvanized, stainless steel or plastic protected.
4. Mechanical Bar Splice: Xtender by Headed Reinforcement Corp. or equal to develop a minimum of 125% of yield strength of bar.
5. Dowels: Deformed steel bars, ASTM A 615, Grade 60, unless otherwise shown.

C. Colored Admixture for Integrally Colored Concrete:

1. Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are lime-proof and ultra-violet resistant.
2. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194.

D. Curing Compound for Integrally Colored Concrete: Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.

1. Exterior Integrally Colored Concrete: Use to cure exterior flatwork that will be allowed to cure naturally with only occasional maintenance.

E. Portland Cement: ASTM C 150, Type II or V, gray as noted in 2.02 below. Shall be provided by one manufacturer. For blue color concrete, white cement is required.

F. Normal-Weight Aggregates: ASTM C 33, uniformly graded, 3/4-inch max. Provide aggregates from a single source. Pee gravel or smooth aggregate shall not be used.

G. Water: The water used in the concrete mix shall be clear and free from injurious amounts of oil, salts, acid, alkali, organic matter, or other deleterious substances.

H. Air-Entraining Admixture: ASTM C 260. "Daravair", "Micro-Air", manufactured by W.R. Grace, Master Builders or equal.

I. No admixtures shall be allowed without written acceptance by the City's Representative. Admixtures that have a negative impact on concrete finish shall not be used. When more than one admixture is used, admixtures shall be compatible. Provide letter from admixture manufacturer that it is appropriate for

proposed mix design.

- J. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
- K. Expansion- and Isolation-Joint Filler Strips: ASTM D 1752, cork or self-expanding cork; 3/8-inch thick asphalt impregnated fiberboard ASTM D 1571.
- L. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days. SIKAGROUT 212 or approved equal.
- M. Epoxy Grout: Two-part epoxy adhesive product that conforms to the requirements of Simpson SET-XP High Strength Epoxy (ICC ESR-2508) by Simpson Strong Tie or equal product with prior written approval of the City's Representative. Installation shall be in strict conformance with the manufacturer's recommendations.

## 2.3 CONCRETE MIXTURES

- A. Proportion normal-weight concrete mixes to provide the following properties:
  - 1. Compressive Strength: Minimum 2,500 psi at 28 days.
  - 2. Slump Limit: Minimum 2 inches, maximum 4 inches.
  - 3. Aggregate Size (maximum): 1-1/2 inch.
    - a. Aggregate Size or seat walls: 3/8" max.
  - 4. W/C Ratio: 0.50 maximum at point of placement.
  - 5. Air Content: 3 percent plus or minus 1.5 percent.
  - 6. Drying Shrinkage Limit: 0.04 percent. Drying shrinkage limit is percentage of change in length after 21 days of drying when tested per ASTM C157.
  - 7. All other site concrete shall be mixed using gray Portland cement conforming to 2.1.C above.
- B. Do not add calcium chloride to mix as it causes mottling and surface discoloration.
- C. Supplemental admixtures shall not be used unless approved by manufacturer.
- D. Do not add water to the mix in the field.
- E. Add colored admixture to concrete mix according to manufacturer's written instructions.
- F. Fly ash is not allowed.
- G. Mix design to be stamped and signed by engineer.
- H. Aggregate for site walls not to exceed 3/8" diam.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Verify requirements for concrete cover over reinforcement.
- B. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

- C. Subgrade: Verify that subbase is properly compacted and at suitable grade and prepare as required in the Geotechnical Investigation Report, if available or per the drawings.
- D. Protection: Take all steps necessary not to discolor or damage existing improvements. If damage occurs, repair immediately and if repair cannot be made to the satisfaction of the City's Representative, remove and replace at no expense to the City.

### 3.2 PREPARATION

- A. Accurately position and support reinforcement, and secure against displacement.
- B. Locate and install contraction, construction, isolation, and expansion joints as indicated or required.

### 3.3 INSTALLATION

- A. Place concrete in accordance with ACI 301.
- B. Place concrete in a continuous operation within planned joints or sections. Do not add water to adjust slump.
- C. Do not interrupt successive placement; if interrupted for more than 1/2 hour, place a construction joint.
- D. Concrete shall be thoroughly consolidated during placement, and shall be worked around reinforcement and embedded fixtures.
- E. In depositing concrete in piers, or thin sections, provide openings in forms, elephant trunks, tremies or other recognized devices, to prevent segregation and accumulation of partially hydrated concrete on forms or metal reinforcement above level of concrete being placed. Such devices shall be installed so that concrete will be dropped vertically. Unconfined vertical drop of concrete from end of such devices to placement surface shall not exceed 6 feet.
- F. Joints: Construct expansion and construction joints true-to-line with face perpendicular to surface of the concrete, unless otherwise shown. Construct transverse joints at right angles to the centerline, unless otherwise noted.
  - 1. Tool edges to a radius of 1/2 inch.
  - 2. Tool joints to a radius of 1/4 inch, 1/4 depth of concrete thickness.
  - 3. Saw-cut joints to be 3/16 inch, 1/4 depth of concrete thickness.
  - 4. Separate slabs on grade from vertical surfaces with 1/2 inch thick joint filler. Place joint filler to required elevations. Secure to resist movement by wet concrete.
  - 5. Extend joint filler from bottom of slab to within 1/8 inch of finished slab surface.
  - 6. Furnish joint fillers in one-piece lengths for the full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together. Form top edge of filler to conform to top profile of concrete.
  - 7. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
- G. Where new curb, gutter, and sidewalk adjoins existing, dowel to existing curb, gutter, and sidewalk with two #3 dowels 12-inches long.

- H. Begin curing after finishing concrete. Keep concrete continuously moist for at least seven days.
- I. Remove and replace concrete paving that is broken, damaged, or defective. Exclude traffic from paving for at least 14 days.
- J. Notify the City's Representative a minimum two working days prior to commencement of operations. Do not place concrete until forms and reinforcement as well as other required inspections have occurred and the City's Representative is present to perform observations and testing during placement.
- K. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

### 3.4 CONCRETE FINISHES

- A. After striking-off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. After floating, test surface for trueness with a 10-foot straight-edge -- maximum 1/8-inch variation from any edge to concrete surface. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous, smooth finish. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 1/2-inch radius, unless otherwise shown. Eliminate any tool marks on concrete surface. After completion of floating and when excess moisture or surface sheen has disappeared, complete surface finishing, as follows:
  - 1. Broom: Pull broom across freshly floated concrete to produce medium texture in straight lines perpendicular to main line of traffic. Do not dampen brooms.
  - 2. Sandblast: Allow concrete to cure to sufficient strength so that it will not be damaged by blasting but not less than seven days and not more than 14 days. Use light sandblasting to remove cement mortar from surface and expose aggregate to match originally approved field sample.
    - a. LIGHT SANDBLAST: expose 1/8"-1/4".
    - b. MEDIUM SANDBLAST: expose 1/4" – 3/8".
    - c. HEAVY SANDBLAST: expose 3/8" – 1/2".
  - 3. Retardant: Apply retardant product as specified on the drawings, to achieve the sandblast-like finish described above. Apply per manufacturer's directions.
  - 4. Stamp: Texture while concrete is in the plastic stage. For textures that require concrete stamps, use stamp under manufacturer's recommendations.
- B. If textured concrete surface is grouted, place grout after initial curing of textured concrete. Remove curing seal and other deleterious substances before applying grout. Removal method must not stain or discolor area of textured concrete to remain exposed after grouting. Spread and consolidate grout over the textured concrete area under manufacturer recommendations. Remove excess grout from textured concrete area with a squeegee and damp burlap rags or other authorized method. Apply curing seal.

### 3.5 CURING AND PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

### 3.6 FIELD QUALITY CONTROL

- A. The City will employ a testing agency to sample concrete, perform tests, and submit test reports during concrete placement.
- B. Provide free access to Work and cooperate with City's Representative, and Special Inspector.
- C. Testing and Inspections shall be performed in accordance with City requirements.
- D. One test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.
- E. At a minimum one slump test will be taken for each set of test cylinders taken.

### 3.7 PATCHING

- A. Allow City's Representative to inspect concrete surfaces immediately upon removal of forms.
- B. Honeycomb or embedded debris in concrete is not acceptable. Notify City's Representative upon discovery.
- C. Patch imperfections in accordance with ACI 301 and satisfaction of City's Representative.

### 3.8 COLOR TOLERANCES

- A. Minor variations in appearance of integrally colored concrete, which are similar to natural variations in color and appearance of uncolored concrete, are acceptable.
- B. Any sections of integrally colored concrete deemed unacceptable shall be removed and replaced at the Contractor's expense.

### 3.9 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the City's Representative.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of the City's Representative for each individual area.
- D. No additional compensation will be allowed for repair of defective concrete.

**END OF SECTION**

**SECTION 32 18 23.43**  
**ATHLETIC COURT SURFACING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. This section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections
  - 1. Standards: All work shall be done in accordance with American Sports Builders Association (A.S.B.A.).

**1.2 SCOPE OF WORK**

- A. This specification covers the construction and installation of court surfacing on one new asphalt basketball court at Wilson Park.
- B. Courts shall be cleaned using a stiff bristle broom and gas powered blower or water based pressure spray unit capable of generating 2500 psi at the nozzle tip, to remove all dirt and debris.
- C. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the surfacing.

**PART 2 – PRODUCTS**

**2.1 COURT SURFACE MATERIAL**

- A. Court Surfacing Materials shall be:
  - 1. Novacrylic, as manufactured by Nova Sports U.S.A., 6 Industrial Rd., Bldg. #2., Milford, MA 01757. 800-USA-NOVA.
  - 2. Or approved equal.
- B. All coatings shall be pure acrylic, containing no asphaltic or tar emulsions, nor any vinyl, alkyd or non-acrylic resins.
- C. The color system shall be factory-mixed compounds requiring only the addition of water at the jobsite except for the addition of sand to Novasurface. All materials shall be delivered to the jobsite in sealed containers with the manufacturer's label affixed.

**PART 3 – EXECUTION**

**3.1 APPLICATION**

- A. New asphalt pavement shall cure for 14 days prior to application of any surfacing materials.
- B. Contractors must notify the City of all applications, 48 hours prior to installation.
- C. The surface to be coated shall be inspected and made sure to be free of grease, oil, dust, dirt and other foreign matter before starting work.



- D. The surface shall be flooded. Any ponding water remaining that is deep enough to cover the thickness of a five-cent piece shall be corrected using a patch mix consisting of Novabond, 50-mesh sand and Portland cement, as per manufacturers' directions. Depressions must be primed with a 50% dilution of Novabond and water prior to patching.
- E. Application shall proceed only if the surface is dry and clean and the temperature is at least fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F). Do not apply coatings when rain is imminent.
- F. Each coat in this system must dry completely before next application. Between each coat, inspect entire surface. Any defects should be repaired. Scrape surface to remove any lumps, and broom or blow off all loose matter.
- G. Using a neoprene rubber squeegee, apply one (1) coat of Novasurface acrylic resurfacer, diluted with one (1) part clean water, to two (2) parts Novasurface. Clean, bagged sand shall be incorporated into the diluted Novasurface at the rate of five (5) to ten (10) Lbs. per gallon. Sand gradation shall be 50 to 60-mesh. Allow application to dry thoroughly.
- H. Using a neoprene rubber squeegee, apply two (2) coats of Novaplay (colors to be designated by the City). Allow each application to dry thoroughly. A small (not to exceed 8 fl. oz per gal.) quantity of water may be used in diluting these coatings, only if coatings are drying too rapidly. Permission of the City shall be obtained before adding additional water.

### 3.2 LINE MARKINGS

- A. Upon completion and acceptance of the surface, this Contractor shall prepare and paint lines.
- B. All lines are to be applied by painting between masking tape with a paintbrush or roller.
- C. Prime masked lines with Seal-A-Line. Allow application to dry.
- D. Paint lines with Novatex textured line paint. Allow application to dry.
- E. Remove masking tape immediately after lines are dry.
- F. Protect adjacent areas and structures (fences, posts, sidewalks, buildings, etc.), which are not to be coated. In the event that coatings are applied to above, remove immediately before drying is complete.

### 3.3 COMPLETION

- A. Upon completion, the contractor shall insure proper removal of all construction debris, surplus materials, empty containers and wash water, and shall leave the site in a condition acceptable to the City. The court is to be left secure so as to prevent vandalism.

### 3.4 LIMITATIONS

- A. Apply coatings only when ambient temperature is fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F).

- B. All NOVACRYLIC coatings are waterborne and cannot cure in cold temperatures or when subject to moisture. Care should be taken not to apply coatings when rain is forecast or sudden drop of temperature is expected. Climatic conditions such as very cool evenings and high dew points dictate that work should be completed early in the day so the coatings can be exposed to enough warm sunlight to form a film before sunset. The opposite applies during times of high heat, low humidity and drying breezes: under these conditions, work very early in the morning or very late in the day. If the product seems to be drying too fast in hot weather, mist the pavement with water to make the application easier. Care must be taken to allow each application to dry thoroughly prior to recoating.

**END OF SECTION**

**SECTION 32 84 00**  
**IRRIGATION WORK**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.
- B. Related Sections:
  - 1. Section 31 20 00 – Earth Moving.
  - 2. Section 32 90 00 – Planting.

**1.2 SECTION INCLUDES**

- A. Irrigation materials, execution and testing.
- B. As-built and project close specifications.

**1.3 DESCRIPTION OF WORK**

- A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the:
  - 1. Location and identification of existing underground utilities.
  - 2. Boring under existing pavements for new mainlines.
  - 3. Saw cutting and patching through existing paving for new mainlines
  - 4. Hookup to point of connection.
  - 5. Installation of sleeving where necessary.
  - 6. All excavation, trenching, backfilling, and restoration of surfaces altered by the work. Restore existing paving to original quality, texture, thickness, and color.
  - 7. Repair of any control or electrical wires and or conduits damaged during the course of construction.
  - 8. Repair of any lateral or mainline damaged during construction.
  - 9. Relocation and adjustments of existing irrigation appurtenances.

