COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

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IN REPLY PLEASE
REFER TO FILE: BRC-2

June 9, 2026

NOTICE TO BIDS
WHITTIER NARROWS RECREATION
AREA SPLASH PAD PROJECT - REBID

Notice is hereby given that the Director of Public Works will accept sealed bids for furnishing all materials, labor, and equipment required to complete construction for the Whittier Narrows Recreation Area Splash Pad Project.

The bids must be submitted electronically using Bid Express, www.BidExpress.com, before 10:00 A.M. on Tuesday, June 30, 2026, and no bids may be submitted after that date and time. Bids will be opened and publicly declared at 2:00 P.M. on Tuesday, June 30, 2026, via online webcast.

If you have any questions regarding this Invitation for Bids, you may contact Mr. Aram Hakobyan at (626) 458-2181 or by e-mail at ahakobyan@pw.lacounty.gov.

Very truly yours,

MARK PESTRELLA, PE
Director of Public Works

Soo Kim

SOO KIM
Division Chief
Business Relations and Contracts Division

SK:ah

PROJECT MANUAL

WHITTIER NARROWS RECREATION AREA
SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE.
SOUTH EL MONTE, CA 91733
SPECS. NO.7835; C.P. NO. 69539

Withers and Sandgren
20948 Tulsa St.
Chatsworth, CA 91311
(818) 291-0200

June 9, 2026

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUSINESS RELATIONS AND CONTRACTS DIVISION
900 SOUTH FREMONT AVENUE
ALHAMBRA, CA 91803-5311
(626) 458-2181

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SECTION 00 01 00

INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.01 COPIES OF BIDDING DOCUMENTS

a. Complete set of the Bidding Documents may be downloaded for free from the Los Angeles County Public Works website http://dpw.lacounty.gov/go/constructioncontracts.

b. Complete sets of Bidding Documents shall be used in preparing bids; the County does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

c. All Bidders for this solicitation are strongly encouraged to register at http://dpw.lacounty.gov/general/contracts/opportunities/. Only those Bidders registered for this solicitation through the DPW website will receive automatic notification when any update to this solicitation is made. **County does not have an obligation to notify any Bidders other than through the DPW website automatic notification system.**

d. Electronic Submission of Bid

Bids will only be accepted electronically through BidExpress, a secure online bidding service website, at www.bidexpress.com.

To submit the bid electronically, register with BidExpress, one week prior to the bid opening date. Once the Bidder is registered, an invitation will be sent to the Bidder to allow access to the solicitation on www.bidexpress.com. Submit electronically via https://www.infotechinc.com/bidexpress/. There is a nominal service fee to use BidExpress. Visit www.bidexpress.com and click Create Vendor Account to register. Refer to Infotech/BidExpress for pricing: Bid Express Fee Schedule | Infotech. Updated instructions for Infotech/BidExpress can be found at: https://bidexpress-help.zendesk.com/hc/en-us/categories/27917897271575-Vendor or click **here**.
Updated instructions for Infotech/BidExpress can be found at https://bidexpress-help.zendesk.com/hc/en-us/categories/27917897271575-Vendor.

Visit the Infotech Knowledge Center at the following link for more information: Bid Express® help guides.

https://infotechinc.zendesk.com/hc/en-us/categories/360003900254-Bid-Express-at-www-bidexpress-com.
BidExpress support phone number 1(888) 352-2439, Monday-Friday, 8:00a.m.-6:30p.m. Eastern Time.

e. The bid opening will be held using Microsoft Teams, or County accepted platform. The information and link to access the bid opening will be posted on Public Works website, on the project information link. Any changes to this procedure will be issued in a Notice to Bidders for this project.

1.02 QUALIFICATIONS OF BIDDERS AND SUBCONTRACTORS

a. The Bidder and each listed subcontractor must have a valid license, issued by the Contractors' State License Board, for the type of work proposed to be performed by the Bidder and each listed subcontractor under the contract. The required license(s) is required at time of bid in order to be considered a responsive bid.

b. This project requires the Bidder to possess a license classification of “A” or “B" at time of bid. The bidder or subcontractor performing the splash pad scope of work must possess a license classification of C-35 at time of bid.

c. In addition to Article 1.02, a. and b., the specifications set forth require specialty licenses, experience requirements, and required certifications from manufacturers concerning approved installers. The apparent successful Bidder shall be required to demonstrate to the County's satisfaction within 10 calendar days of the bid opening that the Bidder and proposed subcontractors (whether required to be listed or not) possess these specialty licenses, experience requirements, and required certifications.

d. All Bidders and their subcontractors must be registered with the Department of Industrial Relations. Qualified contractors and subcontractors are listed on searchable database at:
https://services.dir.ca.gov/gsp.

1.03 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

a. Before submitting a bid, each Bidder must: a) examine the Contract Documents thoroughly; b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress, or performance of the Work; c) become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress, or performance of the Work; and d) study and carefully correlate Bidder's observations with the Contract Documents.

b. The submission of a bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this Article and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

1.04 INTERPRETATIONS

a. All questions about the meaning or intent of the Contract Documents shall be submitted to the Department in writing. Replies will be issued by Notice to Bidders. Questions received less than ten (10) calendar days prior to the date for opening of bids will not be answered. Only questions answered by formal written notice will be binding. Oral and other interpretations or clarifications will be without legal effect.

b. Contact with County Personnel and Code of Silence Period

All contact regarding this solicitation or any matter relating thereto must be in writing and emailed to:

Attention Mr. Aram Hakobyan, Contract Analyst
E-mail: ahakobyan@dpw.lacounty.gov
Telephone: (626) 458-2181

If it is discovered that Bidder contacted and received information from any County personnel, other than the person specified above, regarding this solicitation, County, in its sole determination, may disqualify their bid from further consideration. This prohibition of contacting other County personnel, unless otherwise approved in writing and directed by Contract Analyst, as of the issue date of this solicitation and continuing until the date of execution of Contract(s) will be referred to as the Code of Silence period.

1.05 BID SECURITY

a. Bid security is required of each Bidder and shall be made payable to Los Angeles County, in an amount of ten percent (10%) of the Bidder's bid price, in the form of cash, a certified check, a cashier's check, or a bid bond issued by a California-admitted Surety.

b. The bid security of the successful Bidder will be retained until such Bidder has executed the Agreement and contract security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required insurance and contract security within fourteen (14) calendar days of notification from County, the County may annul the Notice

of Award and the bid security of that Bidder may be forfeited. The bid security of any Bidder whom the County believes to have a reasonable chance of receiving the award may be retained until the earlier of the effective date of the contract or the ninety-first (91) day after bid opening. Bid security of other Bidders will be returned within thirty (30) days of the bid opening.

1.06 CONTRACT TIME

a. The work to be performed under the contract shall be completed within 231 calendar days, beginning the date stipulated in the written Notice to Proceed issued by the Director.

1.07 LIQUIDATED DAMAGES

a. Provisions for liquidated damages, if any, are set forth in Section 01 00 00, "Project General Requirements."

1.08 SUBSTITUTE MATERIAL AND EQUIPMENT

a. The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications unless the Bidder complied with the procedure for substitution of Equals as set forth in the General Conditions.

b. If any proposed substitution of an Equal is determined by the County to not be an Equal, the Contractor must complete the Work in accordance with the Drawings and Specifications for the accepted bid amount.

c. Any mention of “Framed Fabric Structures” shall include an equal.

1.09 SUBCONTRACTORS

a. In accordance with Sections 4100 to 4113, inclusive of the Public Contract Code of the State of California, Contractors shall list, on the form provided, the name, license number, business location and classification of work for each subcontractor who will perform work, labor, or render service on the construction work in excess of one-half (1/2) of one percent (1%) of the total bid.

1.10 FORM OF BID

a. The Form of bid is attached hereto. Additional copies may be obtained from Contracts Administration Section, Business Relations and Contracts Division, 8th Floor.

b. The bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence. Bid prices must be given for all bid items shown on the Form of Bid, including all additive alternatives. Failure to provide prices for all bid items may result in a determination by the County that the Form of Bid is nonresponsive.

c. Bids by corporations must be executed in the corporate name by the President or a Vice-President (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of corporation shall be shown below the signature.

d. Bids by partnership must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

e. All names must be typed or printed below the signature.

f. Bid Documents, Form of Bid, Section 00 03 00, must confirm receipt of any Notice to Bidders (if any).

1.11 SUBMITTAL OF BIDS

a. Bids will only be accepted electronically through BidExpress, a secure online bidding service website, at www.bidexpress.com. Bids shall be submitted at the time indicated in the Information for Bidders.

1. The following documents shall be submitted at the time of bid.

Required bid form documents:

- **Section 00 03 00 Form of Bid**
- **Section 00 03 10 Best Management Practices**
- **Section 00 03 11 Construction and Demolition Debris Recycling Requirements**
- **Section 00 03 12 Insurance Requirements**
- **Section 00 04 00 Attestation of Contractor's Qualifications**

- **Section 00 04 10** **Bid Bond (scanned copy)**
- **Section 00 04 30** **List of Subcontractors**
- **Section 00 04 38** **Request for Preference Consideration**
- **Section 00 04 38A** **Subconsultant Certification Form**
- **Section 00 04 79** **Contribution and Agent Declaration Form-primary firm**
- **Section 00 04 87** **Certification of Compliance – Contact with County Personnel and Code of Silence Period**

Failure to confirm receipt of any Notice to Bidder(s) provided to bidders on Form of Bid, Section 00 03 00, as required, may result in a determination that the apparent low bidder is nonresponsive and/or nonresponsible.

2. Original Bid Bond shall be mailed in within two (2) calendar days from the bid opening. This is required only from the first, second, and third apparent lowest bidders.

3. The following document shall <u>not</u> be submitted at time of bid. Section 00 04 40, Equals, will only be required from the first, second, and third apparent lowest bidders and returned to the County no later than two (2) calendar days from the bid opening.

- **Section 00 04 40** **Equals**

b. No mention shall be made of sales tax or use tax, as all bid prices submitted will be considered as including such tax.

c. The County may consider nonresponsive any bid not prepared and submitted in accordance with the provisions herein and, therefore, reserves the right to reject any or all bids so submitted. The County also reserves the right to accept alternative bids when called for and when items are to be bid on as units, to accept the bid for the list of such items in its entirety, or to accept any portion or portions of same. The County has authority to waive inconsequential and nonmaterial deficiencies in submitted bids;

d. **The following documents shall <u>not</u> be submitted at the time of bid. These forms will be required only from the first, second, and third apparent lowest bidders and returned to the County no later than seven (7) calendar days from the bid opening.**

Section 00 04 35	**Community Business Enterprises (CBE) Participation Form.**
Section 00 04 50	**Noncollusion Affidavit**
Section 00 04 60	**Attestation of Willingness to Consider GAIN/GROW Participants**

Section 00 04 65	**3-Year Contracting History**
Section 00 04 70	**False Claims**
Section 00 04 71	**Civil Litigation History**
Section 00 04 72	**Criminal Convictions**
Section 00 04 73	**Debarment**
Section 00 04 74	**Labor Law/Prevailing Wage**
Section 00 04 75	**Integrated Pest Management Program Compliance Certification**
Section 00 04 76	**Charitable Contributions Certification**
Section 00 04 77	**Prospective Contractor List of Terminated Contracts**
Section 00 04 79	**Contribution and Agent Declaration Form-subconsultants/subcontractors**
Section 00 04 85	**Contractor Employee Jury Service Program-primary firm and subconsultants/subcontractors**
Section 00 04 90	**Contractor's Industrial Safety Record**
Section 00 04 91	**Injury and Illness Prevention Plan and Code of Safe Practices Affidavit**
Section 00 04 92	**Bidder's Organization Questionnaire/Affidavit**
Section 00 04 93	**Certification of Compliance with the County's Defaulted Property Tax Reduction Program**
Section 00 04 94	**Avoidance of Conflict of Interest**
Section 00 04 95	**Familiarity with the County Lobbyist Ordinance Certification**
Section 00 04 96	**Proposer's EEO Certification**
Section 00 04 97	**Compliance with Fair Chance Employment Hiring Practices Certification**
Section 00 04 98	**Zero Tolerance Human Trafficking Policy Certification**
Section 00 04 99	**Disallowed Cost Attestation**

e. Upon the County's request, each bidder agrees to provide the County with a cost breakdown of the bid in Construction Specification Institute (CSI) format. Failure to provide this information may result in a determination that the Bidder is nonresponsive and/or not responsible.

1.12 MODIFICATION AND WITHDRAWAL OF BIDS

a. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted or by a Bidder's representative with proper identification and verification, at any time prior to the closing time for receipt of bids.

b. Relief of Bidders shall be as provided in Sections 5100-5107, inclusive, of the Public Contract Code of the State of California.

1.13 OPENING OF BIDS

a. Bids shall be opened publicly, read aloud, and the amount of the base bids and alternates (if any) shall be made available after the opening of bids.

b. Preliminary bids results will be posted on the same day on the Department of Public Works Website: http://dpw.lacounty.gov/general/contracts/opportunities/.

1.14 AWARD OF CONTRACT

a. If the County determines to award a contract, it shall be awarded to a responsive and responsible Bidder with the lowest bid price with preference to businesses that are certified by the County as a Local Small Business Enterprise, as set forth in Article 1.30 of these Instructions to Bidders. If there are alternatives, the lowest bid price shall be determined by adding the lump sum bid and the price of all alternatives. This does not preclude the Board of Supervisors from selecting any combination of alternates after the lowest responsible bidder has been determined. The Board of Supervisors reserves the right to reject any or all bids or to waive in the public interest technical errors and discrepancies in bids submitted.

b. The Board shall have the right to delay the award of the contract for 90 days after bids are opened and declared, unless otherwise agreed to by the County and Bidders. Bidders may withdraw their bids 91 calendar days after bids are publicly opened and declared by submitting written notice addressed to the Department. In evaluating bids, the County shall consider whether or not the bids comply with requirements, alternatives, and unit prices, if requested in the Form of Bid.

c. Extended Overhead Daily Rate

Extended Overhead Daily Rate is the sum of the Contractor's home office and field office overhead as applicable to this project.

The Bid Form contains an Extended Overhead Daily Rate which will be used to determine the additional compensation due the Contractor for each day of Compensable Delay. The number of days of Compensable Delay shown as a multiplier in the paragraph below is not intended as an estimate of the number of days of Compensable Delay, as defined in Section 00 07 00, General Conditions, Article 17.F.2 may be greater or lesser than the 30 days shown below.

The Extended Overhead Daily Rate in the Bid Form will be used in the evaluation of bids by multiplying the Extended Overhead Daily Rate times 30 days of Compensable Delay and adding it to the bidder's Lump Sum Bid price. However, the amount of the multiplied Extended Overhead Daily Rate for 30 days of Compensable Delay will not be included in the base contract amount.

d. Consultant Services Agreement

Following the determination of the successful bidder by the County, the County will issue a consultant services agreement for the preparation of the baseline construction schedule. The successful bidder shall return the signed consultant services agreement within three days of the County's issuance. Upon the County's receipt of the signed consultant services agreement, the County will authorize preparation of the Detailed Network Construction Schedule in accordance with Section 01 32 00 and preparation of the Schedule of Values in accordance with Section 01 29 73 of the project specifications. Only after acceptance by the County of the Detailed Network Construction Schedule in accordance with the minimum requirements set forth in Section 01 32 00, Construction Schedule, Section 01 29 73, Schedule of Values, Section 01 33 00, Submittals, and execution by the bidder of a contract for the entire project will the County execute a contract for the construction of the project.

Upon receipt by the County, of an acceptable Detailed Network Construction Schedule, Schedule of Values, and list of Submittals, the Bidder shall receive payment of the sum of Five Thousand Dollars ($5,000) as compensation to perform the work required to provide a Detailed Network Construction Schedule, Schedule of Values, and list of Submittals. The payment of $5,000 shall be deducted from the overall construction contract base bid and shall not be in addition to it.

e. Failure to Produce Detailed Network Schedule and Schedule of Values

The Contractor must have or obtain expertise in the type of automated scheduling specified. The successful Bidder will have ten (10) calendar days from the issuance of a Notice to Proceed under the consultant services agreement to submit its Detailed Network Construction Schedule and Schedule of Values. The successful Bidder will have three (3) calendar days to provide County requested revisions to the Detailed Network Construction Schedule and Schedule of Values provided under the Consultant Services Agreement.

Submission of an acceptable Detailed Network Construction Schedule and Schedule of Values is a condition precedent to the execution of the construction contract by the County. Failure to meet these requirements may result in a determination and a recommendation that the Board of

Supervisors determine that the successful Bidder is non-responsible because such failure reflects on the Bidder's ability to manage the work.

f. Execution of Contract by Bidder

Following bid opening and upon notification from Public Works, the apparent successful Bidder will be required to deliver within fourteen (14) calendar days to the offices of Public Works certificate(s) issued by the insurance carrier(s), payment and performance bonds, and three (3) signed and notarized contract signature pages. The contract pages must be signed by the corporate president and secretary, managing partner or sole proprietor.

g. Execution of Contract by County

When the Board of Supervisors or the Director has formally awarded the contract to the Successful Bidder, the County will execute the contract and issue the fully executed contract to the Contractor followed by the Notice to Proceed.

h. Failure to Resolve Equals

In accordance with the General Conditions, paragraph 2, subparagraph d, the first, second and third apparent lowest bidders will have two (2) calendar days after the bid opening to submit their list of Equals and ten (10) calendar days after the bid opening to submit all substantiating data and test results.

i. Protest Policy

The County will handle and process any and all protests in connection with this Bid according to the County of Los Angeles Contracting Manual, Countywide Construction Contracting Policy Guidelines, no. P-05-04, "Bid Protests", dated March 31, 2003. Bidders who wish to file a protest shall do so in accordance with the requirements specified in Construction Contracting Policy Guideline no. P-05-04, which can be found at http://dpw.lacounty.gov/general/bids/BidProtests.pdf

Policy Overview
The County of Los Angeles will process bid protests in a timely and consistent manner to assure that all prospective contractors**/**consultants are accorded fair and equal consideration for the award of County contracts.

Purpose and Scope
The purpose of this Policy Guideline is to convey the County's general course of action for addressing bid protests asserted by prospective contractors. This guideline will address the administrative guidelines for protests arising from the acquisition of construction and construction-related

services under both the Invitation for Bid (IFB) and Request for Proposal (RFP) methods of solicitation.

Application and Responsibility
This Policy Guideline applies to all County departments involved in the contractor selection process for construction and construction-related contracts.

Policy Guidelines

1. **Introduction.** Protests received by the County before contract award shall be immediately forwarded to the Contract Analyst issuing the IFB or RFP. The Contract Analyst will prepare a written response, reviewed by County Counsel if necessary, and approved by the department/agency head or his/her designee.

2. **Timely Filing**. The protest of a likely contract award to the apparent lowest bidder (IFB) or best-qualified firm or consultant (RFP) must be made prior to contract award. Untimely notice will not serve the interests of either party. Protests should be received by the County at the earliest practical time.

3. **Post-Award Protests.** With respect to protests received after contract award, the County will not suspend contract performance or terminate the awarded contract unless so directed by the Board.

4. **Protest Format.** The protesting party's protest should reference all pertinent County, State, Federal, or local laws or regulations that are relied upon in support of the protest. Any documents relevant to the protest should be submitted. The County, at its discretion, may decide the protest without requesting further submittal(s) from the party submitting the protest. Thus, the initial protest should include all matters that the party wishes the County to consider in deciding the protest outcome. Such matters include, but are not limited to, the following:
   (1) The name and address of the party and its relationship to the procurement.
   (2) Identification of the proposed project or contract.
   (3) Description of the nature of the protest.
   (4) Identification of the provision(s) of the solicitation, regulations, or laws upon which the protest is based (i.e., identification of the technical specifications or item of content in the IFB/RFP).
   (5) Copies of all (or any) documentation supporting the allegations in the protest.
   (6) Statement of the specific relief requested.