**1.4 QUALITY ASSURANCE**

- A. All work and materials shall be in full accordance with the latest rules and regulations of the National Electric Code, the Uniform Plumbing Code published by the Western Plumbing Officials Association, and other applicable State or local laws or regulations.
- B. All piping shall be inspected and approved by the City's Representative prior to backfilling as described in the EXECUTION portion of this Section.

**1.5 SUBMITTALS:**

- A. Submit in accordance with General and Special Provisions Section "Submittal Procedures". Submit copies of descriptive literature of all proposed materials for review. All submittals shall be transmitted, in one bound package.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

- A. All materials provided shall be new and in a first class condition.
- B. Mainline Pressure Pipe shall be SCH 40 PVC conforming to the requirements of ASTM Designation D1785 and shall be provided with solvent weld joints and fittings.
- C. Fittings for solvent weld joints shall be SCH 40 PVC unless otherwise noted. Solvent weld joints shall be made using P-70 primer as manufactured by "Weld-On" or approved equal and "Weld-On" 710 joint cement or approved equal.
- D. Irrigation sleeving shall be class 315 sized twice the size of pipe being sleeved unless otherwise noted.
- E. Valve Boxes shall be manufactured by Carson or approved equal.
- F. Flow Sensor Wire: Use shielded direct burial cable with at least one twisted pair of conductors. Use #20 AWG or larger solid copper wire conductors.

## **PART 3 – EXECUTION**

### **3.1 EXCAVATION**

- A. Trenches may be excavated either by hand or machine, but shall not be wider than is necessary to lay the pipes. Any damages shall be repaired by Contractor at no additional cost to City.
- B. Minimum depth of cover for irrigation pipelines shall be:
  - 1. Twenty four inches (24") for mainline pressure piping and eighteen inches (18") for lateral piping unless otherwise noted on the plans.
  - 2. Twenty four inches (24"), minimum cover, for any pipe, wire or sleeve under paving of any kind.
  - 3. Irrigation sleeving: Install where shown and as needed, extend sleeving min. 6" into planters.

### **3.2 PIPE JOINTS AND CONNECTIONS**

- A. Jointing shall be performed by competent tradesmen, specially trained in the type of work required and using tools and equipment recommended by the manufacturers of the pipe fittings or equipment.
- B. Metal pipe threads shall be sound, clean cut, and cored to full inside diameter. Threaded joints shall be made up with best quality pure joint compound or lead paste carefully and smoothly placed on the male threads only throughout the system. All brass nipples and bronze fittings shall be factory threaded.
- C. All screwed joints shall be made tight with tongs and wrenches without the use of handle extensions. Use of thread cement or caulking to make joints water tight will not be permitted. All cut ends shall be remade to full bore before assembly.

- D. On Plastic to IPS (iron) Connections, the Contractor shall work the IPS (iron) side first. A non-hardening pipe dope such as Rectro Seal #5 or equal, with the following exception: do not use paste products on black Cycolac plastic, use only Teflon tape. Tighten plastic to IPS joints with light pressure only. On PVC to PVC threaded connections such as at valve or swing joint assemblies, use Teflon tape on threads.
- E. All pipe and fittings shall be joined using manufacturers recommended procedures.
- F. Use clean rag and wipe off all excess solvent from both pipe and fittings.
- G. Allow at least fifteen (15) minutes set-up time for each solvent-welded joint before moving pipe.
- H. Connections and controls shall be functionally as shown on the Drawings, but physically shall be the most direct and convenient method while imposing the least hydraulic friction.

### 3.3 HANDLING OF PIPE

- A. Handling and assembly of pipe, fittings, and accessories shall be by skilled tradesmen using approved methods and tools and exercising care to prevent damage to the materials or equipment. Interior of pipe, fittings, and accessories shall be kept clean at all times, and all openings in piping runs shall be closed at the end of each day's work or otherwise as necessary to prevent the entry of foreign materials. Bending of galvanized steel pipe will not be permitted.
- B. All plastic pipes to be installed shall be free from blisters, internal striations, dents, wrinkles, cracks, holes, foreign materials, and the interior wall shall be smooth and have a glass-like appearance. Plastic pipe shall be marked continuously and permanently with the following information: Manufacturer's name and quality control identification, National Sanitation Foundation's seal, class, or schedule of pipe, pressure rating of pipe, and pipe size. The pipe shall be turned with the markings up during installation so that they may be read when viewed from above while trenches are open.

### 3.4 INSTALLATION OF PIPING - GENERAL

- A. There shall be minimum 3" clear, horizontally and vertically around all piping in trenches. Plastic pipe shall always be installed so that there will be a small amount of excess length in the line to compensate for contraction and expansion of the soil around the pipe. This shall be accomplished by "snaking" the pipe, side to side in the trench during the time of installation. Refer to irrigation details for additional information.

### 3.5 TESTING PIPING

- A. All testing shall be done in the presence of the City's Representative. All work herein shall be done by the Contractor.
  - 1. Center-load all pipelines with appropriate backfill material to resist hydraulic pressures, but leave all fittings exposed for inspection.
  - 2. Piping under paving shall be tested and approved before paving or re-paving.
  - 3. All glued fittings must be allowed to dry a minimum of 48 hours prior to testing.
  - 4. Install a 0 to 160 P.S.I. water-filled pressure gauge on lines to be tested.

5. All valves shown on Plans shall be in place, and shall be in the closed position.
6. Gasketed supply lines shall be tested at 150 P.S.I., solvent weld supply lines shall be tested at 120 P.S.I., and laterals at 65 P.S.I.
7. Fill pipelines with water slowly to avoid pipe damage, and bleed all air from lines as they are being filled.
8. After closing valve at water source and bringing piping to specified pressure, supply lines shall hold specified pressure for six (6) hours with no pressure loss or leaks.
9. Laterals are expected to have minor leakage at swing joint assemblies etc., subject to the discretion of the City's Representative.
10. Major leaks are not acceptable. Laterals shall be tested for one (1) hour at 65 P.S.I. solely to reveal any piping or assembly flaws. The laterals are not expected to hold gauge pressure.
11. For testing laterals, cap risers or turn adjusting screws on nozzles to the "off" position, as appropriate.
12. Repair any flaws discovered in supply lines or laterals, then retest in same fashion as outlined in presence of the City's Representative, until all lines have been approved.

### 3.6 VALVE AND VALVE BOX INSTALLATION

- A. Valve boxes shall be grouped and located in shrub and ground cover areas wherever possible. Valves shall be installed no farther than twelve (12) inches from the mainline and no closer than twelve inches from walk edges, or walls.
- B. Thoroughly flush main line before installation. Valves shall be installed as indicated on the details shown on the plans.
- C. All control valves shall be (3) inches minimum and (8) inches maximum below finish grade to the top of the flow control stem.
- D. Valve boxes shall be set one-half (1/2") inches above finish grade in lawn areas and one and one-half (1-1/2) inches above grade in shrub areas.

### 3.7 SPRINKLER HEAD INSTALLATION

- A. Lawn heads shall be located with a minimum on (1) inch, a maximum of three (3) inches, clear from adjacent paving or headers, and flush with them where a potential hazard may occur. Other lawn heads shall be installed as indicated on the details shown on the plans.
- B. Pop-up heads of approved design shall be installed at edges of landscaped areas adjoining paved areas as indicated on the details shown on the plans.
- C. Individual heads shall be adjusted as required to obtain uniform coverage without overthrow onto buildings, paving, main walks, or other structures to the extent feasible.
- D. Each section of lateral pipe shall be thoroughly flushed out prior to sprinkler head attachment.
- E. Sprinkler heads shall be located and installed as shown on the plans. Minor adjustments to head locations are acceptable to achieve adequate coverage or minimize overspray.

### 3.8 BACKFILL

- A. For all trench conditions refer to plans, and for all backfill specifications, refer to Section 31 20 00 – Earth Moving.

### 3.9 RECORD DRAWINGS

- A. The Contractor shall provide and maintain in good order two (2) complete sets of prints of all sprinkler drawings which form a part of the Contract, showing all water supply lines, valves, and stub-outs. In the event any of the originally drawn elements are not installed as indicated on the drawings, all such deviations shall be drawn carefully and correctly on these prints, with dimensions shown. These prints shall be updated on a continual basis and be available for review on job site at any time by the City's Representative. At the completion of the work, prior to start of Maintenance Period, the Record Drawing prints shall be submitted to the City's Representative for review and comment. After comments are made, Record Drawings will be sent back to Contractor for modification or redrafting. When Record Drawings are acceptable to the City's Representative, the Contractor shall affix the company seal and signature which shall serve as the Contractors guarantee of accuracy. First submittal of Record Drawing prints shall be made before punchlist inspection.

### 3.10 ADDITIONAL TURN OVER MATERIALS

- A. Deliver to the City's Representative upon completion of work Two (2) laminated 11x17 color coded prints of valve sequencing plans.

### 3.11 PROTECTIONS

- A. The Contractor shall be responsible for any and all damages to any of their materials or work prior to final acceptance. This includes any damages incurred during specified maintenance period. Securely cover all openings and cover all apparatus, fixtures and appliances both before and after setting into place to prevent obstruction in the conduits and breakage or disfigurement of equipment. Should the equipment become damaged, restore it to its original condition and finish before final acceptance.

### 3.12 MAINTENANCE

- A. Maintain all materials in prudent, workmanlike fashion after delivery to site and all work immediately after installation until final acceptance.
- B. Specifically, Contractor shall at minimum: Repair and/or replace any damaged equipment or site damages (including planting) resulting from defects in or vandalism to irrigation system components.
- C. The Contractor shall submit first draft of record drawings, all turn-over materials, and other items in accordance with General and Special Provisions "Project Closeout". Contractor is allowed (2) inspections, one, to establish the punchlist and a second to verify completion of the punchlist. Any additional walk-throughs or observations required to obtain approval will be back-charged to the Contractor.

### 3.13 GUARANTEE

- A. The entire system shall be guaranteed by the Contractor in writing, to be free from defects in material and workmanship for a period of one (1) year from date of final

acceptance of work. Guarantee shall include repair of any trench settlement occurring within the guarantee period, including related damage to paving, landscaping, or improvements of any kind. Written guarantee shall be submitted with any remaining turn-over materials before final acceptance will be issued.

**END OF SECTION**



**SECTION 32 90 00**  
**PLANTING**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.
- B. Related sections:
  - 1. Section 01 56 39 – Temporary Tree Protection.
  - 2. Section 31 10 00 – Site Preparation.
  - 3. Section 31 20 00 – Earth Moving.
  - 4. Section 32 84 00 – Irrigation Work.
  - 5. Section 32 91 13 – Soil Preparation.

**1.2 DESCRIPTION OF WORK**

- A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the:
  - 1. Method of Planting.
  - 2. Planting of trees.
  - 3. Staking of trees.
  - 4. Planting of shrubs, groundcovers and grasses.
  - 5. Watering Basins.
  - 6. Planting Accessories.
  - 7. Extent of landscape development work as shown on drawings, details and on sheet legends.

**1.3 DEFINITIONS**

- A. **Caliper:** Trunk diameter measured 6 inches from the ground; if caliper is greater than 4 inches, the caliper measurement shall be taken at 12 inches from the ground.
- B. **Central leader:** A continuation of the main trunk located more or less in the center of the crown, beginning at the lowest main branch (scaffold) and extending to the top of the tree.
- C. **Circling roots:** One or more roots whose diameter is greater than 10% of the trunk caliper circling more than one-third of the trunk.
- D. **Finish Grade:** Elevation of finished surface of planting soil below mulch.
- E. **Percussion Driven Earth Anchors (PDEA):** Lightweight corrosion resistant earth anchor that does not disturb the soil during installation. The PDEA shall be driven from finished grade elevation using conventional portable hand tools. The PDEA can be pulled to exact holding capacity, if required, and fully operational immediately.

- F. **Kinked root:** A main mother root that is sharply bent.
- G. **Planting Soil:** Surface soil mixed with soil amendments.
- H. **Subgrade:** Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.
- I. **Wound:** A discontinuity resulting from the removal of the bark and cambium. Pruning cuts that are not closed over are not considered wounds.

#### 1.4 SUBMITTALS

- A. General: Submit under the provisions of the General Conditions- Submittals.
- B. Product data:
  - 1. Submit product information or “cut-sheets” for all proposed products on all specified products to be used. Clearly indicate specific product to be used on each “cut-sheet”.
  - 2. Copies of invoices or purchase orders for all plant materials confirming order and supplier.
  - 3. Photographs of “tied-off” plant material (if by special request).
  - 4. Proof of contract growing (if by special request).
- C. Samples for verification: Physical samples of soil amendment and mulch top dressing (one quart bag full minimum).
- D. Product Certificates: For each type of manufactured product, signed by product manufacturer, and complying with the following:
  - 1. Manufacturer’s certified analysis for standard products.
  - 2. Submit certificates of inspection, as required by governmental authorities for transportation of plant materials across state lines. Submit manufacturer’s or vendor’s certified analysis for soil.
- E. Design data: Xerox reductions of drawings with graphic area take-offs of all planting areas stating quantities of all soil amendments, fertilizers and other soil additives to be used by volume per area.

#### 1.5 SOURCE QUALITY CONTROL

- A. General
  - 1. Substitution in variety or size without approval will not be permitted. If specified plant material or seed is not obtainable, submit proof of non-availability to City’s Representative, together with proposed equivalent materials for review at least two weeks prior to scheduled planting time. If a size of plant is not available, approval must be obtained from the City’s Representative for any change. In no case will additional compensation be allowed to the Contractor for any substitution of size. If the next size larger is available in the species, the Contractor shall provide them at no additional cost to the City.
- B. Analysis and Standards
  - 1. Package standard products with manufacturers certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.

## 1.6 QUALITY ASSURANCE

- A. Planting work shall be awarded to a single firm specializing in planting work.
- B. Notify City's Representative at least 48 hours in advance of the following required observations:
  - 1. Delivery of plants for inspection prior to planting.
  - 2. Review of irrigation system in place, fully functioning prior to planting.
  - 3. Approval of turf beds prior to seeding and/or sodding.
  - 4. Approval of plant layout as described in Part 3.
  - 5. "Pre-maintenance" observation and punch-list formation.
  - 6. "Pre-maintenance" punch-list completion verification.
  - 7. "Final acceptance" observation.
  - 8. Allow at least 3 business days for the City's representative's inspection.
- C. SITE/MATERIAL INSPECTION: The City's Representative shall inspect all trees, shrubs, groundcover, sod and seed before planting for compliance with specified requirements for genus, species, variety, container size and quality.
  - 1. The Contractor shall label at least one tree and one shrub of each variety with a securely attached waterproof tag bearing legible designation of botanical and common name. Provide copies of all delivery tags.
  - 2. The City's Representative shall inspect trees and shrubs for plant size and for the condition of tree roots, trunks, stems branches or structure, buds, disease, oxalis infestation or other weeds, bound roots, latent defects and injuries. etc., and reserves the right to reject unsatisfactory or defective material at any time during progress of work. Contractor shall remove all rejected trees or shrubs immediately from project site and replace with materials acceptable to City's Representative.
  - 3. The City's Representative shall inspect the roots of container-grown trees and plants by removing earth/washing away substrate from the rootball of not less than 2 sample plants, nor more than 2 percent of the total number of plants of each species or variety. If container-grown plants are purchased from several sources, the City's Representative shall inspect the roots of not less than 2 of each plant species or variety from each source. The rootball of container grown plants must not show evidence of being underdeveloped, deformed, kinked or having been restricted. If the City's Representative finds noncompliant plants, the entire lot represented by the noncompliant sample plants will be rejected.

## 1.7 COORDINATION

- A. Coordinate work with that specified in other sections, such as soil preparation and fine grading, before start of installation. Any installation found to be in conflict with such work as a result of neglected coordination, shall be removed and reinstalled in new locations designated by the City's representative at no additional expense to the City.
- B. Proceed with, and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required and discretion of City's Representative.
- C. Utilities: Determine location of underground utilities and perform work in a manner

which will avoid possible damage. Hand excavate as necessary. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

- D. Excavation: When underground conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify City's Representative for recommendation prior to planting.
- E. Coordination with Turf: Plant trees, and shrubs after final grades are established and prior to planting of turf, unless otherwise acceptable to City's Representative. If planting of trees and shrubs occurs after turf work, protect turf areas and promptly repair damage to turf resulting from planting operations.

#### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Plant material: Ship plant material and seed with certificates of inspection required by governing authorities. Comply with federal and state regulations applicable to plant materials requiring inspection for diseases and infestations. Inspection certificates required by law must accompany each shipment of plants.
- B. Packaged materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer.
- C. Protection of plants and cuttings from wind, sun and all other damage shall be adequately given by the Contractor. Such protection includes plants and cuttings in storage and those planted. On site plant material shall be irrigated daily. Plants are healed-in if B&B material is used.
- D. Protect materials from vandalism and deterioration during delivery, and while stored at site. The City's Representative may mark certain containers upon, or after, delivery. All marked containers shall be stored on site, empty or full until final acceptance of the project for review by City's Representative.
- E. Do not remove container grown stock from containers until planting time.
- F. Do not store shrub or groundcover material on site more than 7 days.
- G. The sod shall be delivered and installed within a period of 36 hours.
- H. Quality of plant material shall be maintained during transportation from the nursery and throughout the plating process.
- I. Always handle tree by the root ball using straps or powered equipment and do not lift using branches or the trunk.

#### 1.9 ENVIRONMENTAL REQUIREMENTS

- A. On days expected to be 90 degrees Fahrenheit or greater, the Contractor shall schedule planting in the morning only to avoid stressing plants during installation.
- B. Sodding shall be performed only during the time of day and during seasons when satisfactory results can be expected unless authorized in writing by the City's Representative.

#### 1.10 PLANTING GUARANTEE

- A. Contractor shall guarantee, in writing, all planting work and plant material for a period of one year after date of start of maintenance period, against material and workmanship defects including death and unsatisfactory growth, except for defects resulting from neglect by City, abuse or damage by others, or unusual phenomena or incidents which are beyond Contractor's control. Planting Guarantee shall be submitted with Irrigation Guarantee (if applicable) and other

turn-over materials before final acceptance will be issued. A sample of the guarantee format is available from the City's Representative.

- B. Contractor shall prudently remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition during specified maintenance period and one-year guarantee period.
- C. An inspection will be conducted at end of 1-year guarantee period to determine acceptance or rejection of trees materials. Only one replacement (per tree, shrub or plant) will be required at end of guarantee period, except for losses or replacements due to failure of Contractor to comply with specified requirements.

#### 1.11 REFERENCES

- A. *Guideline Specifications for Nursery Tree Quality*, Urban Tree Foundation 115 S. Dollner Avenue, Visalia, CA 93291. 2009.
- B. *American Standards for Nursery Stock ANSI-Z60.1 & Container Guidelines*, American Nursery & Landscape Association, 1200 G Street NW, Suite 800, Washington, DC, 20005. 2004.

### PART 2 – PRODUCTS

#### 2.1 TREE STAKES AND TIES

- A. Materials:
  - 1. Wood Tree Stakes: Untreated Lodge Pole Pine tree stakes, 3" diameter x 10' long, free of knotholes and other defects (unless otherwise noted).
  - 2. Tree Ties: shall be V.I.T. Cinch tree ties - 24" long tree straps.

#### 2.2 JUTE NETTING

- A. Material:
  - 1. Jute netting shall be cloth of a uniform plain weave of undyed and unbleached single jute yarn, 48 inches in width plus or minus 1 inch, and weighing an average 1.2 pounds per linear yard of cloth with a tolerance of plus or minus 5%, with approximately 78 warp ends per width of cloth and 41 weft ends per linear yard of cloth.
  - 2. The yarn shall be of a loosely twisted construction having an average twist of not less than 1.6 turns per inch and shall not vary in thickness by more than 1/2 of its normal diameter.

#### 2.3 TREE ROOT BARRIERS

- A. Manufacturer:
  - 1. DEEP ROOT PARTNERS, L.P.
  - 2. VILLA ROOT BARRIER, INC.
  - 3. OR approved equal.
- B. Material
  - 1. 18" deep x 10' wide.
  - 2. Must be linear style, installed per manufacturer's published instructions.

3. Molded modular ribbed panels, 50% recycled polyethylene plastic with UV inhibitors.
4. .085" thickness.
5. Vertical 90° root deflecting ribs, protruding ¾" in height.
6. Ribs .085" minimum thickness, 6" apart.
7. Integrated, self-locking connecting/joining system.

## 2.4 PLANT MATERIAL

### A. General:

1. All plants shall meet the following criteria: Refer to 1.06 SOURCE QUALITY CONTROL and 1.07 QUALITY ASSURANCE this section.
2. Provide trees, shrubs and plants of quantity, size, genus, species and variety shown on the drawings and scheduled for landscape work. Provide healthy, vigorous stock, grown in recognized nursery containers in accordance with good horticultural practices and free of disease, insects, eggs, larvae and defects such as root girdling or bound roots, knots, sun-scald, injuries, abrasions, or disfigurement.
3. Plant material shall be subject to inspection and approval or rejection at the place of growth and on the project site at any time before and during the progress of the work. Refer to 1.07 QUALITY ASSURANCE this section.
4. Substitution in variety or size without approval will not be permitted. Refer to 1.06 SOURCE QUALITY CONTROL this section.

### B. Trees:

1. Root ball shall be moist throughout, containing no roots 1/5 the tree caliper, and be free from "root knees" protruding above the soil. There shall be no roots in the upper 3 inches of the media encircling more than 1/3 of the root ball. If kinked roots are less than 1/3 of the root ball, they can be pruned. Root defects should be removed at the point just behind the bend in the root so the remaining segment can grow straight.
2. The root collar should be within the top 1 to 2 inches of the container, and no large roots shall cross over the main roots.
3. Tree must have a single, fairly straight central leader trunk (unless specified multi-trunk), with no lateral branches below the lowest potential scaffold larger than ¼ the trunk diameter at the point of attachment and no sharp bends or exaggerated sweeps. Trunks shall be free of large wounds.
4. Branches shall be equally spaces around the central leader at least 6 inches apart. Branches shall be less than half the diameter of the trunk and the central leader as measured about 1 inch above the branch union.
5. Canopy shall be uniform in shape on all sides and free of large voids. A central leader shall exist, even with round or vase-shaped tree forms. Branch tips shall be below the tip of the central leader.

BOX SIZE FOR TREES	
Box diameter	Maximum caliper range (inches)
20	1.25-2
24	1.5-2.5
30	2.5-3
36	2.5-3.5
42	3-4
48	3.5-5
60	4-6

C. Shrubs

1. Shall be symmetrical, typical for the variety and species, and shall conform to measurements specified.
2. Roots shall not be overgrown or root bound. Root distribution should be uniform throughout the container soil.
3. Size of plants indicated on the drawings represents the minimum size acceptable. Oversize plants shall not increase the contract price.

D. Ground cover

1. Shall be of healthy, vigorous, well-rooted stock, free from weeds and foreign matter, and shall be properly protected until planted and watered.
2. Plant cuttings and root divisions shall be from six inches (6") to eight inches (8") long, and from good, healthy stock of the variety specified.
3. Plant lists and names of plants are shown on the drawings.

2.5 TURF SOD

A. Approved manufacturer:

1. DELTA BLUEGRASS, 111 Zuckerman Road, Stockton, CA 95206. (800) 637-8873.
2. Or approved equal.

B. Grass Sod Product shall consist of live, growing mature as shown on the drawings.

C. Sod shall be harvested mature with a uniform thickness of 1/2"-5/8" of soil that completely covers the roots of the sod. The sod shall be delivered and installed within a period of 36 hours.

D. The sod shall arrive vigorous and have a lush appearance, uniform texture and dark- green color through with no dead or dry edges. The sod shall be sufficiently dense to bear handling and placement without tearing.

E. The sod shall be free of disease and harmful insects, noxious weeds or other grasses and shall not contain any other matter deleterious to its growth or which might affect its subsistence or hardiness when transplanted.

F. Seed quality shall have a purity of 98%, germination of 90%, weed seed not to exceed .05% and crop seed shall be a maximum of .5%. Hydroseed Slurry: Shall contain the following thoroughly mixed and applied per acre:

1. 120 lbs. EZ-TAC Tackifier.
2. 1800 lbs. Weyerhaeuser Silva Fiber.
3. 315 lbs. "Gro-Power High Nitrogen" 14-4-9 NPK 450 lbs. "Dwarf Enduro" Tall Fescue Seed.

## 2.6 HYDROSEED

- A. Approved manufacturer:
  1. PACIFIC COAST SEED, 533 Hawthorne Place, Livermore, CA 94550. 925-373-4417.
- B. Shall contain the following thoroughly mixed and applied per acre:
  1. 1,000 pounds per acre of virgin wood fiber or recycled paper fiber mulch, Nature's Own or equal.
  2. 75 pounds per acre of tackifier.
  3. Sufficient water for application.
  4. Coloring agent to be a biodegradable, nontoxic coloring agent free from copper, mercury, and arsenic.
  5. Seed mix per plans.
- C. Seed shall be kept in a cool, shaded place until utilized. Contractor shall request seed delivery just before installation and only in the amounts that can be planted that day to prevent heating and desiccation.

## 2.7 MULCH TOP DRESS

- A. Approved Manufacturer
  1. VISION RECYCLING, Attn: Andrew Tuckman 41900 Boscell Road, Fremont, CA 94538, (510) 353-6030, [contact@visionrecycling.com](mailto:contact@visionrecycling.com).
  2. Or approved equal.
- B. Material
  1. 'Wonder Mulch' by Vision Recycling.
  2. Material shall be shredded wood and bark residual from pine and/or fir and meet the following:
    - a. Grading:
 

Sieve Size	Percent Passing
1"	95%
3/8"	50%
mesh	25%
  3. Shall have acid pH, based on dry weight.
  4. Ash content shall not exceed 7 percent based on dry weight.
  5. Moisture shall be between 12% and 35% based on fresh material.
  6. Shall be free of soluble salts such that the saturation extract conductivity shall not exceed 1.5.
  7. Mulch shall be screened wood chips, uniform color, clean and free of impurities. Maximum size to be 1 1/4".



- 8. Texture of mulch shall be blended with sawdust, bark and wood chips and have an overall fine texture with no large bark chunks or only fine particles.
- 9. Color may be mahogany or have no color added but must look natural and not died red.
- C. Gorilla hair is prohibited.
- D. Lava rock is prohibited.

## **PART 3 – EXECUTION**

### **3.1 GENERAL**

- A. Refer to SECTION 32 91 13- SOIL PREPARATION for preparing the soil, weed abatement, and adding amendments and fertilizers prior to planting work.
- B. Clearing and scarifying: Installer shall install planting on a clean site with positive drainage away from walks. Soil finish grades below finish grade of walks, pavements, and curbs shall be specified.
- C. All planting work shall be done while soil is in a dry, friable condition. Contractor shall not work in soil areas wet enough to become overly compacted or muddy. Any work done while soil is too wet is subject to rejection.

### **3.2 TREE ROOT BARRIERS**

- A. Install specified root barriers in the “linear style” planting application immediately adjacent to walk, back of curb, header, etc. per manufacturer’s instructions unless noted otherwise for all trees closer than 5’-0” from center of tree trunk to edge of paving. See drawings for additional information.
- B. Root barriers to be centered horizontally on the tree trunk and be a minimum 8’ long in total.
- C. Root barriers shall be set 1” above the soil not mulch top dressing.

### **3.3 BACKFILL MIX**

- A. Tree pits shall be backfilled with amended native or imported top soil, and have neither more than 50% nor less than 25% amendment in backfill. See Section 32 91 13 – Soil Preparation for amendment schedule.
- B. Plant pits shall be backfilled with native or imported top soil, and shall have amendment on the top surface. See Section 32 91 13 - Soil Preparation for amendment schedule.