5. **Protest Submittal.** The best interests of the parties are served if the protest is (1) filed with the Contract Analyst, (2) filed in a timely fashion, and (3) filed in the format and detail described in Protest Format above. A contractor may also appear in person before the Board. The Board,

acting in the best interests of the County, may decide to continue with the award and acquisition subject to resolution of the protest.

6. **Protest Remedies.** A decision by the responsible official will be made based on the merits of the protest. A written response will be provided by the County and all findings and specified remedies will be considered final. The Board may suspend a contract upon a finding that the protest has merit and is based on solid legal principles.

7. **Authority for Administration of Protests.** The responsible official may assign Contract Analysts to conduct the administrative processing of protests filed with the County. Assigned Contract Analysts shall be responsible for proper distribution of protest submittals and responses, coordination of staff evaluation of the protest, compliance with the time limits stated herein, and maintenance of all documents related to the protest. The responsible official shall request County Counsel to review and advise the Contract Analyst concerning any legal issues involved in protests.

1.15 PERFORMANCE AND OTHER BONDS

a. The General Conditions and Supplementary Conditions set forth requirements as to performance bonds and other bonds. When the successful Bidder delivers the executed Agreement to the County, it shall be accompanied by the required contract security.

1.16 COMMUNITY BUSINESS ENTERPRISE (CBE) PARTICIPATION

a. The County encourages the participation of Community Business Enterprises (CBE) in the project and has established a goal of twenty-five percent (25%) CBE participation which all contractors must aspire to meet. Participation in the Work is based on total monetary value of the proposed subcontract. CBEs are defined as Minority/Women/Disadvantaged/Disabled Veteran/ Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning owned Business Enterprises (M/W/D/DVBE/LGBTQQ).

b. Bidders shall meet the established goal as indicated above. If the Bidder does not meet this established goal, Bidder shall document its good faith efforts to utilize CBEs. The Bidder shall submit the documentation of its good faith efforts to the County. County will evaluate the Bidder's good faith efforts to meet the CBE participation goal by the following criteria:

1. Bidder attended any pre-solicitation or pre-bid meetings scheduled by the County to inform all Bidders of the CBE program requirements for the Project.

2. Bidder identified and selected specific items of the Project for which the contract will be awarded to be performed by CBEs to provide an opportunity for participation by those enterprises.

3. Bidder advertised, not less than ten (10) calendar days before the date the bids are opened, in one or more daily or weekly newspaper trade association publications, minority- or trade-oriented publications, trade journals, or other media, specified by the local agency for CBEs that are interested in participating in the Project.

4. Bidder provided written notice of his or her interest in bidding on the contract to the CBEs required to be notified by the Project specifications not less than ten (10) calendar days prior to the opening of bids.

5. Bidder followed up initial solicitations of interest by contacting the enterprises to determine with certainty whether the enterprises were interested in performing specific items of the Project.

6. Bidder provided interested CBEs with information about the plans, specifications, and requirements for selected subcontracting or material supply work.

7. Bidder requested assistance from minority and women community organizations; minority and women contractor groups; local, state, or federal minority and women business assistance offices; or other organizations that provide assistance in the recruitment and placement of minority or women business enterprises, if any are available.

8. Bidder negotiated in good faith with the CBEs, and did not unjustifiably reject as unsatisfactory bids prepared by any CBE.

9. Where applicable, the Bidder advised and made efforts to assist interested CBEs in obtaining bonds, lines of credit, or insurance required by these Contract Documents.

10. Bidder's efforts to obtain CBE participation could reasonably be expected by the County to produce a level of participation sufficient to meet the goals and requirements of the County.

c. Bidder may request for a certified CBE listing via email the County of Los Angeles Office of Small Business at: osb@dcba.lacounty.gov

For additional information, contact the County of Los Angeles Department of Consumer and Business Affairs (Small Business Services). The website is: dcba.lacounty.gov. The County of Los Angeles Certification Portal from the Office of Small business is at the same website for firms seeking County certification. **Information on this program and how to obtain certification are available on the County of Los Angeles Department of Economic Opportunity website: Office of Small Business | LA County AJCC, CA https://www.ajcc.lacounty.gov/businesses/office-of-small-business.**

d. Contractors, material, and services and supplies vendors interested in becoming registered as certified minority or women business enterprises may contact the County of Los Angeles Countywide Contract Compliance Section, at (626) 943-5619.

e. The first, second, and third apparent lowest bidders are required to submit documentation which describes the Bidder's good faith efforts to utilize CBEs within the timeframe indicated in Article 1.11 Submittal of Bids, paragraph d.

1.17 BEST MANAGEMENT PRACTICE (BMP) REQUIREMENTS

a. Contractor shall comply with the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMP's) Manual, latest edition. A copy of the BMP Manual can be obtained at the Los Angeles County Department of Public Works Cashier's Office, 900 South Fremont Avenue, Alhambra, CA 91803, or call (626) 458-6959. Specific requirements for this Project are listed in Sections 00 03 10, 01 00 00, and 01 57 00.

b. Contractor shall use Construction and Demolition Debris Recycling Best Management Practices. Specific requirements are listed in Section 01 74 19. Copies of the Best Management Practices handbook are available at the Cashier's Office at the Department of Public Works at no cost to bidders.

1.18 RECYCLED BOND PAPER-CONTRACT LANGUAGE

Consistent with the Board of Supervisor's policy to reduce the amount of solid waste deposited at the County landfills, the Contractor agrees to use recycled content paper to the maximum extent possible on the project.

1.19 IMPROPER CONSIDERATIONS

a. Attempt to Secure Favorable Treatment

It is improper for any County officer, employee, or agent to solicit consideration, in any form, from a Bidder with the implication, suggestion or statement that the Bidder's provision of the consideration may secure more favorable treatment for the Bidder in the award of a Contract or that the

Bidder's failure to provide such consideration may negatively affect the County's consideration of the Bidder's submission. A Bidder must not offer or give either directly or through an intermediary, consideration, in any form, to a County officer, employee, or agent for the purpose of securing favorable treatment with respect to the award of a Contract.

b. Notification to County
A Bidder must immediately report any attempt by a County officer, employee, or agent to solicit such improper consideration. The report must be made to the Los Angeles County Fraud Hotline at (800) 544-6861 or https://fraud.lacounty.gov/. Failure to report such a solicitation may result in the Bidder's submission being eliminated from consideration.

c. Form of Improper Consideration
Among other items, such improper consideration may take the form of cash, discounts, services, the provision of travel or entertainment, or tangible gifts.

1.20 CONSIDERATION OF GAIN/GROW PROGRAM PARTICIPANTS FOR EMPLOYMENT

As a threshold requirement for consideration for contract award, Bidders/Proposers shall demonstrate a proven record of hiring the County's Department of Public Social Services' (DPSS) Greater Avenues for Independence (GAIN) or General Relief Opportunity for Work (GROW) participants or shall attest to a willingness to consider GAIN/GROW participants for any future employment opening if they meet the minimum qualifications for that opening. Additionally, Bidders/Proposers shall attest to a willingness to provide employed GAIN/GROW participants access to Bidders'/Proposers' employee mentoring program, if available, to assist these individuals in obtaining permanent employment and/or promotional opportunities.

The County will refer GAIN/GROW participants by job category to the Contractor. DPSS may be contacted at the following locations:

Central County	(323) 730-6452
East San Fernando Valley	(818) 729-8933
Palmdale-Lancaster	(661) 575-2646
Pomona	(909) 392-3071
San Gabriel Valley	(626) 927-2723
South County	(310) 603-8359
Southeast County	(323) 261-3065
West County	(310) 655-7725
West San Fernando Valley	(818) 718-4337

Bidders/Proposers who are unable to meet this requirement shall not be considered for contract award.

1.21 CHILD SUPPORT COMPLIANCE PROGRAM

Contractor is required to fully comply with all applicable state and federal reporting requirements relating to employment reporting for its employees. Contractor is required to fully comply with all lawfully served wage and earnings assignment orders and notices of assignment. Failure to comply with state and federal reporting requirements regarding employees, or failure to implement lawfully served wage and earnings assignment orders or notices of assignment, constitutes a default under the contract, and failure to cure the default within 90 days of notice by the County, shall subject the contract to termination. Failure to comply with these requirements may be cause for debarment.

1.22 FEDERAL EARNED INCOME CREDIT

Contractor shall notify its employees, and shall require each subcontractor to notify its employees, that they may be eligible for the Federal Earned Income Credit under the Federal income tax laws. Such notice shall be provided in accordance with the requirements set forth in Internal Revenue Service Notice 1015.

1.23 REDUCTION OF SOLID WASTE

Consistent with the Board of Supervisors' policy to reduce the amount of solid waste deposited at the County landfills, the Contractor agrees to use recycled-content paper to the maximum extent possible on the project.

1.24 INJURY AND ILLNESS PREVENTION PLAN (IIPP) AND CODE OF SAFE PRACTICES (CSP) AFFIDAVIT

The apparent low Bidder shall submit Section 00 04 91, INJURY and ILLNESS PREVENTION PLAN (IIPP) AND CODE OF SAFE PRACTICES (CSP) affidavit no later than seven (7) calendar days after the bid opening. The affidavit requires that the Bidder shall have an IIPP and a CSP which complies with Cal/OSHA Regulations, and that all subcontractors supplying employees to the jobsite will be required to prove to the Contractor that they have an IIPP and a CSP which complies with Cal/OSHA Regulations, and that their jobsite employees have been trained on IIPP and CSP.

Failure to submit this affidavit as required, may result in a determination that the apparent low Bidder is nonresponsive.

1.25 DETERMINATION OF BIDDER RESPONSIBILITY

a. A responsible Bidder is a Bidder who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity and experience to satisfactorily perform the contract. It is the County’s policy to conduct

business only with responsible consultants.

b. Bidders are hereby notified that, in accordance with Chapter 2.202 of the County Code, the County may determine whether the Bidder is responsible based on a review of the Bidder's performance on any contracts, including but not limited to County contracts. Particular attention will be given to violations of labor laws related to employee compensation and benefits, and evidence of false claims made by the Bidder against public entities. Labor law violations which are the fault of subcontractors and of which the Bidder had no knowledge shall not be the basis of a determination that the Bidder is not responsible.

c. The County may declare a Bidder to be non-responsible for purposes of this contract if the Board of Supervisors, in its discretion, finds that the Bidder has done any of the following: (1) violated a term of a contract with the County; (2) committed an act or omission which negatively reflects on the Bidder's quality, fitness or capacity to perform a contract with the County, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (3) integrity or business honesty; or (4) made or submitted a false claim against the County or any other public entity.

d. If there is evidence that the highest ranked Bidder may not be responsible, the Department shall notify the Bidder in writing of the evidence relating to the Bidder's responsibility, and its intention to recommend to the Board of Supervisors that the Bidder be found not responsible. The Department shall provide the Bidder and/or the Bidder's representative with an opportunity to present evidence as to why the Bidder should be found to be responsible and to rebut evidence which is the basis for the Department's recommendation.

e. If the Bidder presents evidence in rebuttal to the Department, the Department shall evaluate the merits of such evidence, and based on that evaluation, make a recommendation to the Board of Supervisors. The final decision concerning the responsibility of the Bidder shall reside with the Board of Supervisors.

f. The terms shall also apply to proposed subcontractors of Bidders on County contracts.

1.26 BIDDER DEBARMENT

a. The Bidder is hereby notified that, in accordance with Chapter 2.202 of the County Code, the County may debar the Bidder from proposing on, or being awarded, and/or performing work on other County contracts for a specified period of time, which generally will not exceed five years but may exceed five years or be permanent if warranted by the circumstances, and the County may terminate any or all of the Bidder's existing contracts with the County, if the Board of Supervisors finds, in it discretion, that the Bidder has done any of the following: (1) violated a term of a contract with the County or a nonprofit corporation created by the County; (2) committed an act or

omission which negatively reflects on the Bidder's quality, fitness or capacity to perform a contract with the County, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (3) committed an act or offense which indicates a lack of business integrity or business honesty; or (4) made or submitted a false claim against the County or any other public entity.

b. If there is evidence that the highest ranked Bidder may be subject to debarment, the Department shall notify the Bidder in writing of the evidence which is the basis for the proposed debarment, and shall advise the Bidder of the scheduled date for a debarment hearing before the Contractor Hearing Board.

c. The Contractor Hearing Board shall conduct a hearing where evidence on the proposed debarment is presented. The Bidder and/or the Bidder's representative shall be given an opportunity to submit evidence at that hearing. After the hearing, the Contractor Hearing Board shall prepare a tentative proposed decision, which shall contain a recommendation regarding whether the Bidder should be debarred, and, if so, the appropriate length of time of the debarment. The Bidder and the Department shall be provided an opportunity to object to the tentative proposed decision prior to its presentation to the Board of Supervisors.

d. After consideration of any objections, or if no objections are received, a record of the hearing, the proposed decision and any other recommendation of the Contractor Hearing Board shall be presented to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny or adopt the proposed decision and recommendation of the Contractor Hearing Board.

e. If a Bidder has been debarred for a period longer than five years, that Bidder may, after the debarment has been in effect for at least five years; submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The County may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Bidder has adequately demonstrated one or more of the following: (1) elimination of the grounds for which the debarment was imposed; (2) a bona fide change in ownership or management; (3) material evidence discovered after debarment was imposed; or (4) any other reason that is in the best interests of the County.

f. The Contractor Hearing Board will consider requests for review of a debarment determination only where (1) the Bidder has been debarred for a period longer than five years; (2) the debarment has been in effect for at least five years; and (3) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment, and includes supporting documentation. Upon receiving an appropriate request, the Contractor Hearing Board will provide notice of the hearing on the request. After the hearing, the Contractor Hearing Board shall conduct a

hearing where evidence on the proposed reduction of debarment period or termination of debarment is presented. This hearing shall be conducted and the request for review decided by the Contractor Hearing Board pursuant to the same procedures as for a debarment hearing.

The Contractor Hearing Board's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment. The Contractor Hearing Board shall present its proposed decision and recommendation to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board.

g. These terms shall also apply to proposed subcontractors of Bidders on County contracts.

1.27 CONTRACTOR EMPLOYEE JURY SERVICE PROGRAM

The prospective contract is subject to provisions of the County's ordinance entitled Contractor Employee Jury Service ("Jury Service Program") as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.

a. Unless Contractor has demonstrated to the County's satisfaction either that Contractor is not a "Contractor" as defined under the Jury Service Program (Section 2.203.020 of the County Code) or that Contractor qualifies for an exception to the Jury Service Program (Section 2.203.070 of the County Code), Contractor shall have and adhere to a written policy that provides that its Employees shall receive from the Contractor, on an annual basis, no less than five days of regular pay for actual jury service. The policy may provide that Employees deposit any fees received for such jury service with the Contractor or that the Contractor deduct from the Employee's regular pay the fees received for jury service.

b. For purposes of this Section, "Contractor" means a person, partnership, corporation or other entity which has a contract with the County or a subcontract with a County contractor and has received or will receive an aggregate sum of $50,000 or more in any 12-month period under one or more County contracts or subcontracts. "Employee" means any California resident who is a full-time employee of Contractor. "Full time" means 40 hours or more worked per week, or a lesser number of hours if the lesser number is a recognized industry standard and is approved as such by the County. If Contractor uses any subcontractor to perform services for the County under the Contract, the subcontractor shall also be subject to the provisions of this Section. The provisions of this Section shall be inserted into any such subcontract agreement and a copy of the Jury Service Program shall be attached to the agreement.

c. If a contractor does not fall within the Jury Service Program's definition of "Contractor" or if it meets any of the exceptions to the Jury Service Program, then the contractor must so indicate in the Certification Form and Application for Exception and include with its submission all necessary documentation to support the claim such as tax returns or a collective bargaining agreement, if applicable. Upon reviewing the contractor's application, the County will determine, in its sole discretion, whether the contractor falls within the definition of Contractor or meets any of the exceptions to the Jury Service Program. The County's decision will be final.

d. If a contractor is not required to comply with the Jury Service Program when the contract commences, the contractor will have a continuing obligation to review the applicability of its "exception status" from the Jury Service Program, and the contractor must immediately notify the County if the contractor at any time either comes within the Jury Service Program's definition of "contractor" or if the contractor no longer qualifies for an exception to the Program. In either event, the contractor must immediately implement a written policy consistent with the Jury Service Program. The County may also require, at any time during the contract and at its sole discretion, that a contractor demonstrate to the County's satisfaction that the contractor either continues to remain outside the Jury Service Program's definition of "Contractor" and/or the contractor continues to qualify for an exception to the Program.

e. If a contractor uses a subcontractor to perform services for the County under the contract, the subcontractor shall also be subject to the provisions of the Jury Service Program, unless the subcontractor 1) does not fall within the definition of "contractor" or 2) meets one of the exceptions to the Jury Service Program. The provisions of the Jury Service Program must be inserted into any applicable agreement and a copy of the Jury Service Program shall be attached to the agreement.

f. A contractor's violation of the Jury Service Program may constitute a material breach of the contract. In the event of such material breach, County may, in its sole discretion, terminate the contract and/or bar a contractor from the award of future County contracts for a period of time consistent with the seriousness of the breach.

1.28 VENDOR REGISTRATION WITH THE COUNTY OF LOS ANGELES

All potential bidders/proposers with the County of Los Angeles are required to register in WebVen and have a valid vendor number assigned to them. The vendor number is required by the Auditor-Controller and is necessary for any payments to be made to a contractor who is awarded a County project. Vendor registration can be done online at http://camisvr.co.la.ca.us/webven or calling the County's Internal Service Department Central Purchasing Vendor Relations Unit at (323) 267-2650. If you are awarded a contract and you do not have a valid vendor number, your payments will be delayed until you are registered.

1.29 NO PAYMENT FOR SERVICES PROVIDED FOLLOWING EXPIRATION/TERMINATION OF AGREEMENT

Contractor shall have no claim against County for payment for any money or reimbursement, of any kind whatsoever, for any service provided by Contractor after the expiration or other termination of this Agreement. Should Contractor receive any such payment it shall immediately notify County and shall immediately repay all such funds to County. Payment by County for services rendered after expiration/termination of this Agreement shall not constitute a waiver of County's right to recover such payment from Contractor. This provision shall survive the expiration or other termination of this Agreement.

1.30 COUNTY'S PREFERENCE PROGRAM: LOCAL SMALL BUSINESS ENTERPRISE

Overview of County's Preference Program

The County of Los Angeles has The Local Small Business Enterprise (LSBE) preference program. The Board of Supervisors encourages business participation in the County's contracting process by continually streamlining and simplifying our selection process and expanding opportunities for these businesses to compete for County opportunities.

The LSBE Preference Program requires that a business must complete County of Los Angeles certification prior to requesting a preference in a solicitation. This program and how to obtain certification are further explained in this solicitation.

The maximum percentage of a LSBE Preference Program preference shall be 7 percent of the lowest responsible bidder meeting specifications and the maximum financial value shall be one hundred fifty thousand dollars ($150,000) for any bid.

Sanctions and financial penalties may apply to a business that knowingly, and with intent to defraud, seeks to obtain or maintain certification as a certified LSBE when not qualified.

a. **Local Small Business Enterprise (LSBE) Preference Program**

The County will give LSBE preference during the solicitation process to businesses that meet the definition of a LSBE, consistent with Chapter 2.204.030C.1 of the Los Angeles County Code. An LSBE is defined as a business: 1) certified by the State of California as a small business and has had its principal place of business located in Los Angeles County for at least one year; or 2) certified as a small business enterprise with other certifying agencies pursuant to the Department of Consumer and Business Affair's (DCBA) inclusion policy that: a) has its principal place of business located in Los Angeles County, and b) has revenues and employee sizes that meet the State's Department of General Services requirements. **The business must be certified by the Department of Economic Opportunity as meeting the requirements set forth above prior to requesting the LSBE Preference in a solicitation.**

To apply for certification as an LSBE, businesses should contact the County of Los Angeles Department of Economic Opportunity at http://opportunity.lacounty.gov

Certified LSBEs may only request the preference if the certification process has been completed and certification is affirmed. Businesses must complete and submit Section 00 04 38 Request for Preference Consideration Form and submit a letter of certification from the County of Los Angeles Department of Economic Opportunity (DEO) with their proposal. As shown on the County DCBA letter, the certification must be valid as of the bid due date.