### **3.4 PLANTING**

- A. General
  - 1. A mound of earth shall be formed as detailed around each shrub or tree, so as to produce a shallow basin to retain water, the diameter to exceed the diameter of the root spread. Plants shall be watered in place during and after backfilling.
  - 2. Prune plants only at times of planting, and according to standard horticultural practice, to preserve the natural character of the plant. Pruning to be done under supervision of the City Arborist during plant inspection or close- out

observations. Remove all dead wood, suckers, and broken or badly bruised branches without cutting tree leader unless otherwise directed by City's Representative. Use only clean, sharp tools.

3. Water trees and plants immediately after planting. No plant shall be out of its container more than thirty (30) minutes before being planted and watered.
4. No planting shall occur under unfavorable weather conditions.

B. Planting Trees:

1. Before excavation, Contractor shall set out all container trees as indicated on Planting Plan for review by City's Representative. Contractor shall secure this review giving City's Representative minimum 48-hour notice. City's Representative shall check location of all plants in the field and shall indicate the exact position before actual planting operation proceeds. City's Representative will also check the condition of the plant material at this review. Contractor shall promptly replace any material rejected by City's Representative with higher quality material per City's Representative's comments.
2. Excavate square pits with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage. Thoroughly scarify bottom and walls of all pits. Pit size shall be twice the container diameter. Pit depth shall be 2 inches less than the depth required so that the tree can be planted 2 inches above adjacent finish grade.
3. Remove the sides and bottoms of all boxed material prior to planting and/or backfill. Contractor shall retain all sides and bottoms of tree boxes (in whatever condition) on the site until their removal has been physically verified on-site by the City's Representative. Failure to do so may mean removal of the tree from its hole for inspection at the Contractor's expense.
4. Contractor shall thoroughly scarify rootballs of all tree material. Contractor shall perform a minimum of three vertical cuts spaced equally on rootball sides and one cut across bottom of rootball and then straighten out roots by hand, being careful to not rip them apart from plant. This is to encourage roots to grow radially from the trunk.
5. Fill excavations for all trees with water and allow to percolate out before planting. Notify City's Representative if water fails to completely drain out in 24 hours.
6. Install specified planting tablets per manufacturer's recommendation, unless noted otherwise.
7. Remove synthetic wraps, rope, twine from the tree and ball.

C. Tree Staking

1. Stake the tree if the planting is in a windy area or an area of high traffic. This shall be determined by the City's representative on site. Many trees with heavy root balls do not need staking. If staking is required, stake trees up to 24" box container with two stakes. Trees 36" box and larger shall be guyed with a minimum of 3 guys.
2. Stake trees immediately after planting, per the planting details. Loop tree-tie around trunk and stake, forming a figure "8". Nail straps to stake. Use only galvanized, threaded nails. Strap at midpoint with two straps and near top of stakes with two straps.

D. Shrub and Groundcover Planting

1. Before excavation, Contractor shall set out all container plants as indicated on Planting Plan for review by City's Representative. Contractor shall secure this review giving City's Representative minimum 48-hour notice. City's Representative shall check location of all plants in the field and shall indicate the exact position before actual planting operation proceeds. City's Representative will also check the condition of the plant material at this review. Contractor shall promptly replace any material rejected by City's Representative with higher quality material per City's Representative's comments. No planting shall occur under unfavorable weather conditions.
2. Excavate square pits with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage. Thoroughly scarify bottom and walls of all plant pits. Pit size shall be twice the container diameter. Pit depth shall be 2 inches less than the depth required so that the tree can be planted 2 inches above adjacent finish grade.
3. Set plants on foot-tamped backfill mixture to such depth that, upon settlement, the top of the root ball will be at least 1 to 3 inches above the soil line with the trunk flare/root flare and uppermost roots at least level with the backfill surrounding the tree. Backfill the remainder of the hole and soak thoroughly. Water the pit until saturated to the full depth of the hole. Slice a shovel or spade around the backfill to settle the soil and remove air pockets. Break up heavy clay clods. Do not step firmly on the backfill this may cause excessive compaction.
4. Plant materials in the areas and at the spacing as shown, in neat rows, unless otherwise indicated on the plans, insuring complete coverage of all planting areas including under and around trees. Refer to planting details for additional information.
5. Immediately after planting, but prior to pre-emergent and mulch top-dress applications (Refer to 3.07 Mulching), all beds and pits shall be raked so as to achieve a uniform and neat appearance.
6. Pre-emergent Weed Control: Apply pre-emergent herbicide to all planted areas (except turf and erosion control areas) and areas to receive mulch top dress at manufacturer's recommended rates prior to application of mulch top dress, and after all visible weeds have been removed.

### 3.5 MULCHING

- A. Re-cultivate any compacted soil areas and rake smooth prior to application of pre-emergent weed control and mulch top-dressing.
- B. Spray out and physically remove all weeds from all planting areas and areas that will receive mulch top dress.
- C. Provide not less than 2" depth of approved mulch, slightly work into top of backfill and finish level with adjacent finish grades avoiding tree rootballs. A thin layer of mulch (1/2 inch) can be applied to the root ball area for aesthetics.
- D. Do not pile much against the trunk of the tree.
- E. Pull the thicker layer of mulch top dress 6" away from stalk or trunk of plant.

### 3.6 SOD TURF INSTALLATION

- A. Prepare sod areas per Section 32 91 13- Soil Preparation. Water the prepared area to a depth of 6 inches if not already done so, to settle soil and provide a moist base for sod turf.

- B. Surface elevations and drainage to be the same as shown on grading plans except top of sod shall be flush with adjacent paved surfaces. But in no case will soil be graded to create a ridge to the interruption of even slope to the drainage run.
- C. Sod is to be unrolled into place with careful attention to tight joints with no overlapping and avoidance of any stretching. Stagger the joints in each new row like rows of brick. Use a sharp knife for shaping around trees, landscape edges or borders. Immediately after placement, soak with water. Roll sod after second watering to smooth out bumps and air pockets, and roll again if sod is not even. Water frequently for the first 10 - 14 days, enough water to saturate soil to a depth of 4". DO NOT LET SOD DRY OUT.
- D. Provide temporary fencing around turf areas for 6 weeks after installation. Use Tensar or Mirafi webbed plastic rolled fencing 4' in height with 1-1/2" pipe stakes 8' o.c.
- E. Mow sod to 2 inches 7 - 10 days after installation (and whenever turf reaches 3" in height), after allowing soil to dry enough to provide a firm footing for mower wheels without rutting. The Contractor shall remove sod and re-grade any areas that have been rutted from mowers to the City's Representative's satisfaction.
- F. As it becomes evident that certain sod areas have not grown, re-sod the areas immediately with sod of the same type as originally used and maintain as specified.

### 3.7 HYDROSEED INSTALLATION

- A. Prepare areas per SECTION 32 91 13- SOIL PREPARATION.
- B. Apply pre-emergent only once hydroseed is established.
- C. Hydroseeding Water: Contractor is responsible for obtaining potable, clean hydroseed water from a source using legal means, at their expense.
- D. Hydroseed at the rates described on the drawings, applying the hydro-seeding in a slurry form. When hydraulically sprayed onto the soil, the mulch shall form a blotter-like material. Direct the spray operation so that this procedure will drill and mix the slurry components into the soil, the slurry spray will also penetrate the soil surface, thus ensuring maximum impregnation and coverage. The impregnation and mixing of the components will help in retaining moisture while stabilizing soil surface from superficial erosion.
- E. Do not leave the hydro-seeding slurry components in the hydro-seeding machine for more than (2) hours because of possible seed destruction. If slurry components are left for more than two hours in the machine, add 50% more of the originally specified seed mix to any slurry mixture which has not been applied within the two hours after mixing. Add 75% more of the original seed mix to any slurry mixture which has not been applied (8) hours after mixing. All mixtures more than (8) hours old must be disposed of, off-site, at the contractor's expense.
- F. Spray the area with a uniform visible coat, using the dark color of the cellulose fiber as a visual guide. The slurry shall be applied in a downward drilling motion via a fan stream nozzle. Insure that all of the slurry components enter and mix with the soil. Insure the uniformity of the hydro-seed application. The hydraulic contractor shall be approved by the City's Representative.
- G. Exercise special care to prevent any of the slurry from being sprayed onto hardscape areas including concrete walkways, fences, walls, buildings, etc. Remove all slurry sprayed onto these surfaces at the contractor's expense.

- H. Contractor shall save all seed and fertilizer tags and fiber mulch bags for the City's Representative to verify compliance with the drawings and specifications.
- I. Keep protective barriers, similar to sod, in place around hydroseed areas until final acceptance of the project.
- J. Areas showing germination failure shall be re-seeded at 10 day intervals until a good stand of turf has been developed.
- K. Seed germination will be the responsibility of the Contractor by means of manual or temporary irrigation as necessary until underground irrigation system is fully operational per the Drawings.
- L. NATIVE GRASS MIX: As native grasses become established adjust irrigation controller programs so as to encourage gradual deep-rooting and a stand of grasses that conserves water.

### 3.8 MAINTENANCE

- A. Contractor shall maintain all plant materials in proper horticultural fashion after delivery to site and all planting areas immediately after planting until final acceptance. Maintain all project areas in a broom-clean, litter free, weed free condition from start of construction until final acceptance. Maintain all security and protective measures in a first-class condition at all times until final acceptance.
- B. Bamboo maintenance shall occur annually around late summer when rhizomes tend to run. Check for rhizomes that may have jumped the barriers, and remove these to maintain complete containment of the bamboo roots.
- C. A "pre-maintenance" observation will be made with the Project Inspector following Contractor's notification to City's Representative that all irrigation and planting work is complete. Give 48 hour notice minimum for "pre-maintenance" observation. At this time the Contractor shall submit first draft of record drawings, maintenance manuals, and other items as specified in Division 1 Section Project Close-out and SECTION 32 84 00 - Irrigation Work. Failure to turn over these items can result in the delay of the beginning of the maintenance period. Contractor is allowed two (2) inspections. One, to establish the "pre-maintenance punchlist", and one to verify completion of "pre-maintenance punchlist". Any additional walk-throughs or observations required to obtain approval for the beginning of the maintenance period will be back charged to the Contractor. The specified maintenance period will only be allowed to commence once all of the planting and irrigation work is done, irrigation is running from the controller, and all items on the "pre-maintenance punchlist" have been completed to the satisfaction of the City's Representative and the Project Inspector.
- D. The Maintenance Period on this project is 90 calendar days.
- E. Maintain trees, shrubs and other plants by watering (including hand watering if automatic irrigation is non-functional), pruning, cultivating and weeding as required for healthy growth. Restore planting basins. Tighten and repair stake supports and reset trees and shrubs to proper grades or vertical position as required. Spray as required to keep trees and shrubs free of insects and disease. Maintain all areas in a weed free condition at all times.
- F. Maintain turf by watering (see below), fertilizing, spraying for weeds, mowing no lower than 2", trimming, edging and other operations such as rolling, re-grading and replanting as required to establish a smooth, acceptable turf, free of weeds and eroded or bare areas.
- G. Maintain turf sod and native grass seed by watering at least daily to avoid drying

out and to enable root system to penetrate its new soil environment. Once the new sod has started to root in, watering frequency should be reduced. Stretch the time intervals between irrigation. Avoid run-off by matching water application rates to soil infiltration rates. Irrigate at night or early morning. Reduce or increase watering times according to seasonal needs. Water a minimum amount to keep turf and native grasses vigorous.

- H. Fertilize all turf areas with Gro-Power "High Nitrogen" at the rate of 25 lbs. per 1,000 sq. ft. on day 45 and day 90 (if within maintenance period) after planting. If the maintenance period has been extended due to un-established turf areas, or any other reason, apply the same at the same rate every 6 weeks.
- I. Maintain ornamental hydroseeded areas as needed to control invasive weeds. Broadleaf weeds in grassy slopes shall be controlled/killed before they reach 6 inches in height or before flowering.
- J. Weed control done with an herbicide, per Section 32 91 13 - Soil Preparation, shall be with a pest control recommendation written by a licensed California Pest Control Advisor. Herbicides are to be applied by a qualified State of California licensed Pest Control Advisor and/or Applicator, registered in the project County.
- K. As applicable, Contractor is to provide ongoing gopher control and eradication by a licensed pest control operator. This work should begin as soon as site clearing begins with the goal of eradicating the problem prior to hydroseeding. Use any legal method with the exception of poison grain, nuts or bait. Contractor shall be responsible for repairing any damage as a result of gopher activity until final acceptance.
- L. If cultural and biological control methods, such as trapping, are not working and the State of California licensed Pest Control Advisor prescribes chemical applications, then the Contractor shall adhere to the following requirements: Pesticide materials shall be delivered to the site in the original unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration numbers.
- M. Prior to any pesticide application the Contractor shall submit to the City's representative all pest control recommendations for review and approval.

### 3.9 CLEANUP AND PROTECTION

- A. During all stages of work, keep pavements clean and work area in a clean and orderly condition.
- B. Protect planting work and materials from damage due to planting operations, operations by other contractors, trades people and trespassers. Maintain protection during installation and maintenance periods and until final acceptance. Treat, repair or replace damaged work or materials as necessary or as directed by City's Representative.

## PART 4 – FINAL ACCEPTANCE

- A. When all work is completed, including specified maintenance period, City's Representative(s) will, upon request from contractor (minimum 48 hour notice), make the "final observation" to determine acceptability.
- B. At the "final observation" the City's Representative(s) will thoroughly investigate project and either issue written statement of project acceptance, or advise Contractor of work remaining. The Contractors specified maintenance period shall

be extended until project acceptance is issued, in writing, by City's Representative. (The date of the start of the maintenance period shall mark the beginning of the 1 Year Planting Guarantee.)

**END OF SECTION**

**SECTION 32 91 13**  
**SOIL PREPARATION**

**PART 1 – GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and General Provisions of Contract, including Special Provisions and all Specification sections, may apply to work of this section.
- B. Related Sections
  - 1. Section 31 10 00 – Site Preparation.
  - 2. Section 31 20 00 – Earth Moving.
  - 3. Section 32 90 00 – Planting.

**1.2 SECTION INCLUDES**

- A. Weed control.
- B. Topsoil.
- C. Soil Amendments and fertilizer.
- D. Finish grading.

**1.3 DESCRIPTION OF WORK**

- A. The work includes, but is not necessarily limited to, the following:
  - 1. Weed abatement for all planting areas prior to amending and fertilizing the soil.
  - 2. Ripping, tilling and amending native soil or imported fill material for the preparation of planting areas to be planted.
  - 3. Importing topsoil for the use in planting areas, raised planters and/or planter pots.
- B. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the planting work included in this contract.

**1.4 DEFINITIONS**

- A. **Topsoil:** Upper, outermost layer of soil, possessing organic matter and horticultural nutrients. Typically, the top 2 to 8 inches of soil.
- B. **Subsoil:** Layer of soil under the topsoil on the surface of the ground. Typically, the first densely packed soil layer under the topsoil.
- C. **Planting Soil:** Surface soil mixed with soil amendments.
- D. **Fill material:** Imported soil free of organic matter, containing no rocks or lumps larger than 2 inches in greatest dimension and to be approved by the project Geotechnical Engineer.
- E. **Finish grade:** Elevation of finished surface of planting soil below mulch.
- F. **Subgrade:** Surface or elevation of subsoil remaining after completing excavation,



or top surface of a fill or backfill, before placing planting soil.

#### 1.5 SUBMITTALS:

- A. Product literature or “cut-sheets” on all specified products to be used listed below but not limited to:
  - 1. Raised planter and planter pot backfill mix sample with soil test.
  - 2. Amendments and fertilizers.
  - 3. Weed control herbicides.
- B. Horticultural Soil Analysis Test and Recommendations: A soil fertility test and report shall be provided by a qualified soils laboratory. Soil amendments shall be specified according to the recommendations of the lab based on the test results. Soil samples for testing shall be collected of the existing soil conditions after the grading contractor has fine graded the site soil or added any imported fill material, in sufficient numbers (not less than Three (3) from different representative locations of the site) to account for any soil variations that may be present on the site. At a minimum, the following shall be tested for complete soil evaluation:
  - 1. Soil Saturation percent.
  - 2. Soil Texture.
  - 3. Infiltration Rate.
  - 4. pH, including sulfur or lime requirements.
  - 5. Organic Matter Content.
  - 6. Conductivity, Total Dissolved Salts and CEC.
  - 7. Available Nutrients (Potassium, Sodium, Calcium, Magnesium, Nitrate and Phosphate).
- C. Appropriate documentation from installer to confirm to the City’s Representative that specified materials and quantities have been delivered and installed and that installer has complied with all local, state and federal documentation requirements.
- D. If top soil material is to be imported, a horticultural soil test from a qualified lab is required prior to shipment and placing to evaluate the soil and revise any amendments outlined within this section.

#### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer.
- B. Protect materials from vandalism and deterioration during delivery, and while stored at site. The City’s Representative may mark certain containers upon, or after, delivery. All marked containers shall be stored on site, empty or full until final acceptance of the project for review by City’s Representative.

#### 1.7 QUALITY ASSURANCE

- A. Notify City’s Representative a minimum of 48 hours in advance of the following required observations by the City’s Representative:
  - 1. Delivery, quantity verification, and container marking of soil amendment materials.

2. Site reviews to assure compliance with approved specifications.
3. The cross ripping depth of soil by prior to contractor amending the soil.
4. The turf bed is to be inspected and approved by the City's Representative prior to sodding.

## PART 2 – PRODUCTS

### 2.1 TOPSOIL FOR PLANTING AND TURF AREAS

#### A. On-Site Existing Topsoil

1. May be stockpiled on site for re-use in landscape work, however must be tested.
2. Contact City's Representative prior to bidding for verification. If quantity of stockpiled topsoil is insufficient (refer to Section 31 20 00 – Earth Moving, as applicable), coordinate with City's Representative and provide import topsoil as required to establish landscape finish grades.

#### B. Imported Topsoil - All Import Fill material used in planting areas shall meet the following requirements:

1. All import soil shall be free of harmful physical or chemical materials, roots, rocks or other debris larger than 1 inches in any direction, and any living plant materials including weed seed, roots, rhizomes, culms and or bulbs that can grow, propagate or germinate.
2. USDA CLASSIFICATION- of fraction passing 2.0-mm sieve: **sandy loam, sandy clay loam or loam** and conform to the following:

<u>Class</u>	<u>Particle size range</u>	<u>Maximum %</u>	<u>Minimum %</u>
Coarse sand	.5 – 2.0 mm	15	0
Silt	.002-.05 mm	30	10
Clay	<.002 mm	25	10
Gravel	2 – 13 mm	15	0
Rock	1/2 - 1 inch	5% by volume with non > 1 inch	
Organic	NA	15	0

#### 3. CHEMISTRY- SUITABILITY CONSIDERATIONS

- a. **Salinity:** Saturation Extract Conductivity (ECe) = Less than 3.0 dS/m @ 25 degrees.
- b. **Sodium:** Sodium Adsorption Ratio (SAR) = Less than 6.0.
- c. **Boron:** Saturation Extract Concentration = Less than 1.0 ppm.
- d. **Reaction:** PH of Saturated Paste = 6.0 – 7.5 without high lime content. Optimum lime content % CA CO3 <3.0.
4. Nutrients- Soil to contain sufficient quantities of available nutrients to support normal plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials prior to planting. A range for required nutrients follows:

<u>Nutrient</u>	<u>Particle size range</u>
Nitrogen,	25-75 ppm
Phosphorus	50-100 ppm

Potassium	150-300 ppm
Calcium	2000-4000 ppm
Magnesium	150-500 ppm

5. Prior to approval the Contractor shall submit a Horticultural Soil Analysis test **for the exact soil proposed soil to be used for Import Fill material**. The report shall be provided by a qualified soils lab. Soil samples for testing shall be collected of the existing soil conditions from the source in sufficient numbers (not less than 3 from different representative locations of the site or source stockpile) to account for any soil variations that may be present on the site. The recommendations of the soil test submitted for the actual fill material to be used in the planting area will supersede the soil amendment schedule provided within this section for bidding purposes only.
  6. Obtain import topsoil from local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4"; do not obtain soil from bogs or marshes.
- C. The amount of topsoil to be imported, if any, shall be calculated by the Contractor. The Contractor is required to provide topsoil to the specified grades or implied grading concept as shown on the plans and as described in Section 31 20 00 – Earth Moving.

## 2.2 SOIL AMENDMENTS AND FERTILIZER

The recommendations below shall be used for bidding purposes only; contractor shall have any the site retested with a horticultural soil analysis test if it has been filled with imported material or imported topsoil. The following amendments/fertilizers shall be revised based on recommendations by an approved lab. Contractor shall submit to report findings to the City's Representative for review and approval prior to amending. Refer to submittals and preparation articles in this section for more information.

Soil Amendments and fertilizer shall consist of the following materials:

- A. Soil Amendment: Shall be Nitrogen Stabilized (0 - 1/4") Organic Amendment, Ammonium Sulfate (21-0-0) and Potassium Sulfate (0-0-50).
- B. Soil Conditioner: Shall be "Gro-Power Plus (5-3-1) with 4% sulfur", available through Gro-Power Inc., 15065 Telephone Avenue, Chino, CA 91710-9614. 1-(800)-473-1307. No known equal.
- C. Fertilizer Tablets: Shall be as manufactured by Gro-Power™ Inc. 7 gram tablets containing 12-8-8, NPK in a one-year time-release formulation with 4% Humic Acid, 20% Humus, 2% Iron, 3.5% Sulfur. No known equal.
- D. Pre-Plant Fertilizer: Complete fertilizer of neutral character, with some elements derived from organic sources and containing the following percentages of available plant nutrients: 6-20-20 NPK.
- E. Ferrous Sulfate: Non-staining, manufactured for horticultural use, Gro-Power "Premium Green" or acceptable equal.
- F. Agricultural Gypsum: Manufactured for horticultural use with 90% minimum calcium sulfate.
- G. Calcium Carbonate: Calcium Carbonate Lime (Oyster shell) for horticultural use.
- H. Pre-emergent Weed Control: shall be Ronstar G or acceptable equal.
- I. Lime: Ground limestone, if required, containing not less than 85% carbonates: 50% passing a No.100 sieve and 90% passing a No. 20 sieve.

- J. Organic Amendments, if required:
  - 1. Composted manure is acceptable if well composted and if soluble salt levels are less than 3.0 millimhos/cm. Ash: Maximum, 0.6%.
- K. Amendments containing biosolids which require EPA Section 503 reporting are prohibited.

## 2.3 WEED CONTROL

- A. Contractor shall keep disturbed areas in a weed free condition by Contractor's choice of methods. If herbicides are used conform to all National, State, County and City reporting requirements.
- B. Herbicide materials shall be delivered to the site in the original unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration numbers.
- C. Pre-emergent: shall be Ronstar G or acceptable equal.

## PART 3 – EXECUTION

### 3.1 GENERAL PREPARATION

- A. All soil preparation shall be done while soil is in a dry, friable condition. Contractor shall not work in soil areas wet enough to become overly compacted or muddy. Any work done while soil is too wet is subject to rejection.
- B. Contractor shall remove all vegetation and weeds, dead or alive, from the site per Section 31 10 00 – Site Clearing prior to beginning work on soil preparation.
- C. Mechanically cross-rip all areas exhibiting less than 3:1 slope 10"-12" deep. Areas steeper than 3:1 shall be ripped by hand or rototiller to 6" depth.
- D. Before mixing amendments, clean soil of stones over 1-1/2" in diameter, clay lumps, and other extraneous materials harmful or toxic to plant growth. Secure approval of ripping depth by City's Representative prior to amending.

### 3.2 TURF AND HYDROSEED AREA PREPARATION

- A. If significant weeds are present, and with the City's Representative's written approval of the use of Roundup, the following process may be used:  
WEED GERMINATION/ERADICATION: Six weeks prior to seeding or sodding, irrigate prepared turf beds thoroughly with a minimum of 6" of water to germinate weed seed. After two weeks, spray with a 1% solution of Roundup or equal as per manufacturer's recommendations. Repeat the process with the same at three weeks prior to seeding or sodding. Contractor is responsible to abide by all California State law's regarding applying herbicides on project property.
- B. If six weeks' time period for above process cannot be met, it is acceptable to complete this process one time 3 weeks prior to seeding in areas that have previously been over excavated and cleared with large grading machinery at the City's representative's desecration. Contractor must gain approval prior to reducing weed germination time period.
- C. Lightly till and re-grade the top 1 – 2" after the above procedure, removing all dead weeds, debris, etc. prior to seeding or sodding.
- D. Fertilize and amend soil as specified in this section AND ADD an additional 10 lbs. per 1000 square feet of 6-20-20 pre-plant commercial fertilizer. Pre-plant

fertilizer shall be raked into the top 2 inches of soil. Roll turf bed until a smooth, firm surface with uniform grade has been produced. The turf bed is to be inspected and approved by the City's Representative prior to sodding.

### 3.3 FERTILIZER AND AMENDMENT PLACEMENT

- A. The Contractor shall complete a Horticultural Soil Analysis Test with recommendations via a certified plant laboratory to confirm or supersede the soil additive schedule contained here-in.
- B. Thoroughly incorporate the following soil additives and fertilizers with topsoil in all planting areas at rates specified below. Thoroughly mix soil additives into top 12" of soil by rototilling once in each direction.

TYPE	QUANTITY
Soil amendment	5 cubic yards/ /1000 SF Nitrogen
	Stabilized Organic Amendment
	7 pounds Ammonium Sulfate (21-0-0)
	5 pounds Potassium Sulfate (0-0-50)*
Pre-plant fertilizer	12 lbs./1000 SF
Soil conditioner	200 lbs./1000 SF
Agricultural gypsum	30 lbs./1000 SF

The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270lbs. dry weight of organic matter per cubic yard of amendment. If a composted green waste product is chosen that is shown to have sufficient potassium, the potassium sulphate may be omitted.

- C. Fertilizer and amendments shall be installed per the manufacturer's published instructions including those instructions published by turf sod and seed vendors.
- D. Contractor shall save all soil conditioner bags with City's Representative's mark on-site for verification of proper installation of quantity and type of soil conditioning. Failure to do so shall result in the requirement of the Contractor to re-condition soil, and pay for additional lab testing and adjustments to soil condition.
- E. Plant pits shall have neither more than 50% nor less than 25% amendment in backfill.

### 3.4 FINISH GRADING

- A. Created landforms shall be integrated into the existing site providing naturalized contouring to integrate newly graded areas with the natural topography.
- B. Compact amended planting areas by watering and soaking soil. For planting areas, soils shall be pre-irrigated. Soil shall be between 70-80% relative compaction (this should be attained naturally after pre-irrigation).

- C. Fine grade planting and turf areas to smooth, even surface with loose, uniformly fine texture. Roll, rake and drag all TURF areas, remove ridges and fill depressions, as required to meet finish grades (refer to Section 31 20 00 - Earth Moving) while providing positive drainage to drain structures. Limit fine grading to areas which can be planted immediately after grading. Finish grade of soil shall be 3 inches below top of paving, headers, boxes etc. to allow for 3 inches of mulch top dressing unless directed otherwise.
- D. Soil finish grades below finish grade of walks, pavements, and curbs shall be specified.

### 3.5 LEACHING

- A. After soil amending and prior to planting, irrigate prepared planting areas with a minimum of 3" of potable water to leach and start fertilizer breakdown. Apply irrigation in increments of 1/2 to 3/4 of an inch of precipitation, and then allow ample time for infiltration, repeating this procedure until the specified amount of water has been applied. Allow surface moisture to dry before planting. Do not create a muddy or overly compacted soil conditions.
- B. Restore planting areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.

### 3.6 CLEAN UP

- A. During all stages of work, keep pavements clean and work area in a clean and orderly condition.