Information about the State's small business enterprise certification regulations is in the California Code of Regulations, Title 2, Subchapter 8, Section 1896 et seq., and is also available on the California Department of General Services Office of Small Business Certification and Resources Web site at http://www.pd.dgs.ca.gov/smbus/default.

b. Should one or more of the Bidders request and be granted the Local Small Business Enterprise (LSBE) Preference, the bid amount shall be adjusted as follows:

Local Small Business Enterprise (LSBE) Preference: Seven percent of the lowest bid amount will be calculated, which shall not exceed $150,000, and that amount will be deducted from the bid amounts submitted by all LSBE bidders who requested and were granted the LSBE Preference.

The contract award will be the bidder's original bid price, not the price with preference(s) that is used for evaluation purposes.

Preference Program Enterprises (PPEs) - Prompt Payment Program
It is the intent of the County that Certified Preference Program Enterprises (PPEs) receive prompt payment for services they provide to County Departments. Prompt payment is defined as fifteen (15) calendar days after receipt of an approved, undisputed invoice which has been properly matched against documents such as a receiving, shipping, or services delivered report, or any other validation of receipt document consistent with Board Policy 3.035 (Preference Program Payment Liaison and Prompt Payment Program).

1.31 NOTICE TO EMPLOYEES REGARDING THE SAFELY SURRENDERED BABY LAW

The Contractor shall notify and provide to its employees, and shall require each subcontractor to notify and provide to its employees, a fact sheet regarding the Safely Surrendered Baby Law, its implementation in Los Angeles County, and how to safely surrender a baby. The fact sheet is available on the Internet at www.babysafela.org for printing purposes.

The Contractor acknowledges that the County places a high priority on the implementation of the Safely Surrendered Baby Law. The Contractor understands that it is the County's policy to encourage all County Contractors to voluntarily post the County's "Safely Surrendered Baby Law" poster in a prominent position at the Contractor's place of business. The County's Department of Children and Family Services will supply the Contractor with the poster to be used.

1.32 REQUIRED CERTIFICATION/DISCLOSURE

Bids must provide full disclosure on violations and civil/criminal legal actions as provided for on the bidding requirement forms Sections 00 04 70, 00 04 71, 00 04 72, 00 04 73, and 00 04 74. Failure to complete these forms may result in a determination that the Bidder is nonresponsive and/or not responsible.

1.33 NOTIFICATION TO COUNTY OF PENDING ACQUISITIONS/MERGERS BY BIDDING COMPANY

The Bidder shall notify the County of any pending acquisitions/mergers of its company unless otherwise legally prohibited from doing so. If the Bidder is restricted from legally notifying the County of pending acquisitions/mergers, then it should notify the County of the actual acquisitions/mergers as soon as the law allows and provide to the County the legal framework that restricted it from notifying the County prior to the actual acquisitions/mergers. This information shall be provided by the Bidder on Section 00 04 92 - Bidder's Organization Questionnaire/Affidavit. Failure of the Bidder to provide this information may eliminate its bid from any further consideration. Bidder shall have a continuing obligation to notify the County and update any changes to its response in Section 00 04 92 - Bidder's Organization Questionnaire/Affidavit during the solicitation.

1.34 COUNTY'S DEFAULTED PROPERTY TAX REDUCTION PROGRAM

The prospective contract is subject to the requirements of the County's Defaulted Property Tax Reduction Program (Los Angeles County Code, Chapter 2.206). Prospective contractors should carefully read the Defaulted Tax Program Ordinance and the pertinent provisions of the sample contract which are incorporated by reference into and made a part of this solicitation. The Defaulted Tax Program applies to both contractors and their subcontractors.

Bidders/proposers shall be required to certify that they are in full compliance with the provisions of the Defaulted Tax Program and shall maintain compliance during the term of any contract that may be awarded pursuant to this solicitation or shall certify that they are exempt from the Defaulted Tax Program by completing Certification of Compliance with the County's Defaulted Property Tax Reduction Program required forms. Failure to maintain compliance, or to timely cure defects, may be cause for termination of a contract or initiation or debarment proceedings against the non-compliant contractor (Los Angeles County Code, Chapter 2.202).

Bids/proposals that fail to comply with the certification requirements of the Defaulted Tax Program will be considered non-responsive and excluded from further consideration.

1.36 LOCAL AND TARGETED WORKER HIRE PROGRAM

A. The County of Los Angeles has implemented a Local and Targeted Worker Hire Policy (LTWHP) to facilitate the hiring of Local and Targeted workers. Pursuant to this policy, this project has a best efforts goal of at least 30 percent of total California Construction Labor Hours worked on this project be performed by qualified Local Residents. There is no Targeted Worker hiring requirement.

B. A Local Resident is defined as an individual living within the Tier 1 or Tier 2 ZIP Codes of the County. Before employing worker(s) from Tier 2 ZIP Codes, the available pool of local residents whose primary place of residence is within Tier 1 ZIP Codes must first be exhausted. Tier 1 means ZIP Codes within five (5) miles of the proposed project site, and where the average percentage of households living below 200 percent of the Federal Poverty Level (FPL) is greater than the County average for such households. Tier 2 means any ZIP Codes within the County where the average percentage of households living below 200 percent of the FPL is greater than the County average for such households. This definition shall also apply to affordable housing projects and for privately financed developments located on County property.

C. Contractor shall comply with the provisions required for the Local and Targeted Hire Program as outlined in Section 00 19 12 of the Project Manual.

1.37 Contractor CARD Track/Monitoring Database

The County maintains the Contractor Alert Reporting Database (CARD), which is used to track/monitor poorly performing contractors. When a County department identifies a significant performance/non-compliance issue(s) with a contractor, the department will provide notice to the contractor and will give the contractor an opportunity to correct the issue(s). If the contractor does not take any appropriate steps to correct the issue(s), the County department will enter the contractor, along with any other relevant information pertaining to the contractor's performance issue(s), into CARD.

The information entered into CARD can be accessed by all County departments, and will be used, along with any other relevant information not included in CARD, in determining bidder responsibility. If a department reviews this information and determines that a finding of non-responsibility should be pursued, the department will adhere to the guidelines specified in the Los Angeles County Code Chapter 2.202, and the County's Implementation Procedures for Determinations of Contractor Non-Responsibility and Contractor Debarment.

1.38 Time Off for Voting

The Contractor shall notify its employees, and shall require each subcontractor to notify and provide to its employees, information regarding the time off for voting law (Elections Code Section 14000). Not less than 10 days before every statewide election, every Contractor and subcontractors shall keep posted conspicuously at the place of work, if practicable, or elsewhere where it can be seen as employees come or go to their place of work, a notice setting forth the provisions of Section 14000.

1.39 ADDITIONAL BIDDER REQUIREMENTS

a. **A pre-bid conference** and site visitation will be **held on June 18, 2026, at 10AM ,** at the project site to provide information regarding the project, bidding process and answer questions that potential bidders may have. Interested parties are requested to meet promptly at **750 Santa Anita Ave., South El Monte, CA 91733**. Attendance is strongly encouraged but not mandatory.

b. Reference Appendix A for Soils Reports, Appendix B for Construction and Topographic Maps, Appendix C for Approval Letters and Geologic and Geotechnical Engineering Review Sheet

1.40 PUBLIC WORKS CONTRACTOR REGISTRATION PROGRAM

a. This project is a public work as defined in Section 1720 of the California Labor Code, and subject to compliance monitoring and enforcement by the Department of Industrial Relations (DIR).

b. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to requirements of Section 4104 of the California Public Contract Code, or engage in the performance of any contract for public works, unless currently registered with the Department of Industrial Relations and qualified to perform public work pursuant to California Labor Code Section 1725.5.

c. The County shall not accept any bid nor award any contract without proof of the contractor and subcontractor's current registration to perform the project. A copy of the confirmed registration from the Department of Industrial Relations website (https://services.dir.ca.gov/gsp) must be attached in applicable part of the bid package. The bid submitted by an unregistered contractor shall be basis for considering the bid non-responsive [with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1].

d. An inadvertent error in listing an unregistered subcontractor pursuant to Labor Code Section 1725.5 in a bid proposal shall be grounds for considering the bid non-responsive, unless:

(1) The subcontractor is registered prior to the bid opening.

(2) Within 24 hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.

(3) The subcontractor is replaced by another registered subcontractor pursuant to Section 4107 of the Public Contract Code.

e. All contractors and subcontractors must furnish certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement) in a format prescribed by the Labor Commission.

f. The prime contractor is required to post job site notices prescribed below:

8 Calif. Code Reg. §16451(d):

"This public works project is subject to monitoring and investigative activities by the Compliance Monitoring Unit (CMU) of the Division of Labor Standards Enforcement, Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and

to all contractors and other persons having access to the job site to enable the CMU to ensure compliance with and enforcement of prevailing wage laws on public works projects.

"The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the CMU at any office of the Division of Labor Standards Enforcement (DLSE).

Local Office Telephone Number:

Division of Labor Standards Enforcement Office
320 W. Fourth Street, Suite 450
Los Angeles, CA 90013
(213) 620-6330

"Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the CMU may take legal action against those responsible.

"Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.

"For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at http://www.dir.ca.gov/Public-Works/PublicWorks.html."

g. In addition, electronic certified payroll records must be submitted to the County through an online system designated by the County when requested by County.

1.41 MENTAL HEALTH SERVICES FOR CRITICAL INCIDENTS

In the event of a serious accident on the Project site, the Los Angeles County Department of Mental Health (DMH) will, if requested, respond. The response may be within a few hours or as long as a few days after the incident, depending on when the request was made. The services DMH will provide include crisis intervention, normalization of the stress response that survivors may be experiencing, stress management techniques and resources if the stress reactions

increase in frequency or intensity. Requests for services may be made by calling the DMH Emergency Outreach Bureau Deputy Director, (213) 738-4924, during normal business hours or the ACCESS Center, (800) 854-7771, evenings, holidays, and weekends.

1.42 CONTRACTOR INDEPENDENCE/PROHIBITION FROM PARTICIPATION IN FUTURE SOLICITATION(S)

In accordance with Board Policy No. 5.090, Contractor Independence,
The County Board of Supervisors has adopted a countywide policy that prohibits any person, or any firm or any subsidiary of a firm (collectively "firm") from submitting a bid or proposal in any County solicitation process where the person or firm, assisted in the development of the solicitation document(s).

A Bidder/Proposer, or a Contractor or its subsidiary or Subcontractor ("Bidder/Proposer/Contractor"), is prohibited from submitting a bid or proposal in a County solicitation if the Bidder/Proposer/Contractor has provided advice or consultation for the solicitation. A Bidder/Proposer/Contractor is also prohibited from submitting a bid or proposal in a County solicitation if the Bidder/Proposer/Contractor has developed or prepared any of the solicitation materials on behalf of the County. A violation of this provision will result in the disqualification of the Bidder/Contractor/Proposer from participation in the County solicitation or the termination or cancellation of any resultant County contract.

1.43 Background and Security Investigations

Background and security investigations of Contractor's staff may be required at the discretion of the County as a condition of beginning and continuing work under any resulting Contract. The cost of background checks is the responsibility of the Contractor.

1.44 LOCAL SMALL BUSINESS ENTERPRISE/SOCIAL ENTERPRISE/DISABLED VETERANS BUSINESS ENTERPRISE UTILIZATION

Local Small Business Enterprise means a business that is certified by the County of Los Angeles as a Local Small Business Enterprise (Local SBE), consistent with Chapter 2.204 of the Los Angeles County Code.

1. When requested by the County, the contractor shall provide to the County via methods specified by the County, such as submission of electronic live (or dynamic) data on invoices for the prime and all subcontractors using County-designated third party software system or to a County approved website, or other means of submitting expenditure information on subcontractors, including but not limited to the following information: the name, business address, California Contractor License number and telephone number/email address of each subcontractor who will perform work or labor for the contractor on the Project in an amount in excess of one-half of 1 percent of the contractor's total bid. In addition, the contractor shall be required to provide each of the specified subcontractors' Local SBE

status (i.e., whether any of the listed subcontractors are Local SBE's), Social Enterprise (SE) status, and Disabled Veterans Business Enterprise status, and the proposed monetary amount of the work the subcontractor will perform on the Project. In addition, at the time of submittal of the final invoice, the contractor shall indicate, via methods specified by the County, the actual dollar amounts paid to each listed subcontractor who performed work on the project.

2. Contractor's failure to comply with the provisions of this Article is a material breach of the Agreement. The parties agree that it will be impracticable or extremely difficult to fix the extent of actual damages resulting from the failure to the Contractor to comply with this Article. The parties agree that under the current circumstances a reasonable estimate of such damages is specified in the Schedule for Liquidated Damages for Local Small Business Enterprise Utilization hereunder, and that the Contractor shall be liable to the County for said amounts.

   If in the judgment of the Director, or his/her designee, the Contractor is deemed to be in non-compliance with the terms and obligations assumed hereby, the Director or his/her designee, at his/her option, in addition to, or in lieu of, other remedies provided herein in this Agreement, may deduct and withhold liquidated damages from County's final payment to the Contractor as follows:

SCHEDULE FOR LIQUIDATED DAMAGES FOR LOCAL SMALL BUSINESS ENTERPRISE/SOCIAL ENTERPRISE/DISABLED VETERANS BUSINESS ENTERPRISE UTILIZATION

Final Invoice Price	Liquidated Damages
Up to $100,000	$50.00 plus 0.1% of contract amount
$100,001 to $500,000	$150.00 plus 0.07% of all over $100,000
Over $500,000	$430.00 plus 0.05% of all over $500,000

1.45 Proposer's Acknowledgement of County's Commitment to Zero Tolerance Human Trafficking

On October 4, 2016, the Los Angeles County Board of Supervisors approved a motion taking significant steps to protect victims of human trafficking by establishing a zero tolerance human trafficking policy. The policy prohibits contractors engaged in human trafficking from receiving contract awards or performing services under a County contract.

Contractors are required to complete 00 04 98 Zero Tolerance Human Trafficking Policy Certification, certifying that they are in full compliance with the County's Commitment to Zero Tolerance Human Trafficking provision as

defined in "Compliance with County's Zero Tolerance Human Trafficking" in the Agreement. Further, contractors are required to comply with the requirements under said provision for the term of any contract awarded pursuant to this solicitation.

1.46 Claims

Notwithstanding Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, Section 9204 of the Public Contract Code shall apply to any claim by the Contractor in connection with the Project.

a) Upon receipt of a claim pursuant to Section 9204 of the Public Contract Code, the County will conduct a reasonable review of the claim and, within a period not to exceed 45 Days, provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, the Contractor and the County may, by mutual agreement, extend the aforementioned time period.

b) The Contractor shall furnish reasonable documentation to support the claim.

c) If Board approval is needed to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the Board does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the County will have up to 3 Days following the next duly publicly noticed meeting of the Board after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

d) Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. If the County fails to issue a written statement, paragraph (j) shall apply.

e) If the Contractor disputes the County's written response, or if the County fails to respond to a claim issued pursuant to Section 9204 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the County will schedule a meet and confer conference within 30 Days for settlement of the dispute.

f) Within 10 business days (Monday-Thursday) following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the County will provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. Any disputed portion of the claim, as identified by the Contractor in

writing, shall be submitted to nonbinding mediation, with the County and the Contractor sharing the associated costs equally. The County and the Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside those established in Section 9204.

g) Mediation shall include any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in Section 9204.

h) Unless otherwise agreed to by the County and the Contractor in writing, the mediation conducted pursuant to Section 9204 shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

i) Section 9204 does not preclude the County from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under Section 9204 does not resolve the parties' dispute.

j) Failure by the County to respond to a claim from the Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of Section 9204 shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the County's failure to have responded to a claim, or its failure to otherwise meet the time requirements of Section 9204, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

k) Amounts not paid in a timely manner as required by Section 9204 will bear interest at 7 percent per annum.

l) If a Subcontractor or a lower tier Subcontractor lacks legal standing to assert a claim against the County because privity of the Contract does not exist, the Contractor may present to the County a claim on behalf of a Subcontractor or lower tier Subcontractor. A Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the claim be presented to the County shall furnish reasonable documentation to support the claim. Within 45 Days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the County and, if the original Contractor

did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.

m) A waiver of the rights granted by Section 9204 is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the Contractor and the County may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the County may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of Section 9204, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in Section 9204.

1.47 Proposer's Acknowledgement of County's Commitment to Fair Chance Employment Hiring Practices

On May 29, 2018, the Los Angeles County Board of Supervisors approved a Fair Chance Employment Policy in an effort to remove job barriers for individuals with criminal records. The policy requires businesses that contract with the County to comply with fair chance employment hiring practices set forth in California Government Code Section 12952, Employment Discrimination: Conviction History (Section 12952).

Contractors are required to complete Compliance with Fair Chance Employment Hiring Practices Certification (Required Forms), certifying that they are in full compliance with Section 12952, as indicated in the Sample Contract. Further, contractors are required to comply with the requirements under Section 12952 for the term of any contract awarded pursuant to this solicitation.

1.48 Default Method of Payment: Direct Deposit or Electronic Funds Transfer (EFT)

The County, at its sole discretion, has determined that the most efficient and secure default form of payment for goods and/or services provided under an agreement/contract with the County shall be Electronic Funds Transfer (EFT) or direct deposit, unless an alternative method of payment is deemed appropriate by the Auditor-Controller (A-C).

Upon contract award or at the request of the A-C and/or the contracting department, the Contractor shall submit a direct deposit authorization request with banking and vendor information, and any other information that the A-C determines is reasonably necessary to process the payment and comply with all accounting, record keeping, and tax reporting requirements.

Any provision of law, grant, or funding agreement requiring a specific form or method of payment other than EFT or direct deposit shall supersede this requirement with respect to those payments.

Upon contract award or at any time during the duration of the agreement/contract, a Contractor may submit a written request for an exemption

to this requirement. The A-C, in consultation with the contracting department(s), shall decide whether to approve exemption requests.

1.49 Disallowed Cost

If Proposer's compliance with a County contract has been reviewed by the Department of the Auditor-Controller within the last 10 years, Proposer must not have unresolved questioned costs identified by the Auditor-Controller, in an amount over $100,000.00, that are confirmed to be disallowed costs by the contracting County department, and remain unpaid for six months or more from the date of disallowance, unless such disallowed costs are the subject of current good faith negotiations to resolve the disallowed costs, in the opinion of the County.

1.50 Compliance with the County Policy of Equity

The consultant acknowledges that the County takes its commitment to preserving the dignity and professionalism of the workplace very seriously, as set forth in the County Policy of Equity (CPOE) (https://ceop.lacounty.gov/). The consultant further acknowledges that the County strives to provide a workplace free from discrimination, harassment, retaliation and inappropriate conduct based on a protected characteristic, and which may violate the CPOE. The consultant, its employees and subconsultants acknowledge and certify receipt and understanding of the CPOE. Failure of the consultant, its employees or its subconsultants to uphold the County's expectations of a workplace free from harassment and discrimination, including inappropriate conduct based on a protected characteristic, may subject the consultant to termination of contractual agreements as well as civil liability.

1.51 Integrated Pest Management (IPM) Program Compliance

1.51.1 The County of Los Angeles is a permittee to a National Pollutant Discharge Elimination System Permit (NPDES Permit) issued by the Los Angeles Regional Water Quality Control Board to reduce or eliminate pollutants moved into surface water through storm water management systems and facilities. One of the conditions of the NPDES Permit is the implementation of an Integrated Pest Management Program (IPM Program) crafted to reduce the impact of pesticides and fertilizers to surface water.

1.51.2 The prospective contract is subject to the requirements of the County's IPM Program. Two main components of the Program include a training component for contractor employees who apply pesticides on County owned or maintained property, as well as monthly and annual reporting to the Los Angeles County Department of Agricultural Commissioner/ Weights and Measures (ACWM).

1.51.3 Proposers are required to complete Integrated Pest Management Program Compliance Certification in Required Forms, acknowledging

and certifying compliance with the County's Integrated Pest Management Program, Compliance with County's Integrated Pest Management Program in Sample Contract. Further, contractors are required to comply with the requirements under said provision for the term of any contract awarded pursuant to this solicitation.

1.52 COVID-19 Vaccinations of County Contractor Personnel

When applicable and required by the County, the Contractor shall comply with all other applicable local, departmental, State, and federal laws, regulations, and requirements for COVID-19.

1.53 Contractor Development and Bonding Program

Contractor Development and Bonding Program (CDABP) - Administered by the Chief Executive Office of the County of Los Angeles for all County Construction Contracting Departments. The CDABP provides a broad range of contractor technical assistance, training, and support in qualifying for bonds, as well as contract financing for County awarded contracts. CDABP assistance is available to prime and subcontractors. The CDABP is a County funded resource designed to reduce the barriers to small and diverse firms seeking to bid and contract on County projects. For information on the CDABP, please contact Contract Analyst.

1.54 Contribution and Agent Declaration

Government Code Section 84308 requires a party to a contract proceeding to disclose any contribution of more than $250 made to a County officer within the preceding twelve (12) months by the party or their agent. State regulations require this disclosure to be made at the time an application is filed, and, if a contribution is made during the contract proceeding, within 30 days of making a contribution or on the date on which the party first appears before or communicates with the agency regarding the proceeding after making the contribution, whichever is earliest. All Bidders are advised that they and all of their Subcontractors must complete and return as part of the bid, the **Contribution and Agent Declaration Form**. Bidders are further advised that they and their Subcontractors must update the Contribution and Agent Declaration Form throughout the pendency of the solicitation if a contribution is made after the initial disclosure when the proposal is submitted, and as requested at any time by the County prior to contract award. Failure by the Bidder or any Subcontractor(s) to complete and submit the required **Contribution and Agent Declaration Form**, and failure by the Bidder or any Subcontractor(s) to update the declaration as required by law or as otherwise requested by the County, may eliminate the proposal from further consideration and/or the Proposer may be disqualified from a contract award, as determined in the County's sole discretion. Further, all Bidders and their Subcontractors are prohibited under Government Code Section 84308 from making a contribution of more than $250 to a County officer for twelve

(12) months after the date a final decision is made in the contract proceeding involving this solicitation.

1.55 Additional Bidder Requirements

A. Whittier Narrows Splash Pad – REBID – Soils Report Dated 04/01/22 (Appendix A)

B. Whittier Narrows Splash Pad – REBID – Soils Report Letter Dated 12/08/23 (Appendix A)

C. Whittier Narrows Splash Pad – REBID Soils Report Letter Dated 0/10/25 (Appendix A)

D. Whittier Narrows Splash Pad – REBID – Construction Plans Dated 10/23/25 (Appendix B)

E. Whittier Narrows Splash Pad – REBID – Structural Calculations Dated 10/24/24 (Appendix B)

F. Whittier Narrow Splash PAD – REBID – Equipment Cut Sheets (Appendix B)

G. Whittier Narrow Splash Pad – REBID – Section 106 Consultation Dated 04/22/24 (Appendix C)

H. Whittier Narrow Splash Pad – REBID – Letter of No Objection Dated 08/21/25 (Appendix C)

I. Whittier Narrows Splash Pad – REBID – Geologic and Geotechnical Engineering Review Sheet Dated 10/23/25 (Appendix C)

J. Whittier Narrow Splash Pad – REBID – Official Plan Review Report Dated 11/04/25 (Appendix C)

K. Whittier Narrows Recreation Area Existing Irrigation As-Builts (Appendix D)

L. Whittier Narrows Recreation Area Splash Pad Plans – Public Health Approval (Appendix D)

These documents will be included as part of the Contract Documents.

Americans with Disabilities Act (ADA) Information



Individuals requiring reasonable accommodations may request written materials in alternate formats, physical accessibility accommodations, sign language interpreters or other reasonable accommodations by contacting our departmental Americans with Disabilities Act Coordinator at (626) 458-7337, from 7:30 a.m. to 5:00 p.m., Monday through Thursday (excluding holidays). Persons who are hearing impaired may make contact by first dialing the California Relay Service at 7-1-1. Requests should be made at least one

week in advance to ensure availability. When making a reasonable accommodation request, please reference Business Relations and Contracts Division **[BRC-2]**.

* * *

_____ _____

Name of Bidder (Firm Name) Vendor Identification Number

SECTION 00 03 00

FORM OF BID TO BE USED BY BIDDERS

The undersigned proposes to furnish all materials, labor, and equipment required for the construction to complete the Whittier Narrows Recreation Area Splash Pad Project - REBID, in accordance with Drawings and Specifications 7835, including addenda thereto, if any, adopted by the Board of Supervisors, and on file in the office of the Board of Supervisors, as follows:

The lowest bid price shall be determined by adding the following items: Lump Sum Bid in Words (1) + [Extended Overhead Daily Rate (2) x Multiplied by 30 days] = Total Lump Sum Bid. Preference as stated in Section 00 01 00, 1.30, will be applied to the Total Lump Sum Bid, if applicable, to determine the final total bid amount.

1. LUMP SUM BID:

The lump sum bid for the work, including Best Management Practices (BMP) and Construction and Demolition Debris Recycling, requirements complete according to the Drawings and Specifications, will be:

($_____) (_____)

Lump sum bid in figures Lump sum bid in words

2. EXTENDED OVERHEAD DAILY RATE:

The daily rate for the sum of the Contractor's field office and home office overhead applicable to this project, for each day of compensable delay will be:

($_____) (_____)

Daily rate in figures Daily rate in words

3. COUNTY PROGRAM PREFERENCE:

The Local Small Business Enterprise Program Preference is provided by the County for purposes of bid evaluation only, as specified in Article 1.30 of Section 00 01 00. If Bidder is a qualifying Local Small Business Enterprise, check "yes" in the box

below. Section 00 04 38 Request for County Program Preference Consideration must be submitted at the time of bid with a copy of the certification letter issued by the County of Los Angeles Department of Consumer and Business Affairs. If non-qualifying, check "no" in the appropriate box.

LSBE Certification for Non-Federally Funded County Solicitations

Yes ☐ No ☐

NOTE: Any alteration or addition to the Form of Bid may invalidate same. All blank spaces shall be filled out completely. Line out nonapplicable blanks. An incomplete form may invalidate bid. The County reserves the right to waive any informalities or to reject any or all bids or to accept any alternatives when called for.

I (We) certify that on _____, 20____, License No. _____, license classification(s) _____, was issued to me (us), in the name of _____, by the Contractors' State License Board, pursuant to California Statutes of 1929, as amended, and that said license has not been revoked.

Firm Ownership Information
Check where applicable:

1. ( ) Minority-Owned
   ( ) Woman-Owned
   ( ) Disadvantaged-Owned
   ( ) Disabled Veteran-Owned
   ( ) LGBTQQ-Owned

2. ( ) An individual
   ( ) A corporation. Name state or territory of Incorporation
   _____
   ( ) A copartnership
   ( ) A joint venture

Race/Ethnic Composition
For statistical purposes only.

( ) Black/African American
( ) Hispanic/Latino
( ) Asian or Pacific Islander
( ) Native Americans
( ) Subcontinent Asian
( ) White

If a copartnership or joint venture, list names of individuals comprising same below

_____
_____
_____

Date signed _____, 20_____

Place _____
City and State

Respectfully submitted,

_____
Firm Name (if applicable)

Bidder's address, E-mail address, and telephone:

_____
Number and Street

_____
City and State Zip Code

_____
Telephone

_____
Fax

_____
Signature and Print Name

_____
Title and E-mail Address

_____
Signature and Print Name

_____
Title and E-mail Address

SECTION 00 03 10

BEST MANAGEMENT PRACTICES (BMP) REQUIREMENTS

Best Management Practices (BMPs) shall be defined as any program, technology, process, siting criteria, operating method, measure or device which controls, prevents, removes, or reduces Storm Water pollution. The Contractor shall comply with the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMP's) Manual, latest edition.

BMPs for contractor activities shall be continuously implemented throughout the year. BMPs for erosion and sediment control shall be implemented as required in Section 01 57 00. BMPs for erosion and sediment control shall also be implemented prior to the commencement of any contractor activity or construction operation.

The County, as a permittee, is subject to enforcement actions by the State Water Resources Control Board, Environmental Protection Agency, and private citizens. The County will assess the Contractor a penalty of $1,000 for each calendar day that the Contractor has not fully implemented the BMPs specified for the Contract and/or is otherwise in noncompliance with these provisions in accordance with Section 01 57 00. In addition, the County will deduct from the final payment due the Contractor, the total amount of any fines levied on the County, plus legal and staff costs, as a result of the Contractor's lack of compliance with these provisions and/or less than complete implementation of the specified BMPs.

Full compensation for the implementation of BMPs, including the construction, deployment, maintenance, removal, and the furnishing of all necessary labor, equipment, and materials, shall be considered as included in the bid price of the total lump sum price bid in Section 00 03 00.

The lump sum bid for the IMPLEMENTATION OF BMPs for construction work according to Sections 01 00 00, 01 57 00, and 01 74 23 Specifications, will be:

($_____) (_____)

BMP's lump sum bid in figures BMP's lump sum bid in words

SECTION 00 03 11

CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING REQUIREMENTS

Contractor shall submit a Construction and Demolition Recycling and Reuse Plan (RRP) for any work done for or on behalf of the County to the Los Angeles County Department of Public Works, Environmental Programs Division in accordance with Part 2.2 of Section 01 74 19.

Full compensation for complying with the Construction and Demolition Debris Recycling Requirements, including the construction, removal, and the furnishing of all necessary labor, equipment, and materials, shall be included in the lump sum price bid.

The lump sum bid for COMPLYING WITH THE CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING REQUIREMENTS according to Section 01 74 19, will be:

($_____) (_____)

Lump sum bid in figures Lump sum bid in words

_____

Name of Bidder (Firm Name)

SECTION 00 03 12

INSURANCE REQUIREMENTS

The premium for the Builders Risk shall be included with the Lump Sum Bid, Section 00 03 00, and shall not be in addition to it.

Builders Risk:

Such coverage is required for this Project and shall supersede Section 00 07 00, Builder's Risk Course of Construction Insurance, Article 45, and shall:

1. Insure against damage from perils covered by the Causes-of-Loss Special Form (ISO form CP 10 30), and the perils of earthquake, flood, risk of transit loss, loss during storage (both onsite and offsite), and collapse during construction (without restricting collapse coverage to specified perils).

2. If Contractor's work involves testing air conditioning systems, boilers, pressure vessels, major machinery or major electrical panels, policy shall include coverage for such testing.

3. Be written on a completed-value basis and cover the entire value of the construction Project, including County-furnished materials and equipment, against loss or damage until completion and acceptance by the County.

   The amount for Builders Risk according to Section 00 08 00 of the Specifications, will be:

($_____) (_____)

Amount in figures Amount in words

SECTION 00 04 00

ATTESTATION OF CONTRACTOR'S QUALIFICATIONS

General Contractor's Firm Name (as shown on bid): _____

As specified in the bidding documents, in order to qualify to bid on this project, the General Contractor must have an active and valid Class "A" or "B" license. Contractor or it's Subcontractor performing splash pad work (Contractor Licensee, RME/RMO) has a valid California Class C-35 contractor's license at time of bid and have continuously held in good standing within the last five (5) years constructed at least two (2) commercially designed municipal and public-use Spray Grounds, each of which have incorporated a minimum size of 1,000 square feet of surface area with a self-modulating balance tank.

The general contractor hereby certifies to the County of Los Angeles that it possesses the qualifying experience.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge.

Executed this _____ day of _____, 20__ at _____
(Month) (City and State)

By: _____
(Signature of owner or officer of the General Contractor)

_____
(Title)

SECTION 00 04 00

ATTESTATION OF CONTRACTOR'S QUALIFICATIONS

The general contractor shall submit verification and justification of its qualifying experience on this County provided form as part of its bid submittal. Failure to submit the information at the time of bid and to meet requirements for qualifying experience may result in a determination by the County that the Bidder is non-responsive and/or not qualified.

The County will determine, in its sole discretion, whether or not the information provided meets the requirements for qualifying experience in order for the general contractor to be considered a qualified bidder for this project.

PROJECT 1:

Experience provided by General Contractor: Name _____

Or experience provided by Subcontractor: Name _____

Project Name	Total Square Footage	Owner Contact Name and Address	Owner Phone and Email Address	Final Contract Value	Date Completed

Project description:

_____

_____

_____

_____

PROJECT 2:

Experience provided by General Contractor: Name _____

Or experience provided by Subcontractor: Name _____

Project Name	Total Square Footage	Owner Contact Name and Address	Owner Phone and Email Address	Final Contract Value	Date Completed

Project description:

_____

_____

_____

_____

For shade sails:

Manufacturer Experience: Bidder must show evidence of at least one (1) public municipal installation where manufacturer's product as proposed, or comparable manufacturer, (500 sq.ft. pre engineered shade sail area), pursuant to this bid has been installed within the last five (5) years.

PROJECT 1:

Experience provided by General Contractor: Name _____

Or experience provided by Subcontractor: Name _____

Project Name	Total Sail Material Square Footage	Owner Contact Name and Address	Owner Phone and Email Address	Final Contract Value	Date Completed

Project description:

_____

_____

_____

_____

For Pre-Fab Structure:

Manufacturer Qualifications:

1. Minimum of five (5) years in the shelter construction industry.
2. Full-time on-staff Licensed Engineer.
3. Full-time on-staff Quality Assurance Manager.
4. All welders AWS Certified.
5. Manufacturer owned and controlled finishing system to include shot blast, pretreatment, primer, and top coat.

Manufacturer Name:_____

Contact Information:_____

Website:_____

Required Manufacturer's Certifications:

- AISC Certified Building Fabricator, (American Institute of Steel Construction) Certified Building Fabricator is an AISC Quality Management Systems (QMS) Certification which sets the quality standard for the structural steel industry.

- PCI 4000 S Certified, Certification through Powder Coating Institute for original equipment manufacturers (OEMs) to evaluate process on entire finish system to add powder coat over steel

SECTION 00 04 10
BID BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____
_____
(Bidder and Address)

as Principal and _____
_____
(Surety and Address)
as Surety, as held and firmly bound unto the County of Los Angeles, hereinafter called the County, in the penal sum of ten percent (10%) of the total amount of the bid of the Principal above named, submitted by said Principal to the County, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION of this obligation of such that:

WHEREAS, the Principal has submitted the above-mentioned Bid to the County, for certain construction specifically described as follows, for which bids are to be opened on _____

_____ for _____
(date of bid opening) (description of work, including location, project name, and project ID as it appears on the bid)

_____

Now, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the bidding or contract documents, after prescribed forms are presented to him for signature, enters into written contract, in the prescribed form, in accordance with the bids, and files the two bonds with the County, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by the law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

In the event suit is brought upon this bond by the County and judgment is recovered, the Surety shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

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

_____
Principal

(SEAL)

_____
Signature and Title

(SEAL)

_____
Surety

_____
Signature and Title

SECTION 00 04 30

SUBCONTRACTOR LISTING AND SUBCONTRACTING

Prime Contractors shall be governed by the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code of the State of California and shall set forth in their bids, on forms provided for same, the name and California contractor license number of each Subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement in amount in excess of one-half (1/2) of one percent (1%) of the prime Contractor's total bid.

Failure by a prime Contractor to specify a Subcontractor for any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid constitutes an agreement between the prime Contractor and the County that he is fully qualified to perform that portion of the work himself and will perform that portion of the work himself.

No prime Contractor whose bid is accepted shall substitute any person as subcontractor in place of the subcontractor listed, nor shall any subcontract be assigned or transferred except as provided for in the above Sections of the Public Contract Code of the State of California.

Prime Contractors in violation of any of the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code of the State of California are subject to possible cancellation of contract and monetary penalties as well as disciplinary action by the Contractors' State License Board.

LIST OF SUBCONTRACTORS

The following is a list of the proposed subcontractors to whom I (we) propose to sublet a portion or portions of this work.

NAME	LICENSE NUMBER	LOCATION OF THE PLACE OF BUSINESS	CLASSIFICATION OF WORK TO BE EXECUTED	DIR REGISTRATION NUMBER AND EXPIRATION DATE

NAME	LICENSE NUMBER	LOCATION OF THE PLACE OF BUSINESS	CLASSIFICATION OF WORK TO BE EXECUTED	DIR REGISTRATION NUMBER AND EXPIRATION DATE

SECTION 00 04 35

COMMUNITY BUSINESS ENTERPRISES (CBE) PARTICIPATION FORM

Contractors are required to indicate their good faith effort in CBE participation by indicating on this form their proposed involvement on this project. CBEs are Minority/Women/Disadvantaged/Disabled Veteran/Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning owned Business Enterprises (MBE/WBE/DBE/DVBE/LGBTQQ).

LIST OF CBE PARTICIPATION

The following is a list of certified CBE subcontractors or suppliers to whom I (we) propose to sublet or procure a portion or portions of this work.

NAME/ADDRESS	TYPE OF WORK OR PRODUCT	INDICATE MBE/ WBE/DBE/ DVBE/LGBTQQ	PERCENTAGE OF TOTAL CONTRACT VALUE

NAME/ADDRESS	TYPE OF WORK OR PRODUCT	INDICATE MBE/ WBE/DBE/ DVBE/LGBTQQ	PERCENTAGE OF TOTAL CONTRACT VALUE

SECTION 00 04 38

REQUEST FOR PREFERENCE CONSIDERATION–LOW BID SOLICITATION

INSTRUCTIONS: Bidders requesting preference consideration must complete and include this form in their bid. **In order to qualify for preference, firm must be certified by the County of Los Angeles Department of Consumer and Business Affairs (DCBA). Please reference and ATTACH your Certification Letter issued by DCBA to determine Federal/Non-Federal preference eligibility.**

☐ PREFERENCE NOT REQUESTED

OR

☐ PREFERENCE REQUESTED (SELECT ALL THAT APPLY) Preference		
Program		**Reference**
☐ Request for **Local Small Business Enterprise (LSBE) Program** Preference	☐ Certification for Non-Federally Funded County Solicitations ☐ Certification for Federally Funded County Solicitations	**LACC 2.204** **PCC 2002**
		_____
		_____

DECLARATION: **I DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE INFORMATION IS TRUE AND CORRECT.**

PRIMARY FIRM NAME:_____

PRINT NAME: _____ **TITLE**: _____

SIGNATURE: _____ **DATE**: _____

LOS ANGELES COUNTY COMMUNITY BUSINESS ENTERPRISE (CBE) INFORMATION

TITLE	REFERENCE
1 FIRM/ORGANIZATION INFORMATION	The information requested below is for statistical purposes only. On final analysis and consideration of award, contractor/vendor will be selected without regard to race/ethnicity, color, religion, sex, national origin, age, sexual orientation or disability.

Total Number of Employees in California:	
Total Number of Employees (including owners). If the firm has more than one office location, all personnel from all offices must be included**:**	

Race/Ethnic Composition of Firm. Enter the make-up of Owners/Partners/Associate Partners into the following categories:

Race/Ethnic Composition	Owners/Partners/ Associate Partners		Percentage of how ownership of the firm is distributed	
	Male	Female	Male	Female
Black/African American			%	%
Hispanic/Latino			%	%
Asian or Pacific Islander			%	%
Native Americans			%	%
Subcontinent Asian			%	%
White			%	%

TITLE	REFERENCE
2 CERTIFICATION AS MINORITY, WOMEN, DISADVANTAGED, DISABLED VETERAN, AND LESBIAN, GAY, BISEXUAL, TRANSGENDER, QUEER, AND QUESTIONING-OWNED (LGBTQQ) BUSINESS ENTERPRISE	If your firm is currently certified as a minority, women, disadvantaged, disabled veteran or lesbian, gay, bisexual, transgender, queer, and questioning-owned business enterprise by a public agency, complete the following. ☐ **Check if not applicable**

Agency Name	Minority	Women	Disadvantaged	Disabled Veteran	LGBTQQ

SECTION 00 04 38 A Subconsultant Certification Form

1. Certification as Minority, Women, Disadvantaged, Disabled Veteran, and Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning-Owned Business Enterprises: If any of your subconsultants/subcontractors is currently certified as these certifications by a public agency, complete the following and attach a copy of the proof of certification. Also include County of Los Angeles Local Small Business Enterprise/Social Enterprise/Disabled Veteran Business Enterprise certified subconsultants/subcontractors. All Subcontractors/Subconsultants listed in the bid/proposal shall be listed below. (Make a copy of this form, if necessary).