## END OF SECTION

**SECTION 33 40 00**  
**STORM DRAINAGE**

**PART 1 – GENERAL**

**1.1 SECTION INCLUDES**

- A. Provide and install storm pipe and appurtenances.
- B. Provide and install subdrain pipe and appurtenances.
- C. Provide and install storm system structures, including clean-outs, drainage inlets, etc.

**1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the Division 01 Specification Sections, apply to this Section.
- B. Related Sections include the following:
  - 1. Section 31 23 16 - Trenching, Backfilling and Compaction.

**1.3 SUBMITTALS**

- A. In accordance with the General Provisions.
  - 1. Submit choice of storm drain pipe and cleanouts, drainage structures, and drainage grates to the City Engineer for review prior to ordering.

**1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Storm drain piping and structures shall be delivered, handled, and stored in a way that prevents damage to the pipe/structures, or the entry of foreign materials into the pipe.
- B. Regardless of cause, damaged pipe/structures shall be replaced with new products at the expense of the Contractor.

**1.5 GRADE AND ALIGNMENT CONTROL**

- A. General
  - 1. The necessary installation procedures that will insure the pipes are installed at the location and grade staked in the field shall be used.
- B. Method
  - 1. One of the following methods shall be utilized to control grade and alignment:
    - a. Batter boards set at 25' intervals with a string line set over at least three batter boards.
    - b. Electronic 'Laser' beam set at structure locations or grade breaks. At least three grade points shall be checked to verify the set grade.
    - c. Survey instrument set at structure to site between structures at the set grade.

C. Equipment

1. The Contractor shall furnish all equipment necessary to install and inspect the pipe installation. Grade rod shall be held to a minimum in all cases.

## **PART 2 – PRODUCTS**

### **2.1 STORM DRAIN PIPE**

- A. Storm drain pipe shall be Series 46, or High Density Polyethylene (HDPE), Type S, dual wall, or approved equal, Caltrans Standard Specification Section 68-2.02C Corrugated Polyethylene Pipe.
- B. Subdrain pipe shall be perforated Polyvinyl Chloride Pipe (PVC), SDR 35, Series 46, or approved equal, in accordance with Caltrans Standard Specification Section 68 Subsurface Drains.

### **2.2 DRAINAGE STRUCTURES**

- A. Drainage inlets (SDDI) shall be as manufactured by Oldcastle Infrastructure, or approved equal, and shall be of the model/size to match existing inlets. Grates shall be heavy duty in hard surfaced areas with ½" maximum opening bolt down grates, and standard duty in planting areas, with bolt down grates.
- B. SDDIs placed in concrete areas shall be installed with a paving notch.

## **PART 3 – EXECUTION**

### **3.1 GENERAL**

- A. All construction of the storm drain shall conform to the requirements of the City Standards.

### **3.2 VERIFY EXISTING CONDITIONS**

- A. The exact location and depth of the existing storm drains is unknown and is shown based on the best information available.
- B. Prior to ordering of any materials, Contractor shall pot hole in the vicinity of each point of connection and crossing with existing utilities to verify the exact location (horizontal and vertical) and size of the existing storm drain/existing utilities. This information shall be presented in the form of a field sketch through the RFI process for review and confirmation by the City Engineer that the proposed design is adequate to serve the project.

### **3.3 STORM DRAIN PIPE**

- A. Trenching shall be as indicated in Section 31 23 16 - Trenching, Backfilling and Compaction.
- B. Pipe laying shall be as indicated in paragraph 3.5 herein.
- C. No pipe shall be installed which is cracked, damaged or otherwise unsuitable for use in the opinion of the City Engineer.

### **3.4 STORM DRAINAGE STRUCTURES**



- A. Excavation and backfill shall conform to Section 31 23 16 - Trenching, Backfilling and Compaction.
- B. Joints shall be grouted to form a watertight seal. Any visible leaks shall be permanently plugged.

### 3.5 PIPE LAYING

- A. No pipe shall be laid when trench conditions are unsuitable to allow performing the job in a professional manner.
- B. Where ground water occurs, pumping shall continue until backfilling has progressed to a sufficient height to prevent flotation of the pipe. Water shall be disposed of in such a manner as to cause no property damage or be a hazard to public health in accordance with Section 31 23 16, Trenching, Backfilling and Compaction.
- C. Pipe shall be laid with bell ends facing in the direction of laying, and shall progress uphill/upslope.
- D. Pipe deflections where permitted shall not exceed that recommended by the pipe manufacturer.
- E. If High Density Polyethylene (HDPE) pipe is used, the exterior ribbed wall may be removed to avoid conflicts with other utilities. The extent of the removal shall not exceed 18" measured along the length of the pipe.
- F. Every precaution shall be taken to prevent foreign material from entering the pipe. If necessary, a heavy, tightly woven canvas bag of suitable size shall be placed over each end and left there until the connection is to be made to the adjacent pipe. During laying operations, no debris, tools, clothing or other materials shall be placed in the pipe. If foreign materials do enter the pipe, they shall be removed continuously as work progresses.
- G. At times when pipe laying is not in progress, the open ends of laid pipe shall be closed by a water-tight plug.

### 3.6 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.
- B. Properly repair all surfaces disturbed by construction.

## END OF SECTION

**Appendix A – Geotechnical Investigation (FOR REFERENCE ONLY)**

# **GEOTECHNICAL INVESTIGATION DESIGN PHASE**

FOR  
WILSON PARK BASKETBALL COURT  
CUPERTINO, CALIFORNIA

PREPARED FOR  
MME  
PROJECT NO. 21-257-SCL



PREPARED BY  
BUTANO GEOTECHNICAL ENGINEERING, INC.  
OCTOBER 2021



---

**BUTANO GEOTECHNICAL ENGINEERING, INC.**

231 GREEN VALLEY ROAD, SUITE E, FREEDOM, CALIFORNIA 95019

PHONE: 831.724.2612

WWW.BUTANOGEOTECH.COM

---

October 18, 2021  
Project No. 21-257-SCL

MME  
224 Walnut Ave., Ste. B  
Santa Cruz, CA 95060

ATTENTION: Rodney Cahill

SUBJECT: **GEOTECHNICAL INVESTIGATION - DESIGN PHASE**  
Proposed Basketball Court  
Wilson Park  
19784 Wintergreen Drive  
Cupertino, California

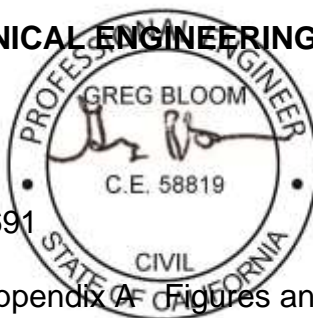
Dear Mr. Cahill:

In accordance with your authorization, we have completed a geotechnical investigation for the subject project. This report summarizes the findings, conclusions, and recommendations from our field exploration, laboratory testing, and engineering analysis. It is a pleasure being associated with you on this project. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office.

Sincerely,

**BUTANO GEOTECHNICAL ENGINEERING, INC.**

Greg Bloom, PE, GE  
Principal Engineer  
R.C.E. 58819, G.E. 2691



Appendices      Appendix A    Figures and Standard Details  
                         Appendix B    Field Exploration Program  
                         Appendix C    Laboratory Testing Program

Distribution: (4)      Addressee

## **1.0 INTRODUCTION**

This report presents the results of our geotechnical investigation for the proposed basketball court at Wilson Park, which is located at 19784 Wintergreen Drive in Cupertino, California.

The purpose of our investigation is to provide information regarding the surface and subsurface soil conditions at the site and provide geotechnical recommendations for the design and construction of the proposed basketball court. Conclusions and recommendations related to site grading and drainage are presented herein.

This work included site reconnaissance, subsurface exploration, soil sampling, laboratory testing, engineering analysis, and preparation of this report. The scope of services for this investigation is outlined in our agreement dated August 23, 2021.

The recommendations contained in this report are subject to the limitations presented in Section 8.0 of this report. The Association of Engineering Firms Practicing the Geosciences has produced a pamphlet for your information titled *Important Information About Your Geotechnical Report*. This pamphlet has been included with the copies of your report.

## **2.0 FIELD EXPLORATION AND LABORATORY TESTING PROGRAMS**

Our field exploration program included drilling, logging, and interval sampling of 3 borings advanced on September 21, 2021, with 6-inch diameter solid stem augers mounted on a truck rig. The borings were advanced to depths of 11 ½ feet below existing grade. Details of the field exploration program, including the Boring Logs, are presented in Appendix B, Figures B4 through B-6.

Representative samples obtained during the field investigation were taken to the laboratory for testing to determine physical and engineering properties. Details of the laboratory testing program are outlined in Appendix C. Test results are presented on the Boring Logs and in Appendix C.

## **3.0 SITE DESCRIPTION**

### **3.1 Location**

The project site is located southwest of Highway 280 in Cupertino, California. The site location is shown on the Site Location Plan, Appendix B, Figure B-1.

### **3.2 Surface Conditions**

Wilson Park is approximately 10 acres in size, is relatively level, and is improved with greenspace, baseball fields, play structures, a building, paved walkways, and other improvements.

The area of the proposed development is located in the southeastern portion of the park. This area is bordered by a paved walkway to the north, a baseball field to the west, the park boundary to the south, and barbeque areas to the east. The area is relatively level with minor changes in gradients related to the shaping of the site during the original construction of the park. The site is vegetated with grass, which is dried out as the irrigation has been turned off. The ground surface is desiccated with ground cracks up to ½ inch wide.

### **3.3 Subsurface Conditions**

A total of 3 borings were advanced to depths of 11 ½ feet below existing grade. The site is mapped as being underlain by alluvium. This is consistent with our field exploration.

The borings generally encountered 4 ½ to 5 ½ feet of stiff lean to fat clay overlying medium dense to dense gravel to the maximum depth drilled at 11 ½ feet.

Groundwater was not encountered in any of the borings. The depth to groundwater will vary seasonally.

## **4.0 PROJECT DESCRIPTION**

Based on our discussions with the client, the project consists of constructing an asphalt or concrete basketball court and some minor grading in the adjacent area.

## **5.0 GEOTECHNICAL HAZARDS**

### **5.1 General**

In our opinion, the geotechnical hazards that could potentially affect the proposed project are:

- Intense seismic shaking
- Collateral seismic hazards

## 5.2 Intense Seismic Shaking

Intense seismic shaking may occur at the site during the design lifetime of the proposed structure from an earthquake along one of the local fault systems. Generally, the intensity of shaking will increase the closer the site is to the epicenter of an earthquake, however, seismic shaking is a complex phenomenon and may be modified by local topography and soil conditions. The transmission of earthquake vibrations from the ground into the structure may cause structural damage.

The City of Cupertino has adopted the seismic provisions set forth in the 2019 California Building Code to address seismic shaking. The seismic provisions in the 2019 CBC are minimum load requirements for the seismic design for the proposed structure. The provisions set forth in the 2019 CBC will not prevent structural and nonstructural damage from direct fault ground surface rupture, coseismic ground cracking, liquefaction and lateral spreading, seismically induced differential compaction, seismically induced landsliding, or seismically induced inundation.

Table 1 has been constructed based on the 2019 CBC requirements as adopted from the ASCE 7 provisions for the seismic design of the proposed structure. The Site Class has been determined based on our field investigation and laboratory testing.

**Table 1. Seismic Design Parameters**

S <sub>s</sub>	S <sub>1</sub>	Site Class	F <sub>a</sub>	F <sub>v</sub>	S <sub>DS</sub>	S <sub>D1</sub>	F <sub>PGA</sub>	PGA <sub>M</sub>	Risk Category	Seismic Design Category
1.91	0.679	D	1	Null	1.273	Null	1.1	0.865	II	Null

Design Coordinates - (Lat: 37.3194874, Lng: -122.019889)

## 5.3 Collateral Seismic Hazards

In addition to intense seismic shaking, other seismic hazards that may have an adverse effect to the site and/or the structure are: coseismic ground cracking, seismically induced liquefaction and lateral spreading, seismically induced

differential compaction, seismically induced landsliding, and seismically induced inundation (tsunami and seiche). It is our opinion that these hazards are low.

## **6.0 DISCUSSIONS AND CONCLUSIONS**

The site is underlain by 4 ½ to 5 ½ feet of lean to fat clay with a moderate to high potential for expansion. As part of our laboratory analysis, we completed one atterberg limits test which yielded a plasticity index of 28. The soil samples were collected in the middle of the summer during a drought. The irrigation in this portion of the park has been turned off. The clayey soil has dried out. Our firm attempted to run swell tests, but the soil was brittle and desiccated, which did not allow for running in-situ tests.

Our firm observed the adjacent hardscape. This included the adjacent asphalt concrete walkway and circular concrete barbeque pad. These features have significant cracks consistent with being subject to shrink/swell cycles of the underlying clay.

## **7.0 RECOMMENDATIONS**

### **7.1 General**

Based on the results of our field investigation, laboratory testing, and engineering analysis it is our opinion that from the geotechnical standpoint, the subject site will be suitable for the asphalt or concrete basketball court. The basketball court should be underlain by a minimum of 24 inches of non-expansive engineered fill.

### **7.2 Site Grading**

#### **7.2.1 Site Clearing**

The site should be cleared of loose soil, fill, organics, and debris within the project limits.

#### **7.2.2 Preparation of On-Site Soils**

The proposed concrete basketball court should be over-excavated a minimum of 24 inches below the base of the proposed basketball court. This should extend a minimum of 2 feet beyond the edge of the concrete. The exposed soil should be scarified a minimum of 12 inches, moisture conditioned to 2 to 4 percent over optimum moisture, and compacted to 88 to 90 percent relative compaction.



Imported select fill should then be placed to design subgrade.

All select fill should be compacted with heavy vibratory equipment. Select fill should be compacted by mechanical means in uniform horizontal loose lifts not exceeding 8 inches in thickness. The relative compaction and required moisture content shall be based on the maximum dry density and optimum moisture content obtained in accordance with ASTM D1557. Engineered fill should be compacted to a minimum of 90 percent relative compaction.