	Subconsultant Name	Local Small Business Enterprise	Small Business Enterprise	Minority	Women-Owned	Disadvantaged Business	Disabled Veteran Business Enterprise	Social Enterprise	Lesbian, Gay, Bisexual, Transgender, Queer, and Questioning-Owned Business Enterprise
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

2. Declaration: I declare under penalty of perjury under the laws of the State of California that the above information is true and accurate.

Print Name:	Authorized Signature	Title	Date

SECTION 00 04 40
EQUALS

The undersigned desires to use the material, product, thing, or service described below, as "an equal" to such items as specified. In accordance with the General Conditions, Paragraph 2, Sub-paragraph D, the first, second, and third apparent low bidder will have two (2) calendar days after the bid opening to submit their list of equals and ten (10) calendar days after the bid opening to submit all substantiating data and test results. In accordance with Sub-paragraph E, the County, in its sole discretion, shall determine whether the substantiating data demonstrates that “an equal” submittal(s) is equal in all respects to the item specified in the bid documents. If the County determines that “an equal” submittal(s) has not been substantiated to be equal in all respects, the item specified in the bid documents shall be furnished and/or installed by Contractor without modification of the bid amount or contract documents. If the County finds that “an equal” submittal(s) is equivalent to the respective item(s) specified in the bid documents, then the undersigned may furnish such item(s), together with all necessary labor, materials, equipment, and incidentals required to perform and complete the work.

Date _____, 20____

Phone No. _____

_____
Contractor's Name

_____
Contractor’s Address

	Materials, apparatus, or equipment specified for which Bidder proposes "an equal." (Indicate where specified and page number.)	Complete description of the materials, apparatus, or equipment the Bidder desires to use as "an equal" and name of Subcontractor if different.
1.	_____	_____
	_____	_____
	_____	_____
	_____	_____
2.	_____	_____
	_____	_____
	_____	_____
	_____	_____

3.

4.

5.

6.

SECTION 00 04 50

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER

State of California

ss.

County of

_____, being first duly sworn, deposes and says that he or she is _____ of _____ the party making the foregoing bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

Signature

_____

Date

ATTESTATION OF WILLINGNESS TO CONSIDER GAIN/GROW PARTICIPANTS

As a threshold requirement for consideration for contract award, Bidder/Proposer shall demonstrate a proven record for hiring GAIN/GROW participants or shall attest to a willingness to consider GAIN/GROW participants for any future employment opening if they meet the minimum qualifications for that opening. Additionally, Bidder/Proposer shall attest to a willingness to provide employed GAIN/GROW participants access to the Bidder/Proposer's employee mentoring program, if available, to assist these individuals in obtaining permanent employment and/or promotional opportunities.

To report all job openings with job requirements to obtain qualified GAIN/GROW participants as potential employment candidates, Bidder/Proposer shall email: GAINGROW@DPSS.LACOUNTY.GOV and BSERVICES@WDACS.LACOUNTY.GOV.

Bidder/Proposers unable to meet this requirement shall not be considered for contract award.

Bidder/Proposer shall complete all of the following information, sign where indicated below, and return this form with their proposal.

A. Bidder/Proposer has a proven record of hiring GAIN/GROW participants.

_____ YES (subject to verification by County) _____ NO

B. Bidder/Proposer is willing to provide DPSS with all job openings and job requirements to consider GAIN/GROW participants for any future employment openings if the GAIN/GROW participant meets the minimum qualifications for the opening. "Consider" means that Proposer is willing to interview qualified GAIN/GROW participants.

_____ YES _____ NO

C. Bidder/Proposer is willing to provide employed GAIN/GROW participants access to its employee-mentoring program, if available.

_____ YES _____ NO _____ N/A (Program not available)

Proposer's Organization: _____

Signature: _____

Print Name: _____

Title: _____ Date: _____

Telephone No: _____ Email: _____

SECTION 00 04 65 3-YEAR CONTRACTING HISTORY

LIST ALL CURRENT AND COMPLETED CONTRACTS WITH THE COUNTY FOR THE PAST THREE YEARS (Begin with the most recent project)

Contract Type/Description _____ Contract Number

Type of Work _____ _____

Department _____ Contract Amount

Address _____ $ _____

County Contact Name/Phone _____ / _____ Date of Contract

IF CONSTRUCTION
Architect Name/Phone _____ / _____ _____

Type of Facility _____

Contract Type/Description _____ Contract Number

Type of Work _____ _____

Department _____ Contract Amount

Address _____ $ _____

County Contact Name/Phone _____ / _____ Date of Contract

IF CONSTRUCTION
Architect Name/Phone _____ / _____ _____

Type of Facility _____

Contract Type/Description _____ Contract Number

Type of Work _____ _____

Department _____ Contract Amount

Address _____ $ _____

County Contact Name/Phone _____ / _____ Date of Contract

IF CONSTRUCTION
Architect Name/Phone _____ / _____ _____

Type of Facility _____

Contract Type/Description _____ Contract Number

Type of Work _____ _____

Department _____ Contract Amount

Address _____ $ _____

County Contact Name/Phone _____ / _____ Date of Contract

IF CONSTRUCTION
Architect Name/Phone _____ / _____ _____

Type of Facility _____

Contract Type/Description _____ Contract Number

Type of Work _____ _____

Department _____ Contract Amount

Address _____ $ _____

County Contact Name/Phone _____ / _____ Date of Contract

IF CONSTRUCTION
Architect Name/Phone _____ / _____ _____

Type of Facility _____

Contract Type/Description _____ Contract Number

Type of Work _____ _____

Department _____ Contract Amount

Address _____ $ _____

County Contact Name/Phone _____ / _____ Date of Contract

IF CONSTRUCTION
Architect Name/Phone _____ / _____ _____

Type of Facility _____

SECTION 00 04 70

FALSE CLAIMS

Bidders/Proposers shall provide either the certification requested below or the information requested on the next page. **Failure to certify or provide the requested information may result in a determination that the Bidder/Proposer is non-responsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder/Proposer is not responsible.**

"False Claims Act", as used herein, is defined as either or both the Federal False Claims Act, 31 U.S.C. Sections 3729 et seq., and the California False Claims Act, Government Code Sections 12650 et seq.

FALSE CLAIMS ACT CERTIFICATION

If the Bidder/Proposer has no False Claims Act violations as described above, complete the following:

I,_____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

_____
(Bidder/Proposer name as shown on Bid/Proposal)

nor_____
(name of responsible managing person licensed by Contractors' State License Board)

has been determined by a court or tribunal of competent jurisdiction to have violated the False Claims Act as defined above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this_____ day _____at_____
(month and year) (city and state)

by_____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

FALSE CLAIMS ACT VIOLATIONS

With regard to any determinations by a tribunal or court of competent jurisdiction that the False Claims Act, as defined above, has been violated by (1) the Bidder/Proposer submitting this Bid/Proposal, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid/Proposal, or (2) the qualifying person licensed by the State Contractors' License Board to perform the work described in the Bid/Proposal, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder/Proposer submitting this Bid/Proposal, Bidder/Proposer shall provide on the following page labeled "False Claim Act Violations Information:" (1) the date of the determination of the violation, (2) the identity of tribunal or court and the case name or number, if any, (3) the identity of government contract or project involved, (4) the identity of government agency involved, 5) the amount of fine imposed, and (6) any exculpatory information of which the County should be aware.

FALSE CLAIMS ACT VIOLATIONS INFORMATION

(1) Date of determination of the violation:

_____

(2) Identity of tribunal or court and the case name or number, if any: _____

_____

(3) Government contract or project involved: _____

_____

_____

(4) Government agency involved: _____

_____

_____

(5) Amount of fine imposed: _____

(6) Exculpatory information: _____

_____

_____

_____

_____

_____

_____

_____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by_____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

SECTION 00 04 71
CIVIL LITIGATION HISTORY

Bidder/Proposer shall provide either the certification requested below or information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder/Proposer is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder/Proposer is not responsible.**

For the two (2) years preceding the date of submittal of this Bid/Proposal, identify any civil litigation arising out of the performance of a construction contract within the State of California in which the (1) Bidder/Proposer submitting this Bid/Proposal, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid/Proposal, or (2) the qualifying person licensed by the State Contractors' License Board to perform the work described in this Bid/Proposal, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder/Proposer submitting this Bid/Proposal, was a named plaintiff or defendant in a lawsuit brought by or against the Owner. Do not include litigation which is limited solely to enforcement of mechanics' liens or stop notices. Provide on the following page labeled "Civil Litigation History Information:" (1) the name and court case identification number of each case, (2) the jurisdiction in which it was filed, and (3) the outcome of the litigation, e.g., whether the case is pending, a judgment was entered, a settlement was reached, or the case was dismissed. If a settlement was reached within the two years preceding the date of submittal of this Bid/Proposal, please provide the dollar value of the settled claim(s). The dollar value may be marked as confidential if Bidder/Proposer does not want the settlement information to be public record.

CIVIL LITIGATION CERTIFICATION

If the Bidder/Proposer has no civil litigation history to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

_____
(Bidder/Proposer name as shown on Bid/Proposal)

nor _____
(name of responsible managing person licensed by the Contractors' State License Board)

has been involved in civil litigation as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

CIVIL LITIGATION HISTORY INFORMATION

(1) Name of Case: _____

_____

Court case identification number: _____

(2) Jurisdiction in which case was filed: _____

_____

(3) Outcome of the case: _____

_____

_____

_____

_____

(1) Name of Case: _____

_____

Court case identification number: _____

(2) Jurisdiction in which case was filed: _____

_____

(3) Outcome of the case: _____

_____

_____

_____

_____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

SECTION 00 04 72

CRIMINAL CONVICTIONS

Bidder/Proposer shall provide either the certification requested below or information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder/Proposer is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder/Proposer is not responsible.**

For the five (5) years preceding the date this Bid/Proposal is due, identify on the following page any criminal conviction in any jurisdiction of the United States for a violation of law arising out of the performance of a construction contract (1) by the Bidder/Proposer submitting this Bid/Proposal, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid/Proposal, or (2) by the qualifying person licensed by the State Contractors' License Board to perform the work described in the Bid/Proposal, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder/Proposer submitting this Bid/Proposal. Provide on the following page labeled "Criminal Convictions Information:" (1) the date of conviction, (2) the name and court case identification number, (3) the identity of the law violated, (4) the identity of the prosecuting agency, (5) the contract or project involved, (6) the punishment imposed, and (7) any exculpatory information of which the Agency should be aware.

CRIMINAL CONVICTION CERTIFICATION

If the Bidder/Proposer has no criminal convictions to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

_____
(Bidder/Proposer name as shown on Bid/Proposal)

nor _____
(name of responsible managing person licensed by the Contractors' State License Board)

has been convicted of a criminal violation as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____day of _____at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

CRIMINAL CONVICTIONS INFORMATION

(1) Date of conviction: _____

(2) Name of case: _____

Court case identification number: _____

(3) Identity of the law violated: _____

_____

(4) Identity of the prosecuting agency: _____

_____

(5) Contract or project involved: _____

_____

(6) Punishment imposed: _____

_____

_____

(7) Exculpatory information: _____

_____

_____

_____

_____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

SECTION 00 04 73

DEBARMENTS

Bidder/Proposer shall provide either the certification requested below or the information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder/Proposer is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder/Proposer is not responsible.**

For the ten (10) years preceding the date this Bid/Proposal is due, identify on the following page any debarment by any Federal, State, or local public agency arising out of the performance of a construction contract (1) by the Bidder/Proposer submitting this Bid/Proposal, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid/Proposal, or (2) by the qualifying person licensed by the Contractors' State License Board to perform the work described in the Bid/Proposal, including any debarment of any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder/Proposer submitting this Bid/Proposal. Provide on the following page labeled "Debarment Information:" (1) the date of debarment and the duration of the debarment, (2) the project name or contract from which the debarment arose, (3) the identify of the debarring agency, (4) stated reason for debarment, and (5) any exculpatory information of which the Agency should be aware.

HISTORY OF DEBARMENT CERTIFICATION

If the Bidder/Proposer has no debarments to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

_____
(Bidder/Proposer name as shown on Bid/Proposal)

nor _____
(name of responsible managing person licensed by Contractors' State License Board)

has been debarred as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

DEBARMENT INFORMATION

(1) Date and duration of debarment: _____

_____

(2) Project name or contract involved: _____

_____

(3) Debarring agency: _____

_____

(4) Stated reason for debarment: _____

_____

_____

_____

_____

(5) Exculpatory information: _____

_____

_____

_____

_____

_____

_____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by_____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

SECTION 00 04 74

LABOR LAW/PAYROLL VIOLATIONS

Bidder/Proposer shall provide the certification requested below or the information requested on the next page. **Failure to provide such certification or information may result in a determination that the Bidder/Proposer is nonresponsive. Failure to fully and accurately provide the requested certification or information may result in a determination that the Bidder/Proposer is not responsible.**

"Labor law/payroll violation" means for purposes of this disclosure a violation of the Davis-Bacon Act (40 USC section 276a) and/or a violation of California Labor Code sections 1720 through 1861 concerning the payment of prevailing wages, employment of apprentices and hours and working conditions.

For the three (3) years preceding the date this Bid/Proposal is due, identify on the following page any determination made by any Federal, State, or local public agency of a labor law/payroll violation arising out of the performance of a construction contract (1) by the Bidder/Proposer submitting this Bid/Proposal, including any person who is an officer of, or in a management position with, or has an ownership interest in the contracting entity which is submitting this Bid/Proposal, or (2) by the qualifying person licensed by the Contractors' State License Board to perform the work described in the Bid/Proposal, including any such person when they were an officer, manager, owner, or responsible managing employee of a construction contractor other than the Bidder/Proposer submitting this Bid/Proposal. Provide on the following page labeled "Labor Law/Payroll Violations Information:" (1) the date of the determination of the violation, (2) the case number, if any, or other identifying information for the proceeding, (3) the identity of the government contract or project involved, (4) the identity of the government agency involved, (5) the description of violation, (6) the amount of any civil wage and penalty assessment, and (7) any exculpatory information of which the Agency should be aware.

LABOR LAW/PAYROLL VIOLATION CERTIFICATION

If the Bidder/Proposer has no labor law/payroll violations to report as described above, complete the following:

I, _____, hereby certify that neither
(print name of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

_____
(Bidder/Proposer name as shown on Bid/Proposal)

nor_____
(name of responsible managing person licensed by Contractors' State License Board)

has been determined to have violated any Federal, State, or local labor laws as described above.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

LABOR LAW/PAYROLL VIOLATIONS INFORMATION

(1) Date of violation determination: _____

(2) Case number: _____

(3) Government contract or project involved: _____

_____

_____

(4) Government agency involved: _____

_____

(5) Description of the violation (attach disposition letter): _____

_____

_____

_____

_____

(6) Amount of any civil wage and penalty assessment: _____

_____

_____

(7) Exculpatory information: _____

_____

_____

_____

_____

Declaration: I declare under penalty of perjury that the above information is true and correct.

Executed this _____ day of _____ at _____
(month and year) (city and state)

by _____
(signature of owner, officer, manager, or licensee responsible for submission of Bid/Proposal)

SECTION 00 04 75

INTEGRATED PEST MANAGEMENT PROGRAM COMPLIANCE CERTIFICATION

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for	Services	

PROPOSER CERTIFICATION

The County of Los Angeles is a permittee to a National Pollutant Discharge Elimination System Permit (NPDES Permit) issued by the Los Angeles Regional Water Quality Control Board to reduce or eliminate pollutants moved into surface water through storm water management systems and facilities. One of the conditions of the NPDES Permit is the Integrated Pest Management Program (IPM Program) which was developed to reduce the impact of pesticides and fertilizers to surface water. Among other things, the IPM Program imposes requirements to County Purchasing and Contracting, which are outlined in Integrated Pest Management Program Compliance of the proposed Contract. The entire Countywide IPM Program is available at Los Angeles County Department of Agricultural Commissioner/ Weights and Measures (ACWM) and Home Page - Current - Integrated Pest Management (lacounty.gov)

Proposer acknowledges and certifies compliance with Integrated Pest Management Program Compliance of the proposed Contract and agrees that proposer or a member of its staff performing work under the proposed Contract will be in compliance, when applicable. Proposer further acknowledges that noncompliance with the County's IPM Program may result in rejection of any proposal, or cancellation of any resultant Contract, at the sole judgment of the County.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

SECTION 00 04 76

CHARITABLE CONTRIBUTIONS CERTIFICATION

_____
Company Name

_____
Address

_____
Internal Revenue Service Employer Identification Number

_____
California Registry of Charitable Trusts "CT" number (if applicable)

The Nonprofit Integrity Act (SB 1262, Chapter 919) added requirements to California's Supervision of Trustees and Fundraisers for Charitable Purposes Act which regulates those receiving and raising charitable contributions.

Check the Certification below that is applicable to your company.

☐ Proposer or Contractor has examined its activities and determined that it does not now receive or raise charitable contributions regulated under California's Supervision of Trustees and Fundraisers for Charitable Purposes Act. If Proposer engages in activities subjecting it to those laws during the term of a County contract, it will timely comply with them and provide County a copy of its initial registration with the California State Attorney General's Registry of Charitable Trusts when filed.

OR

☐ Proposer or Contractor is registered with the California Registry of Charitable Trusts under the CT number listed above and is in compliance with its registration and reporting requirements under California law. Attached is a copy of its most recent filing with the Registry of Charitable Trusts as required by Title 11 California Code of Regulations, sections 300-301 and Government Code sections 12585-12586.

_____ _____
Signature Date

_____
Please Print Name and Title of Signer

PROSPECTIVE CONTRACTOR LIST OF TERMINATED CONTRACTS

Contractor's Name: _____

Proposer must list all contracts that have been terminated within the past three years. Terminated contracts are those contracts terminated by an agency or firm before the contract's expiration date. Any and all terminated contracts should be accompanied with "Reason for termination". It should be noted that contracts that naturally expired need not be listed. The County is only seeking information on contracts that were terminated prior to expiration.

1. Name of Firm	**Address of Firm**	**Contact Person**	**Telephone #** ( )	**Email**
Name or Contract No.	Reason for Termination:			
2. Name of Firm	**Address of Firm**	**Contact Person**	**Telephone #** ( )	**Email**
Name or Contract No.	Reason for Termination:			
3. Name of Firm	**Address of Firm**	**Contact Person**	**Telephone #** ( )	**Email**
Name or Contract No.	Reason for Termination:			
4. Name of Firm	**Address of Firm**	**Contact Person**	**Telephone #** ( )	**Email**
Name or Contract No.	Reason for Termination:			

REQUIRED FORM

CONTRIBUTION AND AGENT DECLARATION FORM

This form must be completed separately by all bidders/proposers, including all prime contractors and subcontractors, and by all applicants for licenses, permits, and other entitlements for use issued by the County of Los Angeles ("County").

Pursuant to the Levine Act (Government Code section 84308), a member of the Board of Supervisors, other elected County officials (the Sheriff, Assessor, and the District Attorney), and other County employees and/or officers ("County Officers") are disqualified and not able to participate in a proceeding involving contracts, franchises, licenses, permits and other entitlements for use if the County Officer received more than $250 in contributions in the past 12 months from the bidder, proposer or applicant, any paid agent of the bidder, proposer, or applicant, or any financially interested participant who actively supports or opposes a particular decision in the proceeding.

State law requires you to disclose information about contributions made by you, your company, and lobbyists and agents paid to represent you. Failure to complete the form in its entirety may result in significant delays in the processing of your application and potential disqualification from the procurement or application process.

You must fully answer the applicable questions below. You ("Declarant"), or your company, if applicable, including all entities identified below (collectively, "Declarant Company") must also answer the questions below. The term "employee(s)" shall be defined as employees, officers, partners, owners, or directors of Declarant Company.

An affirmative response to any questions will not automatically cause the disqualification of your bid/proposal, or the denial of your application for a license, permit or other entitlement. However, failure to answer questions completely, in good faith, or providing materially false answers may subject a bidder/proposer to disqualification from the procurement.

This material is intended for use by bidders/proposers, including all prime contractors and subcontractors, and by all applicants for licenses, permits, and other entitlements for use issued by the County of Los Angeles and does not constitute legal advice*. If you have questions about the Levine Act and how it applies to you, you should call your lawyer or contact the Fair Political Practices Commission for further guidance.*

HOA.104008393.4
Rev. [4/16/24]

REQUIRED FORM

CONTRIBUTION AND AGENT DECLARATION FORM

Complete each section below. State "none" if applicable.

A. COMPANY OR APPLICANT INFORMATION

1) Declarant Company or Applicant Name:

a) If applicable, identify all subcontractors that have been or will be named in your bid or proposal:

b) If applicable, variations and acronyms of Declarant Company's name used within the past 12 months:

c) Identify all entities or individuals who have the authority to make decisions for you or Declarant Company about making contributions to a County Officer, regardless of whether you or Declarant Company have actually made a contribution:

[IF A COMPANY, ANSWER QUESTIONS 2 - 3]

2) Identify only the Parent(s), Subsidiaries and Related Business Entities that Declarant Company has controlled or directed, or been controlled or directed by. "Controlled or directed" means shared ownership, 50% or greater ownership, or shared management and control between the entities.

a) Parent(s):

b) Subsidiaries:

c) Related Business Entities:

3) If Declarant Company is a closed corporation (non-public, with under 35 shareholders), identify the majority shareholder.

4) Identify all entities (proprietorships, firms, partnerships, joint ventures, syndicates, business trusts, companies, corporations, limited liability companies, associations, committees, and any other organization or group of persons acting in concert) whose contributions you or Declarant Company have the authority to direct or control.

5) Identify any individuals such as employees, agents, attorneys, law firms, lobbyists, and lobbying firms who are or who will act on behalf of you or Declarant Company and who will receive compensation to communicate with a County Officer regarding the award or approval of **this** contract or project, license, permit, or other entitlement for use.

*(Do **not** list individuals and/or firms who, as part of their profession, either (1) submit to the County drawings or submissions of an architectural, engineering, or similar nature, **or** (2) provide purely technical data or analysis, **and** who will not have any other type of communication with a County agency, employee, or officer.)*

6) If you or Declarant Company are a 501(c)(3) non-profit organization, identify the compensated officers of your organization and the compensated members of your board.

B. CONTRIBUTIONS

1) Have you or the Declarant Company solicited or directed your employee(s) or agent(s) to make contributions, whether through fundraising events, communications, or any other means, to a County Officer in the past 12 months? If so, provide details of each occurrence, including the date.

Date (contribution solicited, or directed)	**Recipient Name** (elected official)	**Amount**

*Please attach an additional page, if necessary.

2) Disclose all contributions made by you or any of the entities and individuals identified in Section A to a County officer in the past 12 months.

Date (contribution made)	**Name** (of the contributor)	**Recipient Name** (elected official)	**Amount**

*Please attach an additional page, if necessary.

REQUIRED FORM
CONTRIBUTION AND AGENT DECLARATION FORM

C. DECLARATION

By signing this Contribution and Agent Declaration form, you (Declarant), or you and the Declarant Company, if applicable, attest that you have read the entirety of the Contribution Declaration and the statements made herein are true and correct to the best of your knowledge and belief. (Only complete the one section that applies.)

There are _____ additional pages attached to this Contribution Declaration Form.

COMPANY BIDDERS OR APPLICANTS

I, _____ (Authorized Representative), on behalf of _____(Declarant Company), at which I am employed as _____ (Title), attest that after having made or caused to be made a reasonably diligent investigation regarding the Declarant Company, the foregoing responses, and the explanation on the attached page(s), if any, are correct to the best of my knowledge and belief. Further, I understand that failure to answer the questions in good faith or providing materially false answers may subject Declarant Company to consequences, including disqualification of its bid/proposal or delays in the processing of the requested contract, license, permit, or other entitlement.

IMPORTANT NOTICE REGARDING FUTURE AGENTS AND FUTURE CONTRIBUTIONS:

By signing this Contribution and Agent Declaration form, you also agree that, if Declarant Company hires an agent, such as, but not limited to, an attorney or lobbyist during the course of these proceedings and will compensate them for communicating with the County about this contract, project, permit, license, or other entitlement for use, you agree to inform the County of the identity of the agent or lobbyist and the date of their hire. You also agree to disclose to the County any future contributions made to members of the County Board of Supervisors, another elected County officer (the Sheriff, Assessor, and the District Attorney), or any other County officer or employee by the Declarant Company, or, if applicable, any of the Declarant Company's proposed subcontractors, agents, lobbyists, and employees who have communicated or will communicate with the County about this contract, license, permit, or other entitlement after the date of signing this disclosure form, and within 12 months following the approval, renewal, or extension of the requested contract, license, permit, or entitlement for use.

_____ _____
Signature Date

REQUIRED FORM
CONTRIBUTION AND AGENT DECLARATION FORM

INDIVIDUAL BIDDERS OR APPLICANTS

I, _____, declare that the foregoing responses and the explanation on the attached sheet(s), if any, are correct to the best of my knowledge and belief. Further, I understand that failure to answer the questions in good faith or providing materially false answers may subject me to consequences, including disqualification of my bid/proposal or delays in the processing of the requested license, permit, or other entitlement.

IMPORTANT NOTICE REGARDING FUTURE AGENTS AND FUTURE CONTRIBUTIONS:

If I hire an agent or lobbyist during the course of these proceedings and will compensate them for communicating with the County about this contract, project, permit, license, or other entitlement for use, I agree to inform the County of the identity of the agent or lobbyist and the date of their hire. I also agree to disclose to the County any future contributions made to members of the County Board of Supervisors, another elected County official (the Sheriff, Assessor, and the District Attorney), or any other County officer or employee by me, or an agent such as, but not limited to, a lobbyist or attorney representing me, that are made after the date of signing this disclosure form, and within 12 months following the approval, renewal, or extension of the requested contract, license, permit, or entitlement for use.

_____ _____
Signature Date

SECTION 00 04 85
COUNTY OF LOS ANGELES CONTRACTOR EMPLOYEE JURY SERVICE PROGRAM
APPLICATION FOR EXCEPTION AND CERTIFICATION FORM

The County's solicitation for this contract/purchase order (Request for Proposal or Invitation for Bid) is subject to the County of Los Angeles Contractor Employee Jury Service Program (Program), Los Angeles County Code, Chapter 2.203. All bidders or proposers, whether a contractor or subcontractor, must complete this form to either: 1) request an exception from the Program requirements; or 2) certify compliance. Upon review of the submitted form, the County department will determine, in its sole discretion, whether the bidder or proposer is exempted from the Program.

Company Name:		
Company Address:		
City:	**State:**	**Zip Code:**
Telephone Number:		
Solicitation For (Type of Goods or Services):		

If you believe the Jury Service Program does not apply to your business, check the appropriate box in Part I (attach documentation to support your claim); or, complete Part II to certify compliance with the Program. Whether you complete Part I or II, please sign and date this form below.

Part I: Jury Service Program is not Applicable to my Business

- ❑ My business does not meet the definition of "contractor," as defined in the Program as it has not received an aggregate sum of $50,000 or more in any 12-month period under one or more County contracts or subcontracts (this exception is not available if the contract/purchase order itself will exceed $50,000). I understand that the exception will be lost and I must comply with the Program if my revenues from the County exceed an aggregate sum of $50,000 in any 12-month period.

- ❑ My business is a small business as defined in the Program. It: 1) has ten or fewer employees; and, 2) has annual gross revenues in the preceding 12 months which, if added to the annual amount of this contract, are $500,000 or less; and 3) is not an affiliate or subsidiary of a business dominant in its field of operation as defined below. I understand that the exemption will be lost and I must comply with the Program if the number of employees in my business and my gross annual revenues exceed the above limits.

  "**Dominant in its field of operation**" means having more than ten employees, including full-time and part-time employees, and annual gross revenues in the preceding 12 months, which, if added to the annual amount of the contract awarded, exceed $500,000.

  "**Affiliate or subsidiary of a business dominant in its field of operation"** means a business which is at least 20 percent owned by a business dominant in its field of operation, or by partners, officers, directors, majority stockholders, or their equivalent of a business dominant in that field of operation.

- ❑ My business is subject to a Collective Bargaining Agreement (attach agreement) that expressly provides that it supersedes all provisions of the Program.

OR

Part II: Certification of Compliance

- ❑ My business has and adheres to a written policy that provides, on an annual basis, no less than five days of regular pay for actual jury service for full-time employees of the business who are also California residents, **or** my company will have and adhere to such a policy prior to award of the contract.

I declare under penalty of perjury under the laws of the State of California that the information stated above is true and correct.

Print Name:	**Title:**
Signature:	**Date:**

SECTION 00 04 87

CERTIFICATION OF COMPLIANCE - CONTACT WITH COUNTY PERSONNEL AND COMPLIANCE WITH CODE OF SILENCE PERIOD

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:		E-Mail Address:
Solicitation/Contract for:		

PROPOSER CERTIFICATION

1. The Bidder, _____ (name of the firm), and its subcontractors, have read and understand Article 1.04, paragraph b of the 00 01 00 Instructions to Bidders titled "Contact with County Personnel and Code of Silence Period."

2. Until the underlying contract is executed, all contact and communications related to, about, or regarding this solicitation have been and will be made only in writing (via e-mail) and directed exclusively to the contract analyst identified in the RFP:

   Attention Mr. Aram Hakobyan, Contract Analyst
   E-Mail: ahakobyan@pw.lacounty.gov
   Telephone: (626) 458-2181

3. Failure to comply with Article 1.04, paragraph b of the 00 01 00 Instructions to Bidders may result in the County, at its sole determination, finding the bid to be non-responsive and disqualified from further consideration.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct, and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

To be submitted with each Bid for a contract

Project Identification_____

_____

Bid Date_____

This information must include all construction work undertaken in the State of California by the Bidder and any partnership, joint venture, or corporation that any principal of the Bidder participated in as a principal or owner for the last five calendar years and the current calendar year prior to the date of Bid submittal. Separate information shall be submitted for each particular partnership, joint venture, corporate, or individual Bidder. The Bidder may attach any additional information or explanation of data which he would like taken into consideration in evaluating the safety record. An explanation must be attached of the circumstances surrounding any and all fatalities.

SECTION 00 04 90

CONTRACTOR'S INDUSTRIAL SAFETY RECORD

5-Calendar Years Prior to Current Year

	2021	2022	2023	2024	2025	TOTAL	CURRENT YEAR (2026)
1. No. of Contracts							
2. Total dollar amount of contracts (in thousands of dollars)							
*3. No. of fatalities							
*4. No. of lost workdays due to injuries							
*5. No. of days of restricted work activity due to injuries							
*6. Injuries without lost workdays							

*The information required for these items is the same as required for columns 1, 4, 5, and 6, Log and Summary of Occupational Injuries and Illnesses, CAL/OSHA Form 200.

The above information was compiled from the records that are available to me at this time and I declare under penalty of perjury that the information is true and accurate within the limitations of those records.

_____ _____

Name of Bidder (Print) Signature

_____ _____

Address Contractors' State License No. & Classification

_____ _____

City Telephone

SECTION 00 04 91

INJURY AND ILLNESS PREVENTION PLAN (IIPP) AND CODE OF SAFE PRACTICES (CSP) AFFIDAVIT

The apparent low Bidder shall submit this form to the County which states that the Bidder has an IIPP which complies with Cal/OSHA Regulations and CSP, that all subcontractors supplying employees to the jobsite will be required to prove to the Contractor that they have an IIPP which complies with Cal/OSHA Regulations and a CSP, and that their jobsite employees have been trained on IIPP and CSP.

Failure to submit this affidavit as required may result in a determination that the successful Bidder is nonresponsive and/or nonresponsible.

I, _____, hereby certify to the County

of Los Angeles on behalf of _____ the following:

1. The Contractor identified above has an injury and illness Prevention Plan (IIPP) and a Code of Safe Practices (CSP) which comply with Cal/OSHA Regulations.

2. The employees of the Contractor identified above who will be assigned to the jobsite have been trained on the IIPP and CSP.

3. All subcontractors supplying employees to the jobsite will be required to prove to the Contractor that they have an IIPP and a CSP which comply with Cal/OSHA Regulations and their jobsite employees have been trained on the IIPP and CSP.

I declare under penalty of perjury under the law of the State of California that the foregoing is true and correct.

Executed this_____day of _____
(month and year)

at _____

By_____

SECTION 00 04 92

BIDDER'S ORGANIZATION QUESTIONNAIRE/AFFIDAVIT

Please complete, date and sign this form and place it in your Bid. The person signing the form must be authorized to sign on behalf of the Bidder and to bind the applicant in a Contract.

1. If your firm is a corporation, state its legal name (as found in your Articles of Incorporation) and State of Incorporation:

_____	_____	_____
Name	State	Year Inc.

2. If your firm is a partnership or a sole proprietorship, state the name of the proprietor or managing partner:

_____

3. If your firm is doing business under one or more DBA's, please list all DBA's and the County(ies) of registration:

Name	County of Registration	Year Became DBA
_____	_____	_____
_____	_____	_____

4. Is your firm wholly or majority owned by, or a subsidiary of, another firm:_____ if yes,

   Name of parent firm: _____

   State of incorporation or registration of parent firm: _____

5. Please list any other names your firm has done business as within the last five (5) years.

Name	Year of Name Change
_____	_____
_____	_____

6. Indicate if your firm is involved in any pending acquisition/merger, including the associated company name. If not applicable, so indicate below.

   _____

   _____

Bidder acknowledges that if any false, misleading, incomplete, or deceptively unresponsive statements in connection with this Bid are made, the Bidder may be rejected. The evaluation and determination in this area shall be at the Director's sole judgment and his/her judgment shall be final:

Bidder's Name

Address:

_____

_____

e-mail address:_____ Telephone number:_____

Fax number: _____

On behalf of _____(Bidder's name), I _____ (Name of Bidder's authorized representative), certify that the information contained in this Bidder's Organization Questionnaire/Affidavit is true and correct to the best of my information and belief.

_____ Signature

_____ Internal Revenue Service Employer Identification Number

_____ Title

_____ California Business License Number

_____ Date

_____ County WebVen Number

SECTION 00 04 93

CERTIFICATION OF COMPLIANCE WITH THE COUNTY'S DEFAULTED PROPERTY TAX REDUCTION PROGRAM

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract For_____	Services:	

The Proposer/Bidder/Contractor certifies that:

☐ It is familiar with the terms of the County of Los Angeles Defaulted Property Tax Reduction Program, Los Angeles County Code Chapter 2.206; **AND**

To the best of its knowledge, after a reasonable inquiry, the Proposer/Bidder/ Contractor is not in default, as that term is defined in Los Angeles County Code Section 2.206.020.E, on any Los Angeles County property tax obligation; **AND**

The Proposer/Bidder/Contractor agrees to comply with the County's Defaulted Property Tax Reduction Program during the term of any awarded contract.

– OR –

☐ I am exempt from the County of Los Angeles Defaulted Property Tax Reduction Program, pursuant to Los Angeles County Code Section 2.206.060, for the following reasons:

_____

_____

I declare under penalty of perjury under the laws of the State of California that the information stated above is true and correct.

Print Name:	Title:
Signature:	Date:

SECTION 00 04 94

AVOIDANCE OF CONFLICT OF INTEREST

The Los Angeles County Code, Section 2.180.010, provides as follows:

CONTRACTS PROHIBITED

Notwithstanding any other section of this Code, the County shall not contract with, and shall reject any proposals submitted by, the persons or entities specified below, unless the Board of Supervisors finds that special circumstances exist which justify the approval of such contract:

1. Employees of the County or of public agencies for which the Board of Supervisors is the governing body;

2. Profit-making firms or businesses in which employees described in number 1 serve as officers, principals, partners, or major shareholders;

3. Persons who, within the immediately preceding 12 months, came within the provisions of number 1, and who:

    a. Were employed in positions of substantial responsibility in the area of service to be performed by the contract; or

    b. Participated in any way in developing the contract or its service specifications; and

4. Profit-making firms or businesses in which the former employees, described in number 3, serve as officers, principals, partners, or major shareholders.

Contracts submitted to the Board of Supervisors for approval or ratification shall be accompanied by an assurance by the department submitting, district or agency that the provisions of this section have not been violated.

_____
Proposer Name (please print)

_____
Proposer's Official Title (please print)

_____
Proposer's Signature

SECTION 00 04 95

FAMILIARITY WITH THE COUNTY LOBBYIST ORDINANCE CERTIFICATION

The Proposer certifies that it is familiar with the terms of the County of Los Angeles Lobbyist Ordinance, Los Angeles Code Chapter 2.160. The Proposer also certifies that all persons acting on behalf of the Proposer organization have and will comply with it during the proposal process.

Signature:_____

Date:_____

SECTION 00 04 96

PROPOSER'S EEO CERTIFICATION

_____
Company Name

_____
Address

_____
Internal Revenue Service Employer Identification Number

GENERAL

In accordance with provisions of the County Code of the County of Los Angeles, the Proposer certifies and agrees that all persons employed by such firm, its affiliates, subsidiaries, or holding companies are and will be treated equally by the firm without regard to or because of race, religion, ancestry, national origin, or sex and in compliance with all anti-discrimination laws of the United States of America and the State of California.

CERTIFICATION	YES	NO
1. Proposer has written policy statement prohibiting discrimination in all phases of employment.	( )	( )
2. Proposer periodically conducts a self-analysis or utilization analysis of its work force.	( )	( )
3. Proposer has a system for determining if its employment practices are discriminatory against protected groups.	( )	( )
4. When problem areas are identified in employment practices, Proposer has a system for taking reasonable corrective action to include establishment of goal and/or timetables.	( )	( )

_____ _____
Signature Date

_____
Name and Official Title (please print)

00 04 97
COMPLIANCE WITH FAIR CHANCE EMPLOYMENT HIRING PRACTICES CERTIFICATION

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for _____ Services		

PROPOSER/CONTRACTOR CERTIFICATION

The Los Angeles County Board of Supervisors approved a Fair Chance Employment Policy in an effort to remove job barriers for individuals with criminal records. The policy requires businesses that contract with the County to comply with fair chance employment hiring practices set forth in California Government Code Section 12952, Employment Discrimination: Conviction History (California Government Code Section 12952), effective January 1, 2018.

Proposer/Contractor acknowledges and certifies compliance with fair chance employment hiring practices set forth in California Government Code Section 12952 and agrees that Proposer/Contractor and staff performing work under the Contract will be in compliance. Proposer/Contractor further acknowledges that noncompliance with fair chance employment practices set forth in California Government Code Section 12952 may result in rejection of any proposal, or termination of any resultant Contract, at the sole judgment of the County.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

00 04 98

ZERO TOLERANCE HUMAN TRAFFICKING POLICY CERTIFICATION

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for _____ Services		

PROPOSER CERTIFICATION

Los Angeles County has taken significant steps to protect victims of human trafficking by establishing a zero tolerance human trafficking policy that prohibits contractors found to have engaged in human trafficking from receiving contract awards or performing services under a County contract.