**The on-site clayey soil may not be re-used as select fill beneath the basketball court.** The on-site clayey soil may be used for landscape berms within the park. This material may be placed at a minimum of 85 percent relative compaction at 0 to 2 percent over-optimum moisture.

Imported select fill material should be approved by a representative of Butano Geotechnical Engineering, Inc. prior to importing. Imported fill should be primarily granular with no material greater than 2½ inches in diameter and no more than 20 percent of the material passing the #200 sieve. The fines fraction of the fill should not consist of expansive material. The Geotechnical Engineer should be notified not less than 5 working days in advance of placing any fill or base course material proposed for import. Each proposed source of import material should be sampled, tested, and approved by the Geotechnical Engineer prior to delivery of any soils imported for use on the site.

Any surface or subsurface obstruction, or questionable material encountered during grading, should be brought immediately to the attention of the Geotechnical Engineer for proper processing as required.

### **7.2.3 Cut and Fill Slopes**

Minor cut and fill slopes related to landscaping berms are anticipated for this project. Permanent cut and fill slopes utilizing the on-site clayey soil should be no steeper than 3:1 (H:V).

### **7.2.4 Excavating Conditions**

Excavation of the site may be accomplished with standard earthwork equipment.

### **7.2.5 Surface Drainage**

Positive drainage should be maintained away from the structures at a minimum gradient of 2 percent for 5 feet.

### **7.2.6 Utility Trenches**

Bedding material should consist of sand with SE not less than 30 which may then be jetted.

The on-site clayey soils may **not** be utilized for trench backfill. Imported fill should be free of organic material and rocks over 2.5 inches in diameter.

If sand is used, a 3 foot concrete plug should be placed in each trench where it passes under the exterior footings.

Backfill of all exterior and interior trenches should be placed in thin lifts not to exceed 8 inches and mechanically compacted to achieve a relative compaction of not less than 95 percent in paved areas and 90 percent in other areas per ASTM D1557. Care should be taken not to damage utility lines.

Utility trenches that are parallel to the sides of a building should be placed so that they do not extend below a line sloping down and away at an inclination of 2:1 H:V from the bottom outside edge of all footings.

Trenches should be capped with 1 1/2 feet of relatively impermeable material. Import material must be approved by the Geotechnical Engineer prior to its use.

Trenches must be shored as required by the local regulatory agency, the State of California Division of Industrial Safety Construction Safety Orders, and Federal OSHA requirements.

## **7.3 Plan Review**

The recommendations presented in this report are based on preliminary design information for the proposed project and on the findings of our geotechnical investigation. When completed, the Grading Plans, Foundation Plans and design loads should be reviewed by Butano Geotechnical Engineering, Inc. prior to

submitting the plans and contract bidding. Additional field exploration and laboratory testing may be required upon review of the final project design plans.

#### **7.4 Observation and Testing**

Field observation and testing must be provided by a representative of Butano Geotechnical Engineering, Inc. to enable them to form an opinion regarding the adequacy of the site preparation, the adequacy of fill materials, and the extent to which the earthwork is performed in accordance with the geotechnical conditions present, the requirements of the regulating agencies, the project specifications, and the recommendations presented in this report. Any earthwork performed in connection with the subject project without the full knowledge of, and not under the direct observation of Butano Geotechnical Engineering, Inc., will render the recommendations of this report invalid.

Butano Geotechnical Engineering, Inc. should be notified at least 5 working days prior to any site clearing or other earthwork operations on the subject project in order to observe the stripping and disposal of unsuitable materials and to ensure coordination with the grading contractor. During this period, a preconstruction meeting should be held on the site to discuss project specifications, observation and testing requirements and responsibilities, and scheduling.

### **8.0 LIMITATIONS**

The recommendations contained in this report are based on our field explorations, laboratory testing, and our understanding of the proposed construction. The subsurface data used in the preparation of this report was obtained from the borings drilled during our field investigation. Variation in soil, geologic, and groundwater conditions can vary significantly between sample locations. As in most projects, conditions revealed during construction excavation may be at variance with preliminary findings. If this occurs, the changed conditions must be evaluated by the Project Geotechnical Engineer and the Geologist, and revised recommendations be provided as required. In addition, if the scope of the proposed construction changes from the described in this report, our firm should also be notified.

Our investigation was performed in accordance with the usual and current standards of the profession, as they relate to this and similar localities. No other warranty, expressed or implied, is provided as to the conclusions and professional advice presented in this report.

This report is issued with the understanding that it is the responsibility of the Owner, or of his Representative, to ensure that the information and recommendations contained herein

are brought to the attention of the Architect and Engineer for the project and incorporated into the plans, and that it is ensured that the Contractor and Subcontractors implement such recommendations in the field. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk.

This firm does not practice or consult in the field of safety engineering. We do not direct the Contractor's operations, and we are not responsible for other than our own personnel on the site; therefore, the safety of others is the responsibility of the Contractor. The Contractor should notify the Owner if he considers any of the recommended actions presented herein to be unsafe.

The findings of this report are considered valid as of the present date. However, changes in the conditions of a site can occur with the passage of time, whether they be due to natural events or to human activities on this or adjacent sites. In addition, changes in applicable or appropriate codes and standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, this report may become invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and revision as changed conditions are identified.

The scope of our services mutually agreed upon did not include any environmental assessment or study for the presence of hazardous to toxic materials in the soil, surface water, or air, on or below or around the site. Butano Geotechnical Engineering, Inc. is not a mold prevention consultant; none of our services performed in connection with the proposed project are for the purpose of mold prevention. Proper implementation of the recommendations conveyed in our reports will not itself be sufficient to prevent mold from growing in or on the structures involved.

## **REFERENCES**

ASTM International (2016).Annual Book of ASTM Standards, Section Four, Construction.Volume 4.08, Soil and Rock (I): D 430 - D 5611.

ASTM International (2016).Annual Book of ASTM Standards, Section Four, Construction.Volume 4.09, Soil and Rock (II): D 5714 - Latest.

Dibblee, T.W. and Minch, J.A., 2007, Geologic map of the Cupertino and San Jose West quadrangles, Santa Clara and Santa Cruz Counties, California, Dibblee Geological Foundation, Dibblee Foundation Map DF-351, 1:24,000.

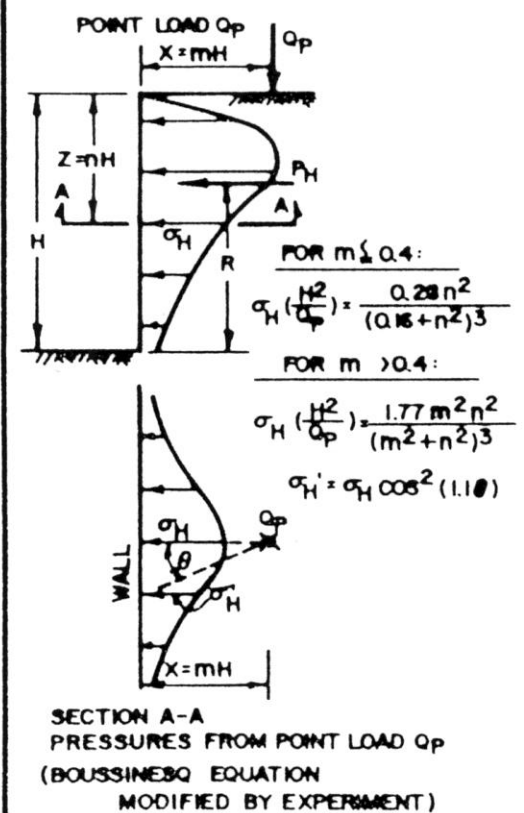
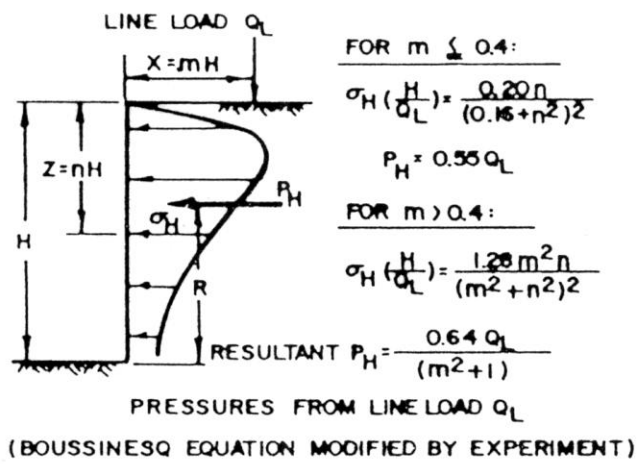
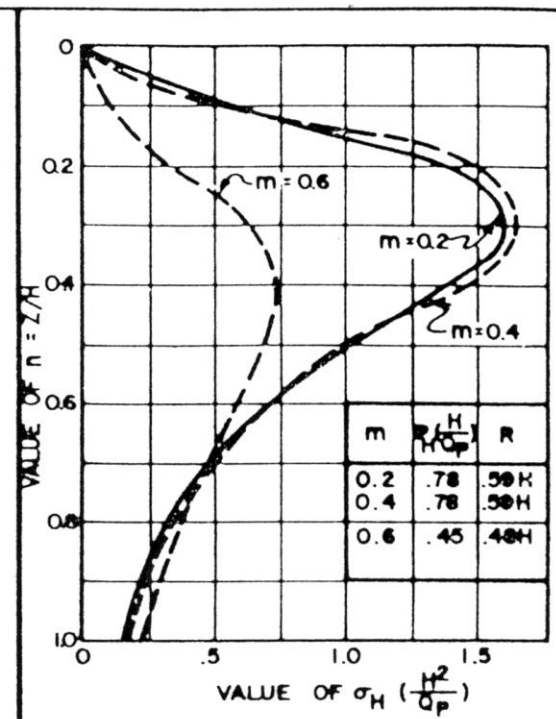
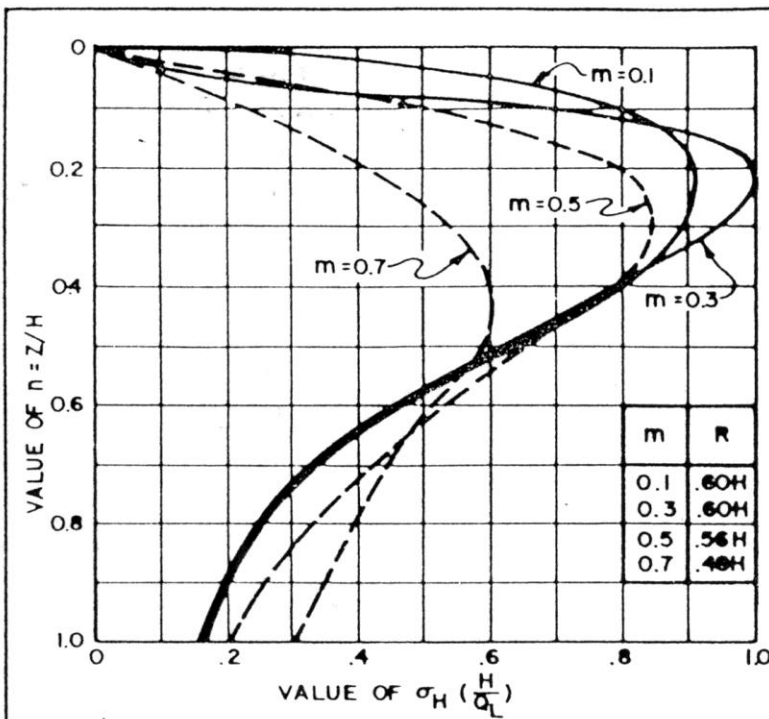
California Building Code (2019).

## APPENDIX A

### FIGURES AND STANDARD DETAILS

Surcharge Pressure Diagram

FigureA-1



REFERENCE: NAVFAC Design Manual 7.2

Figure 11, Page 7.2-74

## APPENDIX B

### FIELD EXPLORATION PROGRAM

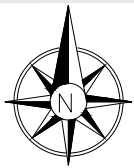
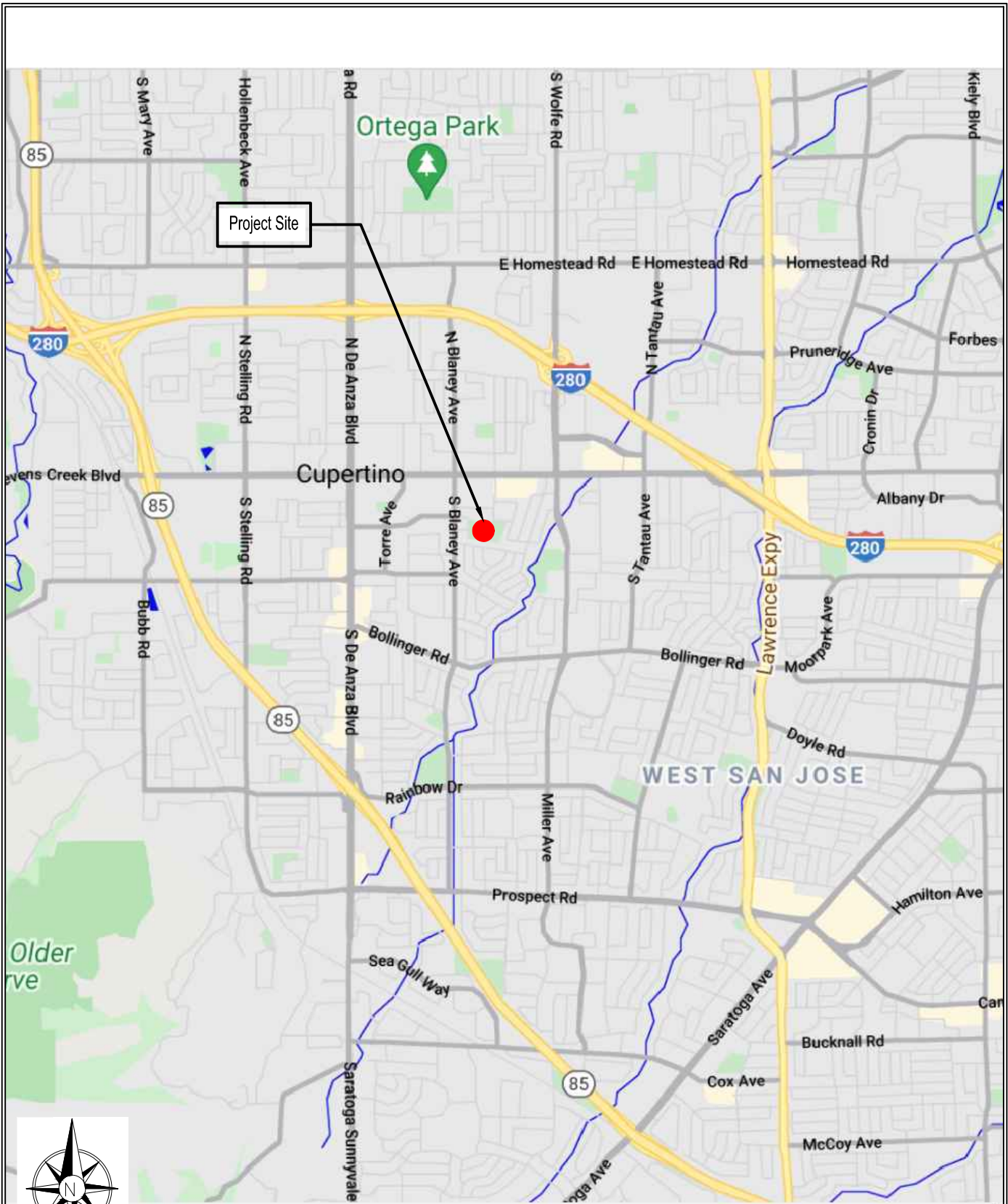
Field Exploration Procedures	Page B-1
Site Location Plan	Figure B-1
Boring Site Plan	Figure B-2
Key to the Logs	Figure B-3
Logs of the Borings	Figures B-4 through B-6