Proposer acknowledges and certifies compliance with (Compliance with County's Zero Tolerance Human Trafficking Policy) of the proposed Contract and agrees that proposer or a member of his staff performing work under the proposed Contract will be in compliance. Proposer further acknowledges that noncompliance with the County's Zero Tolerance Human Trafficking Policy may result in rejection of any proposal, or cancellation of any resultant Contract, at the sole judgment of the County.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

00 04 99
DISALLOWED COST ATTESTATION

Company Name:		
Company Address:		
City:	State:	Zip Code:
Telephone Number:	Email address:	
Solicitation/Contract for _____ Services		

PROPOSER ATTESTATION

If Proposer's compliance with a County contract has been reviewed by the Department of the Auditor-Controller within the last 10 years, Proposer must not have unresolved questioned costs identified by the Auditor-Controller, in an amount over $100,000.00, that are confirmed to be disallowed costs by the contracting County department, and remain unpaid for six months or more from the date of disallowance, unless such disallowed costs are the subject of current good faith negotiations to resolve the disallowed costs, in the opinion of the County.

Proposer acknowledges and certifies compliance with the above paragraph.

I declare under penalty of perjury under the laws of the State of California that the information herein is true and correct and that I am authorized to represent this company.

Print Name:	Title:
Signature:	Date:

SECTION 00 05 00

SAMPLE AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____ 2026, by and between the COUNTY OF LOS ANGELES, State of California (hereinafter called the County), and

CONTRACTOR
A California Corporation
ADDRESS
CITY, STATE, ZIP
TELEPHONE

(hereinafter called the Contractor),

WITNESSETH:

1. Contractor's Services

That the Contractor, in consideration of the promises of the County hereinafter set forth, hereby agrees to furnish all tools, equipment, labor, and material necessary to perform and complete in a good and workmanlike manner,

WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE, SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

within the time and in accordance with the recommendation of the Director of the Los Angeles County Public Works, dated month-day, 2026, Plans and Specifications Number, the Notice Inviting Bids, Notice to Bidders A, etc. (if any), and the lump sum bid of the Contractor, all of which are incorporated herein as though fully set forth, and are hereby agreed by the parties to constitute the Contract documents.

2. Consideration

That the County agrees, in consideration of the performance of this Contract, to pay to the Contractor, and the Contractor agrees to accept in full satisfaction for the work done hereunder, a sum of amount in words Dollars ($ amount: base bid amount minus schedule fee minus extended overhead and minus unit, if applicable) which

SAMPLE

sum shall be paid to the Contractor at the time and in the manner set forth in the specifications.

3. Extended Overhead Daily Rate

The Contractor's Extended Overhead Daily Rate is $XXX, as set forth in the Contractor's Form of Bid, Section 00 03 00, which Extended Overhead Daily Rate shall be payable to the Contractor for each day of Compensable Delay to fully compensate the Contractor for any damages resulting from or associated with Compensable Delay, including, but not limited to, home office and field office overhead, as specified in Specification Section 00 01 00, Instructions to Bidders, 1.14c and in accordance with Specification Section 00 07 00, General Conditions, Article 17, Time Extensions and Compensation for Delay.

4. Notice to Employees Regarding the Federal Earned Income Credit

Contractor shall notify its employees, and shall require each subcontractor to notify its employees, that they may be eligible for the Federal Earned Income Credit under the Federal income tax laws. Such notice shall be provided in accordance with the requirement set forth in Internal Revenue Service Notice 1015.

5. County Rights

The County may employ, either during or after performance of this Contract, any right of recovery the County may have against the Contractor by any means it deems appropriate including, but not limited to, set-off, action at law or in equity, withholding, recoupment, or counterclaim. The rights and remedies of the County under this Contract are in addition to any right or remedy provided by California law.

6. Fair Labor Standards Act

Contractor shall comply with all applicable provisions of the Federal Fair Labor Standards Act, and shall indemnify, defend, and hold harmless County, its agents, officers, and employees from any and all liability including, but not limited to, wages, overtime pay, liquidated damages, penalties, court costs, and attorneys' fees arising under any wage and hour law including, but not limited to, the Federal Fair Labor Standards Act for services performed by Contractor's employees for which County may be found jointly or solely liable.

7. Prevailing Wage Requirements

a. Prevailing Wages

SAMPLE

The services provided in this Contract constitute "public works" as defined in California Labor Code 1720, and are therefore subject to payment of prevailing wages, compliance monitoring and enforcement by the Department of Industrial Relations (DIR).

The Director of the DIR has established the general prevailing rate of per diem wages for each craft, classification, type of worker, or mechanic needed to execute public works and improvements. The current general prevailing wage rate determinations are available at www.dir.ca.gov/dlsr/pwd/index.htm. The Contractor is required to pay its agents and employees the applicable, current prevailing wage rate and is responsible for selecting the classification of workers required to perform this service.

The Contractor agrees to comply with the provisions of Section 1775 of the California Labor Code relating to the payment of prevailing wages, the utilization of apprentices in accordance to LC 1777.5, and the assessment of penalties determined by the California Labor Commissioner. Pursuant to Section 1773.2 of the California Labor Code, copies of the prevailing rate of per diem wages are on file at the Los Angeles County Public Works, Construction Division, and will be made available for inspection by request to the Contract Analyst. Future effective wage rates will be on file with the Department of Industrial Relations. The new wage rates shall become effective on the day following the expiration date of the current determinations and apply to the Contract in the same manner as if they had been included or referenced in the Contract.

b. Work Records

The Contractor shall comply with the requirements of Section 1812 of the Labor Code. The Contractor shall maintain an accurate written record of all employees working on the project each calendar day. The record shall include each employee's name, Social Security number, job classification, and the actual number of hours worked.

c. Posting of Notices

The Contractor shall comply with the provisions of Section 1773.2 of the Labor Code. The Contractor shall post a copy of the prevailing wage rates at the worksite and comply with applicable law including posting of jobsite notices required by 8 California Code Reg. §16451(d):

"This public works project is subject to monitoring and investigative activities by the Compliance Monitoring Unit (CMU) of the Division of Labor Standards

SAMPLE

Enforcement, Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the Contract for public work and to all contractors and other persons having access to the jobsite to enable the CMU to ensure compliance with and enforcement of prevailing wage laws on public works projects.

The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate jobsite posting of minimum prevailing rates required to be maintained by the public entity, which awarded the public works Contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the CMU at any office of the Division of Labor Standards Enforcement (DLSE).

Local Office Telephone Number:

Division of Labor Standards Enforcement Office
320 West Fourth Street, Suite 450
Los Angeles, CA 90013
(213) 620-6330

Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the CMU may take legal action against those responsible.

Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 hours per day or 40 hours per week, etc.) as well as the name of the employer, the public entity which awarded the public works Contract, and the location and name of the project.

For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at http://www.dir.ca.gov/Public-Works/PublicWorks.html*."*

d. Certified Payroll Records

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The Contractor shall comply with the requirements of Section 1776 of the Labor Code. Contractor and Subcontractors, if any, must furnish certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement) in a format prescribed by the Labor Commissioner.

e. When requested by the County, electronic certified payroll records must be submitted to the County, through an online system designated by the County.

8. Mental Health Services for Critical Incidents

In the event of a serious accident on the Project site, the Los Angeles County Department of Mental Health (DMH) will, if requested, respond. The response may be within a few hours or as long as a few days after the incident, depending on when the request was made. The services DMH will provide include crisis intervention, normalization of the stress response that survivors may be experiencing, stress management techniques and resources if the stress reactions increase in frequency or intensity. Requests for services may be made by calling the DMH Emergency Outreach Bureau Deputy Director, (213) 738-4924, during normal business hours or the ACCESS Center, (800) 854-7771, evenings, holidays, and weekends.

9. Employment Eligibility Verification

Contractor warrants that it fully complies with all Federal statutes and regulations regarding employment of aliens and others, and that all its employees performing services hereunder meet the citizenship or alien status requirements contained in Federal statutes and regulations. Contractor shall obtain, from all covered employees performing services hereunder, all verifications and other documentation of employment eligibility status required by Federal statutes and regulations as they currently exist and as they may be hereafter amended. Contractor shall retain such documentation for all covered employees for the period prescribed by law. Contractor shall indemnify, defend, and hold harmless County, its officers, and employees from employer sanctions and any other liability which may be assessed against Contractor or County in connection with any alleged violation of Federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Agreement.

10. Contractor Responsibility and Debarment

a. A responsible Contractor is a Contractor who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity, and experience to satisfactorily perform the Contract. It is the County's policy to conduct business only with responsible contractors.

SAMPLE

b. The Contractor is hereby notified that, in accordance with Chapter 2.202 of the County Code, if the County acquires information concerning the performance of the Contractor on this or other Contracts which indicates that the Contractor is not responsible, the County may, in addition to other remedies provided in the Contract, debar the Contractor from bidding or proposing on, or being awarded, and/or performing work on County Contracts for a specified period of time, which generally will not exceed five years but may exceed five years or be permanent if warranted by the circumstances, and terminate any or all existing Contracts the Contractor may have with the County.

c. The County may debar a Contractor if the Board of Supervisors finds, in its discretion, that the Contractor has done any of the following: (1) violated a term of a Contract with the County or a nonprofit corporation created by the County; (2) committed an act or omission which negatively reflects on the Contractor's quality, fitness or capacity to perform a Contract with the County, any other public entity, or a nonprofit corporation created by the County, or engaged in a pattern or practice which negatively reflects on same; (3) committed an act or offense which indicates a lack of business integrity or business honesty, or (4) made or submitted a false claim against the County or any other public entity.

d. If there is evidence that the Contractor may be subject to debarment, the Department will notify the Contractor in writing of the evidence which is the basis for the proposed debarment and will advise the Contractor of the scheduled date for a debarment hearing before the Contractor Hearing Board.

e. The Contractor Hearing Board will conduct a hearing where evidence on the proposed debarment is presented. The Contractor and/or the Contractor's representative shall be given an opportunity to submit evidence at that hearing. After the hearing, the Contractor Hearing Board shall prepare a tentative proposed decision, which shall contain a recommendation regarding whether the Contractor should be debarred, and, if so, the appropriate length of time of the debarment. The Contractor and the Department shall be provided an opportunity to object to the tentative proposed decision prior to its presentation to the Board of Supervisors.

f. After consideration of any objections, or if no objections are submitted, a record of the hearing, the proposed decision and any other recommendation of the Contractor Hearing Board shall be presented to the

SAMPLE

Board of Supervisors. The Board of Supervisors shall have the right to modify, deny or adopt the proposed decision and recommendation of the Hearing Board.

g. If the Contractor has been debarred for a period longer than five years, that Contractor may, after the debarment has been in effect for at least five years, submit a written request for review of the debarment determination to reduce the period of debarment or terminate the debarment. The County may, in its discretion, reduce the period of debarment or terminate the debarment if it finds that the Contractor has adequately demonstrated one or more of the following: (1) elimination of the grounds for which the debarment was imposed; (2) a bona fide change in ownership or management; (3) material evidence discovered after debarment was imposed; or (4) any other reason that is in the best interests of the County.

h. The Contractor Hearing Board will consider a request for review of a debarment determination only where (1) the Contractor has been debarred for a period longer than five years; (2) the debarment has been in effect for at least five years; and (3) the request is in writing, states one or more of the grounds for reduction of the debarment period or termination of the debarment and includes supporting documentation. Upon receiving an appropriate request, the Contractor Hearing Board will provide notice of the hearing on the request. At the hearing, the Contractor Hearing Board shall conduct a hearing where evidence on the proposed reduction of debarment period or termination of debarment is presented. This hearing shall be conducted and the request for review decided by the Contractor Hearing Board pursuant to the same procedures as for a debarment hearing.
The Contractor Hearing Board's proposed decision shall contain a recommendation on the request to reduce the period of debarment or terminate the debarment. The Contractor Hearing Board shall present its proposed decision and recommendation to the Board of Supervisors. The Board of Supervisors shall have the right to modify, deny, or adopt the proposed decision and recommendation of the Contractor Hearing Board.

i. These terms shall also apply to subcontractors of County Contractors.

11. Compliance with Jury Service Program

This Contract is subject to provisions of the County's ordinance entitled Contractor Employee Jury Service (Jury Service Program) as codified in Sections 2.203.010 through 2.203.090 of the Los Angeles County Code.

a. Unless Contractor has demonstrated to the County's satisfaction either that

SAMPLE

Contractor is not a Contractor as defined under the Jury Service Program (Section 2.203.020 of the County Code) or that Contractor qualifies for an exception to the Jury Service Program (Section 2.203.070 of the County Code), Contractor shall have and adhere to a written policy that provides that its employees shall receive from the Contractor, on an annual basis, no less than five days of regular pay for actual jury service. The policy may provide that Employees deposit any fees received for such jury service with the Contractor or that the Contractor deduct from the employee's regular pay the fees received for jury service.

b. For purposes of this Section, Contractor means a person, partnership, corporation or other entity which has a Contract with the County or a subcontract with a County contractor and has received or will receive an aggregate sum of $50,000 or more in any 12-month period under one or more County Contracts or Subcontracts. Employee means any California resident who is a full-time employee of Contractor. Full-time means 40 hours or more worked per week, or a lesser number of hours if: (1) the lesser number is a recognized industry standard as determined by the County, or (2) Contractor has a long-standing practice that defines the lesser number of hours as full-time. Full-time employees providing short-term, temporary services of 90 days or less within a 12-month period are not considered full-time for purposes of the Jury Service Program. If Contractor uses any subcontractor to perform services for the County under the Contract, the subcontractor shall also be subject to the provisions of this Section. The provisions of this Section shall be inserted into any such subcontract Agreement and a copy of the Jury Service Program shall be attached to the Agreement.

c. If Contractor is not required to comply with the Jury Service Program when the Contract commences, Contractor shall have a continuing obligation to review the applicability of its exception status from the Jury Service Program, and Contractor shall immediately notify County if Contractor at any time either comes within the Jury Service Program's definition of Contractor or if Contractor no longer qualifies for an exception to the Program. In either event, Contractor shall immediately implement a written policy consistent with the Jury Service Program. The County may also require, at any time during the Contract and at its sole discretion, that Contractor demonstrate to the County's satisfaction that Contractor either continues to remain outside the Jury Service Program's definition of Contractor and/or that Contractor continues to qualify for an exception to the Program.

d. Contractor's violation of this Section of the Contract may constitute a material breach of the Contract. In the event of such material breach, County may, in

its sole discretion, terminate the Contractor and/or bar Contractor from the award of future County Contracts for a period of time consistent with the seriousness of the breach.

12. No Payment for Services Provided Following Expiration/Termination of Agreement

Contractor shall have no claim against County for payment for any money or reimbursement, of any kind whatsoever, for any service provided by Contractor after the expiration or other termination of this Agreement. Should Contractor receive any such payment it shall immediately notify County and shall immediately repay all such funds to County. Payment by County for services rendered after expiration/termination of this Agreement shall not constitute a waiver of County's right to recover such payment from Contractor. This provision shall survive the expiration or other termination of this Agreement.

13. Notice to Employees Regarding the Safely Surrendered Baby Law

a. The Contractor shall notify and provide to its employees and shall require each subcontractor to notify and provide to its employees, a fact sheet regarding the Safely Surrendered Baby Law, its implementation in the County of Los Angeles, and where and how to safely surrender a baby. The fact sheet is available on the Internet at www.babysafela.org for printing purposes.

b. The Contractor acknowledges that the County places a high priority on the implementation of the Safely Surrendered Baby Law. The Contractor understands that it is the County's policy to encourage all County Contractors to voluntarily post the County's Safely Surrendered Baby Law in a prominent position at the Contractor's place of business. The Contractor will also encourage its Subcontractors, if any, to post this poster in a prominent position in the Subcontractor's place of business. The County's Department of Children and Family Services will supply the Contractor with the poster to be used.

14. Assignment by Contractor/Mergers or Acquisitions

a. The Contractor shall notify the County of any pending acquisitions/mergers of its company unless otherwise legally prohibited from doing so. If the Contractor is restricted from legally notifying the County of pending acquisitions/mergers, then it should notify the County of the actual acquisitions/mergers as soon as the law allows and provide to the County the legal framework that restricted it from notifying the County prior to the actual acquisitions/mergers.

SAMPLE

b. The Contractor shall not assign, exchange, transfer, or delegate its rights or duties under this Contract, whether in whole or in part, without the prior written consent of County, in its discretion, and any attempted assignment, delegation, or otherwise transfer of its rights or duties, without such consent shall be null and void. For purposes of this sub-paragraph, County consent shall require a written amendment to the Contract, which is formally approved and executed by the parties. Any payments by the County to any approved delegate or assignee on any claim under this Contract shall be deductible, at County's sole discretion, against the claims, which the Contractor may have against the County.

c. Any assumption, assignment, delegation, or takeover of any of the Contractor's duties, responsibilities, obligations, or performance of same by any person or entity other than the Contractor, whether through assignment, subcontract, delegation, merger, buyout, or any other mechanism, with or without consideration for any reason whatsoever without County's express prior written approval, shall be a material breach of the Contract which may result in the termination of this Contract. In the event of such termination, County shall be entitled to pursue the same remedies against Contractor as it could pursue in the event of default by Contractor.

15. Contractor's Warranty of Compliance with County's Defaulted Property Tax Reduction Program

Contractor acknowledges that County has established a goal of ensuring that all individuals and businesses that benefit financially from County through contract are current in paying their property tax obligations (secured and unsecured roll) in order to mitigate the economic burden otherwise imposed upon County and its taxpayers.

Unless contractor qualifies for an exemption or exclusion, contractor warrants and certifies that to the best of its knowledge it is now in compliance, and during the term of this contract will maintain compliance, with Los Angeles County Code Chapter. 2.206.

16. Termination for Breach of Warranty to Maintain Compliance with County's Defaulted Property Tax Reduction Program

Failure of contractor to maintain compliance with the requirements set forth in Article X "Contractor's Warranty of Compliance with County's Defaulted Property Tax Reduction Program" shall constitute default under this contract. Without limiting the rights and remedies available to County under any other provision of this contract, failure of contractor to cure such default within 10 days of notice shall be grounds upon which County may terminate this contract and/or pursue debarment of contractor, pursuant to County Code Chapter 2.206.

17. Time Off for Voting

The Contractor shall notify its employees and shall require each subcontractor to notify and provide to its employees, information regarding the time off for voting law (Elections Code Section 14000). Not less than 10 days before every statewide election, every Contractor and Subcontractors shall keep posted conspicuously at the place of work, if practicable, or elsewhere where it can be seen as employees come or go to their place of work, a notice setting forth the provisions of Section 14000.

18. Contractor CARD Track/Monitoring Database

The County maintains the Contractor Alert Reporting Database (CARD), which is used to track/monitor poorly performing contractors. When a County department identifies a significant performance/non-compliance issue(s) with a contractor, the department will provide notice to the contractor and will give the contractor an opportunity to correct the issue(s). If the contractor does not take any appropriate steps to correct the issue(s), the County department will enter the contractor, along with any other relevant information pertaining to the contractor's performance issue(s), into CARD.

The information entered into CARD can be accessed by all County departments, and will be used, along with any other relevant information not included in CARD, in determining bidder responsibility. If a department reviews this information and determines that a finding of non-responsibility should be pursued, the department will adhere to the guidelines specified in the Los Angeles County Code Chapter 2.202, and the County's implementation Procedures for Determinations of Contractor Non-Responsibility and Contractor Debarment.

The County maintains databases that track/monitor contractor performance history. Information entered into such databases may be used for a variety of purposes, including determining whether a bidder is responsible for the purposes of a future County contract.

19. Contractor Independence/**Prohibition from Participation in Future Solicitation(s)**

The County Board of Supervisors has adopted a countywide policy that prohibits any person, or any firm [collectively "firm"] or any subsidiary of a firm from submitting a bid or proposal in any County solicitation process where the person or firm, assisted in the development of the solicitation document(s).

A Proposer, or a Contractor or its subsidiary or Subcontractor ("Proposer/Contractor"), is prohibited from submitting a bid or proposal in a County solicitation if the Proposer/Contractor has provided advice or consultation for the solicitation. A Proposer/Contractor is also prohibited from submitting a bid or proposal in a County solicitation if the Proposer/Contractor has developed or prepared any of the solicitation materials on behalf of the County. A violation of this provision shall result in the disqualification of the Contractor/Proposer from participation in the County solicitation or the termination or cancellation of any resultant County Contract. This provision shall survive the expiration, or other termination of this Agreement.