### **FIELD EXPLORATION PROCEDURES**

Subsurface conditions were explored by advancing three borings below existing grade. The borings were advanced with 6-inch diameter solid stem augers mounted on a truck drill rig. The Key to The Logs and the Logs of the Boring are included in Appendix B, Figures B-3 through B-6. The approximate locations of the borings are shown on the Boring Site Plan, Figure B-2. The borings were located in the field by tape measurements from known landmarks. Their locations as shown are therefore within the accuracy of such measurements.

The soils encountered in the borings were continuously logged in the field by a representative of Butano Geotechnical Engineering, Inc. Bulk and relatively undisturbed soil samples for identification and laboratory testing were obtained in the field. These soils were classified based on field observations and laboratory tests. The classifications are accordance with the Unified Soil Classification System (USCS: Figure B-3).

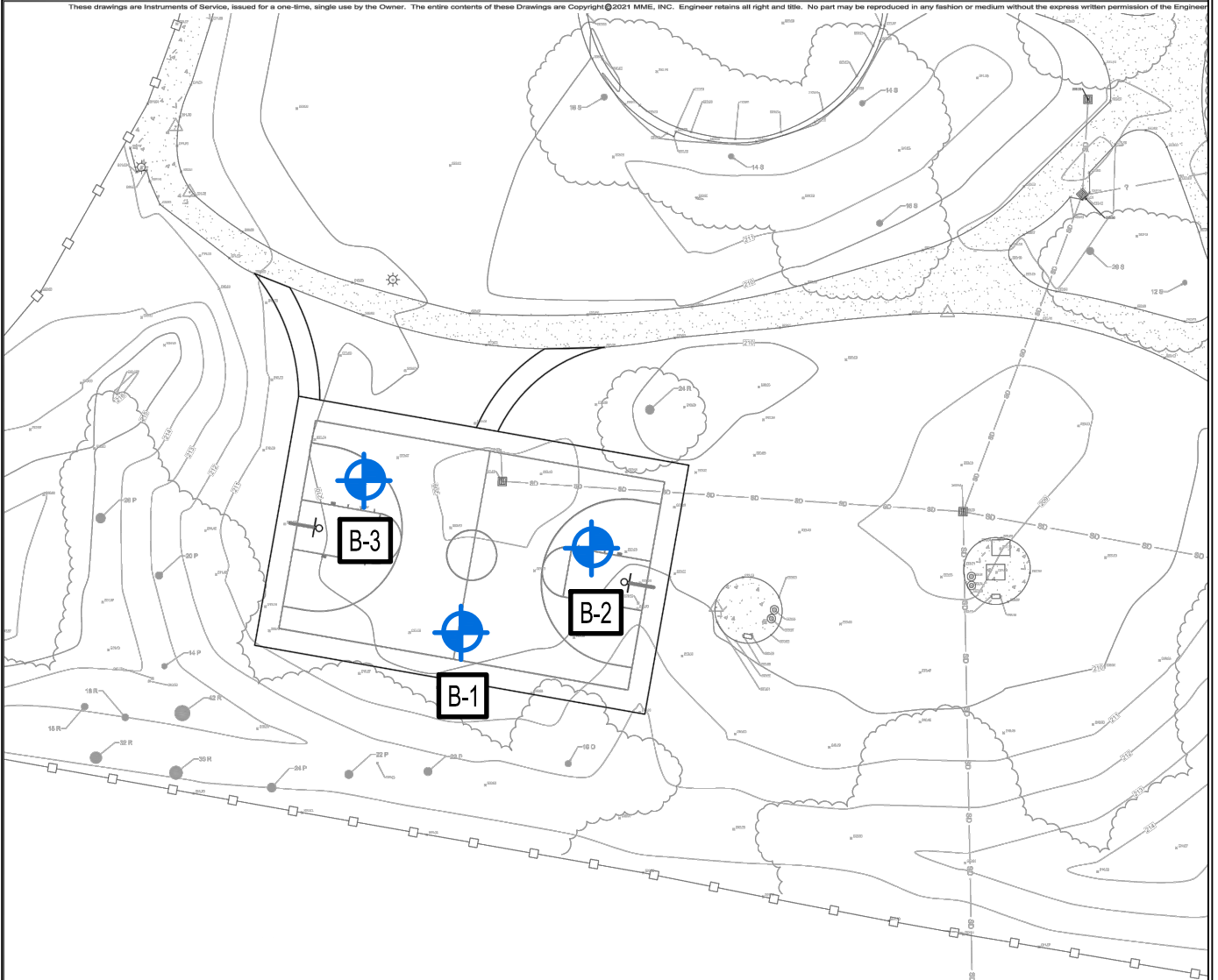





N.T.S

<p>BUTANO</p> <p>GEOTECHNICAL ENGINEERING, INC.</p>	<p>SITE LOCATION PLAN</p> <p>Wilson Park (City of Cupertino)</p>	<p>FIGURE</p> <p>B-1</p>
---	--	--------------------------

These drawings are Instruments of Service, issued for a one-time, single use by the Owner. The entire contents of these Drawings are Copyright © 2021 MME, INC. Engineer retains all right and title. No part may be reproduced in any fashion or medium without the express written permission of the Engineer.



 B-X Exploratory boring  
Scale: 1" = 40'

Map Provided by MME  
Civil + Structural Engineering

BUTANO

GEOTECHNICAL ENGINEERING, INC.

**BORING SITE PLAN**

Wilson Park (City of Cupertino)

FIGURE

B-2

## KEY TO LOGS

### UNIFIED SOIL CLASSIFICATION SYSTEM

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
<b>COARSE GRAINED SOILS</b> More than half of the material is larger than the No. 200 sieve	<b>GRAVELS</b> More than half of the coarse fraction is larger than the No. 4 sieve	<b>CLEAN GRAVELS</b> (Less than 5% fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		<b>GRAVEL WITH FINES</b>	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	<b>SANDS</b> More than half of the coarse fraction is smaller than the No. 4 sieve	<b>CLEAN SANDS</b> (Less than 5% fines)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands, gravelly sands, little or no fines
		<b>SAND WITH FINES</b>	SM	Silty sands, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines
<b>FINE GRAINED SOILS</b> More than half of the material is smaller than the No. 200 sieve	<b>SILTS AND CLAYS</b> Liquid limit less than 50		ML	Inorganic silts and very fine sands, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	<b>SILTS AND CLAYS</b> Liquid limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
			<b>HIGHLY ORGANIC SOILS</b>	

### GRAIN SIZE LIMITS

SILT AND CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		
	No. 200	No. 40	No. 10	No. 4	3/4 in.	3 in.	12 in.
	US STANDARD SIEVE SIZE						

RELATIVE DENSITY	
SAND AND GRAVEL	BLOWS/FT*
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

CONSISTENCY	
SILT AND CLAY	BLOWS/FT*
VERY SOFT	0 - 2
SOFT	2 - 4
FIRM	4 - 8
STIFF	8 - 16
VERY STIFF	16 - 32
HARD	OVER 32

MOISTURE CONDITION	
C L A Y	DRY
	MOIST
	SATURATED
S A N D	DRY
	DAMP
	WET
	SATURATED














\* Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1 3/8 inch I.D.) split spoon (ASTM D-1586).

BUTANO GEOTECHNICAL ENGINEERING, INC.

FIGURE  
B-3

## LOG OF EXPLORATORY BORING

Project No.: 21-251-SC      Boring: B1  
 Project: Wilson Park (City of Cupertino)      Location: See Figure B-2  
 Elevation:  
 Date: September 21, 2021      Method of Drilling: 6-inch solid stem augers  
 Logged By: EJ      truck mounted drill rig














Depth (ft.)	Soil Type	Undisturbed	Bulk	 2" Ring Sample	 2.5" Ring Sample	 Terzaghi Split Spoon Sample	 Bulk Sample	Blows / Foot	N <sub>60</sub>	Dry Density (pcf)	Moisture Content (%)	Expansion Index	Particle Size (% fines)	Swell Pressure (psf)	Atterberg Limits	
				 Perched Water Table	 Static Water Table	 Water Encountered During Drilling										
				Change in Soil Classification	Gradation or Minor Change in Classification	Description	L.L.								P.I.	
	CH			Brown Sandy Lean to Fat CLAY, very stiff, slightly moist				35	17		10.4					
				Very stiff, slightly moist				26	22		12.2				41	28
5	SM			Brown Silty SAND, medium dense, slighty damp				30	11	102.9	9.5					
				Dense, slightly damp				33	30		7.6					
10				Dense, slightly damp, trace gravel				45	41		5.5					
15				Boring terminated at a depth of 11 1/2 feet. No groundwater encountered during drilling.												
20																
25																
30																
35																

BUTANO GEOTECHNICAL ENGINEERING, INC.

FIGURE  
B-4

## LOG OF EXPLORATORY BORING

Project No.: 21-251-SC      Boring: B2  
 Project: Wilson Park (City of Cupertino)      Location: See Figure B-2  
 Elevation:  
 Date: September 21, 2021      Method of Drilling: 6-inch solid stem augers  
 Logged By: EJ      truck mounted drill rig














Depth (ft.)	Soil Type	Undisturbed	Bulk	 2" Ring Sample  2.5" Ring Sample  Terzaghi Split Spoon Sample  Bulk Sample	Blows / Foot	N <sub>60</sub>	Dry Density (pcf)	Moisture Content (%)	Expansion Index	Particle Size (% fines)	Swell Pressure (psf)	Atterberg Limits	
				 Perched Water Table  Static Water Table  Water Encountered During Drilling								L.L.	P.I.
				Change in Soil Classification _____ Gradation or Minor Change in Classification ----- Description									
	CH			Brown Sandy Lean to Fat CLAY, very stiff, slightly moist	38	19	94.9	13.0					
				Very stiff, slightly moist	58	27		10.0					
5	SM			Brown Silty SAND, very dense, slighty damp	50/5"	11	109.0	8.2					
													
10				Dense, slightly damp, trace gravel	54	49		5.8					
													
15				Boring terminated at a depth of 11 1/2 feet. No groundwater encountered during drilling.									
20													
25													
30													
35													

BUTANO GEOTECHNICAL ENGINEERING, INC.

FIGURE  
B-5

## LOG OF EXPLORATORY BORING

Project No.: 21-251-SC      Boring: B3  
 Project: Wilson Park (City of Cupertino)      Location: See Figure B-2  
 Elevation:  
 Date: September 21, 2021      Method of Drilling: 6-inch solid stem augers  
 Logged By: EJ      truck mounted drill rig

Depth (ft.)	Soil Type	Undisturbed	Bulk	 2" Ring Sample	 2.5" Ring Sample	 Terzaghi Split Spoon Sample	 Bulk Sample	Blows / Foot	N <sub>60</sub>	Dry Density (pcf)	Moisture Content (%)	Expansion Index	Particle Size (% fines)	Swell Pressure (psf)	Atterberg Limits		
				Perched Water Table	 Static Water Table	 Water Encountered During Drilling									L.L.	P.I.	
				Change in Soil Classification	Gradation or Minor Change in Classification		Description										
	CH			Brown Sandy Lean to Fat CLAY, very stiff, slightly moist				56	26		9.0						
				Very stiff, slightly moist				76	34	111.8	9.4						
5	SM			Brown Silty SAND, very dense, slighty damp				45	16	120.7	7.2						
								35	32		15.6						
10				Dense, slightly damp, trace gravel				46	42		6.2						
																	
15				Boring terminated at a depth of 11 1/2 feet. No groundwater encountered during drilling.													
20																	
25																	
30																	
35																	

BUTANO GEOTECHNICAL ENGINEERING, INC.

FIGURE  
B-6

## APPENDIX C

### **LABORATORY TESTING PROGRAM**

Laboratory Testing Procedures

Page C-1

## **LABORATORY TESTING PROCEDURES**

### **Classification**

Soils were classified according to the Unified Soil Classification System in accordance with ASTM D 2487 and D 2488. Moisture content and density determinations were made for representative samples in accordance with ASTM D 2216. Results of moisture density determinations, together with classifications, are shown on the Boring Logs, Figures B-4 through B-6.

### **Atterberg Limits**

One Atterberg limits test was performed in accordance with ASTM D-4318. The result is presented on the Boring Logs, Figure B4.