20. Background and Security Investigations

20.1 Each of Contractor's staff performing services under this Contract, who is in a designated sensitive position, as determined by County in County's sole discretion, shall undergo and pass a background investigation to the satisfaction of County as a condition of beginning and continuing to perform services under this Contract. Such background investigation must be obtained through fingerprints submitted to the California Department of Justice to include State, local, and federal-level review, which may include, but shall not be limited to, criminal conviction information. The fees associated with the background investigation shall be at the expense of the Contractor, regardless of whether the member of Contractor's staff passes or fails the background investigation.

20.2 If a member of Contractor's staff does not pass the background investigation, County may request that the member of Contractor's staff be removed immediately from performing services under the Contract. Contractor shall comply with County's request at any time during the term of the Contract. County will not provide to Contractor or to Contractor's staff any information obtained through the County's background investigation.

20.3 County, in its sole discretion, may immediately deny or terminate facility access to any member of Contractor's staff that does not pass such investigation to the satisfaction of the County or whose background or conduct is incompatible with County facility access.

20.4 Disqualification of any member of Contractor's staff pursuant to this Paragraph shall not relieve Contractor of its obligation to complete all work in accordance with the terms and conditions of this Contract.

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21. Local Small Business Enterprise/Social Enterprise/Disabled Veterans Business Enterprise Utilization

Local Small Business Enterprise means a business that is certified by the County of Los Angeles as a Local Small Business Enterprise (Local SBE), consistent with Chapter 2.204 of the Los Angeles County Code.

21.1 When requested by the County, the contractor shall provide to the County via methods specified by the County, such as submission of electronic live (or dynamic) data on invoices for the prime and all Subcontractors using County-designated third party software system or to a County approved website, or other means of submitting expenditure information on Subcontractors, including but not limited to the following information: the name, business address, California Contractor License number and telephone number/email address of each subcontractor who will perform work or labor for the contractor on the Project in an amount in excess of one-half of 1 percent of the Contractor's total bid. In addition, the Contractor shall be required to provide each of the specified Subcontractors' Local SBE status (i.e., whether any of the listed Subcontractors are Local SBE's), Social Enterprise status, and Disabled Veterans Business Enterprise status and the proposed monetary amount of the work the subcontractor will perform on the Project. In addition, at the time of submittal of the final invoice, the Contractor shall indicate, via methods specified by the County, the actual dollar amounts paid to each listed Subcontractor who performed work on the project.

21.2 Contractor's failure to comply with the provisions of this Article is a material breach of the Agreement. The parties agree that it will be impracticable or extremely difficult to fix the extent of actual damages resulting from the failure to the Contractor to comply with this Article. The parties agree that under the current circumstances a reasonable estimate of such damages is specified in the Schedule for Liquidated Damages for Local Small Business Enterprise Utilization hereunder, and that the Contractor shall be liable to the County for said amounts.

If in the judgment of the Director, or his/her designee, the Contractor is deemed to be in non-compliance with the terms and obligations assumed hereby, the Director or his/her designee, at his/her option, in addition to, or in lieu of, other remedies provided herein in this Agreement, may deduct and withhold liquidated damages from County's final payment to the Contractor as follows:

SCHEDULE FOR LIQUIDATED DAMAGES FOR LOCAL SMALL BUSINESS ENTERPRISE/SOCIAL ENTERPRISE/DISABLED VETERANS BUSINESS ENTERPRISE UTILIZATION

Final Invoice Price	Liquidated Damages
Up to $100,000	$50.00 plus 0.1% of contract amount
$100,001 to $500,000	$150.00 plus 0.07% of all over 100,000
Over $500,000	$430.00 plus 0.05% of all over $500,000

22. Compliance with County's Zero Tolerance Human Trafficking

Contractor acknowledges that the County has established a Zero Tolerance Human Trafficking Policy prohibiting Contractors from engaging in human trafficking.

If a Contractor or member of Contractor's staff is convicted of a human trafficking offense, the County shall require that the Contractor or member of Contractor's staff be removed immediately from performing services under the Contract. County will not be under any obligation to disclose confidential information regarding the offenses other than those required by law.

Disqualification of any member of Contractor's staff pursuant to this paragraph shall not relieve Contractor of its obligation to complete all work in accordance with the terms and conditions of this Contract.

23. Claims

Notwithstanding Article 1.5 (commencing with Section 20104) of Chapter 1 of Part3, Section 9204 of the Public Contract Code shall apply to any claim by the Contractor in connection with the Project.

a. Upon receipt of a claim pursuant to Section 9204 of the Public Contract Code, the County will conduct a reasonable review of the claim and, within a period not to exceed 45 Days, provide the Contractor a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, the Contractor and the County may, by mutual agreement, extend the aforementioned time period.

b. The Contractor shall furnish reasonable documentation to support the claim.

c. If Board approval is needed to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the claim, and the Board does not meet within the 45 Days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the County will have up to 3 Days

following the next duly publicly noticed meeting of the Board after the 45-Day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

d. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. If the County fails to issue a written statement, paragraph (j) shall apply.

e. If the Contractor disputes the County's written response, or if the County fails to respond to a claim issued pursuant to Section 9204 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the County will schedule a meet and confer conference within 30 Days for settlement of the dispute.

f. Within 10 business days (Monday-Thursday) following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the County will provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim will be processed and made within 60 Days after the County issues its written statement. Any disputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the County and the Contractor sharing the associated costs equally. The County and the Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside those established in Section 9204.

g. Mediation shall include any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in Section 9204.

h. Unless otherwise agreed to by the County and the Contractor in writing, the mediation conducted pursuant to Section 9204 shall excuse any further

obligation under Section 20104.4 to mediate after litigation has been commenced.

i. Section 9204 does not preclude the County from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under Section 9204 does not resolve the parties' dispute.

j. Failure by the County to respond to a claim from the Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of Section 9204 shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the County's failure to have responded to a claim, or its failure to otherwise meet the time requirements of Section 9204, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

k. Amounts not paid in a timely manner as required by Section 9204 will bear interest at 7 percent per annum.

l. If a Subcontractor or a lower tier Subcontractor lacks legal standing to assert a claim against the County because privity of the Contract does not exist, the Contractor may present to the County a claim on behalf of a Subcontractor or lower tier Subcontractor. A Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the claim be presented to the County shall furnish reasonable documentation to support the claim. Within 45 Days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the County and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.

m. A waiver of the rights granted by Section 9204 is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the Contractor and the County may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the County may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of Section 9204, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in Section 9204.

24. Compliance with Fair Chance Employment Practices

Contractor, and its subcontractors, must comply with fair chance employment hiring practices set forth in California Government Code Section 12952. Contractor's violation of this paragraph of the Contract may constitute a material breach of the Contract. In the event of such material breach, County may, in its sole discretion, terminate the Contract.

25. Default Method of Payment: Direct Deposit or Electronic Funds Transfer

25.1 The County, at its sole discretion, has determined that the most efficient and secure default form of payment for goods and/or services provided under an agreement/ contract with the County shall be Electronic Funds Transfer (EFT) or direct deposit, unless an alternative method of payment is deemed appropriate by the Auditor-Controller (A-C).

25.2 The Contractor shall submit a direct deposit authorization request via the website https://directdeposit.lacounty.gov with banking and vendor information, and any other information that the A-C determines is reasonably necessary to process the payment and comply with all accounting, record keeping, and tax reporting requirements.

25.3 Any provision of law, grant, or funding agreement requiring a specific form or method of payment other than EFT or direct deposit shall supersede this requirement with respect to those payments.

25.4 At any time during the duration of the agreement/contract, a Contractor may submit a written request for an exemption to this requirement. Such request must be based on specific legal, business or operational needs and explain why the payment method designated by the A-C is not feasible and an alternative is necessary. The A-C, in consultation with the contracting department(s), shall decide whether to approve exemption requests.

26. Disallowed Cost

If Proposer's compliance with a County contract has been reviewed by the A-C within the last 10 years, Proposer must not have unresolved questioned costs identified by the A-C, in an amount over $100,000.00, that are confirmed to be disallowed costs by the contracting County department, and remain unpaid for six months or more from the date of disallowance, unless such disallowed costs are the subject of current good faith negotiations to resolve the disallowed costs, in the opinion of the County.

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27. Compliance with the County Policy of Equity

The consultant acknowledges that the County takes its commitment to preserving the dignity and professionalism of the workplace very seriously, as set forth in the County Policy of Equity (CPOE) (https://ceop.lacounty.gov/). The contractor further acknowledges that the County strives to provide a workplace free from discrimination, harassment, retaliation and inappropriate conduct based on a protected characteristic, and which may violate the CPOE. The contractor, its employees and subcontractors acknowledge and certify receipt and understanding of the CPOE. Failure of the Contractor, its employees or its Subcontractors to uphold the County's expectations of a workplace free from harassment and discrimination, including inappropriate conduct based on a protected characteristic, may subject the contractor to termination of contractual agreements as well as civil liability.

28. Integrated Pest Management Program Compliance

Contractor acknowledges that County has established an Integrated Pest Management Program (the Program) which aims to reduce or eliminate pollutants moved into surface water through storm water management systems and facilities. Contractor certifies compliance on Integrated Pest Management Program Compliance Certification in Required Forms, that contractor has reviewed, understands, and will adhere to the County's IPM Program requirements as set forth in Integrated Pest Management Program Compliance and at: www.lacountyipm.org

Contractor must ensure and certify that its employees who apply pesticides on County owned or maintained property are appropriately trained. The training, which must be conducted on an annual basis, but no later than June 30th of each calendar year, must meet the County's minimum requirements under the Program.

Employee training may be self-certified by Contractors, provided the County has the ability to audit the training, and must include, at a minimum, the following:

- The potential for pesticide-related surface water toxicity;
- Proper use, handling, and disposal of pesticides;
- Least toxic methods of pest prevention and control, including IPM; and
- Reduction of pesticide use.

All users of commercial pesticides are required by State law to provide a monthly pesticide report to the Los Angeles County Department of Agricultural Commissioner/ Weights and Measures (ACWM). In addition to the

SAMPLE

mandatory monthly reporting requirement, Contractor shall provide to the Department, with a copy to the ACWM, an annual summary of the pesticides used outdoors on County-owned or maintained property by Fiscal Year (July 1 to June 30). For each pesticide, the summary shall include all of the following:

- Product trade name
- Active ingredient(s)
- EPA Registration Number
- Total amount used

The units reported shall be appropriate to the product (gallons, ounces, pounds, etc.).

29. Termination for Improper Consideration

County may, by written notice to Contractor, immediately terminate the right of Contractor to proceed under this Agreement if it is found that consideration, in any form, was offered or given by Contractor, either directly or through an intermediary, to any County officer, employee, or agent with the intent of securing the Agreement or securing favorable treatment with respect to the award, amendment, or extension of the Agreement or the making of any determinations with respect to Contractor's performance pursuant to the agreement. In the event of such termination, County shall be entitled to pursue the same remedies against Contractor as it could pursue in the event of default by Contractor.

Contractor shall immediately report any attempt by a County officer or employee to solicit such improper consideration. The report shall be made either to County manager charged with the supervision of the employee or to County A-C's Employee Fraud Hotline at (213) 974-0914 or (800) 544-6861.

Among other items, such improper consideration may take the form of cash, discounts, service, the provision of travel or entertainment, or tangible gifts.

30. Gratuities

Contractor is advised that it is improper for any County officer, employee, or agent to solicit consideration, in any form, from Contractor with the implication, suggestion, or statement that Contractor's provision of the consideration, or failure to provide consideration, may cause favorable or unfavorable treatment, respectively, for the Contractor relating to the amendment or extension of the Contract or the making of any determinations with respect to Contractor's performance under this Contract. A Contractor shall not offer or give, either directly or through an intermediary, such

SAMPLE

improper consideration, in any form, to a County officer, employee, or agent for the purpose of securing favorable treatment as described herein.

A Contractor shall immediately report any attempt by a County officer, employee, or agent to solicit such improper consideration. The report shall be made either to the County manager charged with the supervision of the employee or to the County Auditor-Controller's Employee Fraud Hotline at (800) 544-6861.

Among other items, such improper consideration may take the form of cash; discounts; services; and the provision of travel, entertainment, or tangible gifts.

Note that Contractor's failure to adhere to this requirement could subject this Contract to Termination for Improper Consideration paragraph in this Agreement.

31. Facsimile/Electronic Representations

The County and the Contractor hereby agree to regard facsimile/electronic representations of original signatures of authorized officers of each party, when appearing in appropriate places on the Agreement, Change Orders and amendments prepared, and received via communications facilities, as legally sufficient evidence that such original signatures have been affixed to amendments to this Contract, such that the parties need not follow up facsimile/electronic transmissions of such documents with subsequent (non-facsimile/electronic) transmission of "original" versions of such documents. Electronic signatures include facsimile or e-mail electronic signatures. Each executed counterpart shall be deemed an original. All counterparts, taken together, constitute the executed Agreement. The parties hereby acknowledge and agree that electronic records and electronic signatures, as well as facsimile signatures, used in connection with the execution of this Agreement and electronic signatures, facsimile signatures or signatures transmitted by electronic mail in so-called pdf format shall be legal and binding and shall have the same full force and effect as if a paper original of this Agreement had been delivered had been signed using a handwritten signature. Contractor and County (i) agree that an electronic signature, whether digital or encrypted, of a party to this Agreement is intended to authenticate this writing and to have the same force and effect as a manual signature, (ii) intend to be bound by the signatures (whether original, faxed or electronic) on any document sent or delivered by facsimile or, electronic mail, or other electronic means, (iii) are aware that the other party will rely on such signatures, and (iv) hereby waive any defenses to the enforcement of the terms of this Agreement based on the foregoing forms of signature. If this Agreement has been executed by electronic signature, all parties executing this document are expressly consenting under the United States Federal Electronic Signatures in Global and National Commerce Act of 2000 ("E-SIGN") and California Uniform Electronic Transactions Act ("UETA")(Cal. Civ. Code § 1633.1,

SAMPLE

et seq.), that a signature by fax, e-mail or other electronic means shall constitute an Electronic Signature to an Electronic Record under both E-SIGN and UETA with respect to this specific transaction.

32. Advertising and Other External Communications About the Project

Consultant/Contractor shall obtain the County's prior written approval before disclosing or communicating any information concerning the award of the contract, the progress of the work, or the completion of the work, to any non-party, including but not limited to outside media and news organizations. This requirement includes, but is not limited to: (1) a Consultant/Contractor's, application for an award or any other recognition of the project; and (2) any advertising or promotion of the project and/or the Consultant/Contractor's role on the project. The County retains the sole discretion as to the release of such information, including the right to deny the request for disclosure, the right to direct the timing of the disclosure, and/or the right to direct Consultant/Contractor to make revisions to the information prior to disclosure.

33. COVID-19 Requirement for County Contractor Personnel

When applicable and required by the County, the Contractor shall comply with all other applicable local, departmental, State, and federal laws, regulations, and requirements for COVID-19.

34. **Campaign Contribution Prohibition Following Final Decision in Contract Proceeding**

Pursuant to Government Code Section 84308, Contractor and its Subcontractors, are prohibited from making a contribution of more than $250 to a County officer for twelve (12) months after the date of the final decision in the proceeding involving this Contract. Failure to comply with the provisions of Government Code Section 84308 and of this paragraph, may be a material breach of this Contract as determined in the sole discretion of the County.

SAMPLE

IN WITNESS WHEREOF, the County has, by order of its Board of Supervisors, caused these presents to be subscribed by the Director of Public Works, and the Contractor has hereunto subscribed its corporate name and affixed its corporate seal by its duly authorized officers the day, month, and year herein first above written.

COUNTY OF LOS ANGELES

By_____
Director of Public Works

NAME OF CONTRACTOR

By_____
President

_____
Type/Print Name

By_____
Secretary

_____
Type/Print Name

_____ _____
CLASSIFICATION LICENSE NO.
Contractor

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

By_____
Deputy

_____
Type/Print Name

SAMPLE

BOND FOR FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS:

That we, Contractor, a California Corporation, as principal, and

_____

_____

(name and address)

as surety, are held and firmly bound unto the County of Los Angeles, State of California, in the sum of AMOUNT IN WORDS DOLLARS ($ amount), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that whereas said principal has been awarded and is about to enter into the annexed Contract with the County of Los Angeles, State of California, for

WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE, SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

and is required by said County to give this bond in connection with the execution of said Contract.

NOW, THEREFORE, if the said principal shall well and truly do and perform all of the covenants and obligations of said Contract on its part to be done and performed at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment. The surety hereby waives notice of any change, including changes of time, to said Contract or related subcontractors, purchase orders and other obligations.

SAMPLE

WITNESS our hands this _____ day of _____, 2XXX.

NAME OF CONTRACTOR

_____
President

_____
Type/Print Name

_____
Secretary

_____
Type/Print Name

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

_____
Surety

By_____
Deputy

_____
Attorney-in-Fact

_____
Type/Print Name

_____
Type/Print Name

SAMPLE

PAYMENT BOND FOR LABOR AND MATERIALS

KNOW ALL PERSONS BY THESE PRESENTS:

That we, Contractor, a California corporation, as principal, and

_____

_____

(name and address)

as surety, are held firmly bound unto the County of Los Angeles, State of California, hereinafter referred to as the County, in the sum of AMOUNT IN WORDS DOLLARS ($XXXXXXX) lawful money of the United States, for the payment of which sum, well and truly made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas said principal has been awarded and is about to enter into a written Contract with the County for:

WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE, SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

which is hereto attached, made a part hereof, and to which reference is hereby made for all, and is required by said County to give this bond in connection with the execution of said Contract.

NOW, THEREFORE, if said principal, as contractor in said Contract, or principal's Subcontractor, fails to pay any of the persons referred to in Section 9100 of the Civil Code of the State of California for labor performed, skills, or other necessary services bestowed, site improvement made, equipment leased, or appliances, equipment, implements, machinery, materials, power, provender, provisions, teams, or trucks furnished or used in, upon, or about the performance of this work contracted to be done, or for amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and Subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with Respect to such work and labor, said surety shall pay for the same in an amount not exceeding the sum specified above, and if suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond is executed pursuant to Chapter 7 of Division 3, Part 4, Title 15 of the Civil Code of the State of California, and shall inure to the benefit of any of the persons referred to in said Civil Code Section 9100, as it now exists or

SAMPLE

may hereafter be amended, so as to give a right of action to such persons or their assigns in any suit brought upon this bond. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time and it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment.

It is agreed that any alterations in the work to be done or increase or decrease of the materials to be furnished, which may be made pursuant to the terms of said Contract shall not in any way release either the principal or surety hereunder, nor shall any extensions of time granted under the provisions of said Contract release either the principal or surety, and notice of such alterations or extensions of this Contract is hereby waived by the surety.

WITNESS our hands this _____ day of _____, 2XXX

NAME OF CONTRACTOR

_____
President

_____
Type/Print Name

_____
Secretary

_____
Type/Print Name

APPROVED AS TO FORM:

DAWYN R. HARRISON
County Counsel

_____
Surety

By_____
Deputy

_____
Attorney-in-Fact

_____
Type/Print Name

_____
Type/Print Name

SAMPLE

CERTIFICATION

SUBJECT: WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE,
SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

NAME OF Contractor

_____

Contractor's Signature

_____

Print Name

_____

Date

SAMPLE

STATEMENT OF UNDERSTANDING

SUBJECT: WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE,
SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

As the Contractor of the project, I have reviewed the Best Management Practices Handbooks, California Storm Water Quality Association, Menlo Park, CA and have proposed the implementation of the Best Management Practices (BMPs) applicable to effectively minimize the negative impacts of this Project's construction activities on the surrounding water quality. The selected BMPs will be installed, monitored, and maintained to ensure their effectiveness. The BMPs that I have not chosen for implementation are redundant or deemed not applicable to the proposed construction activities. If at any time, site conditions and/or the County official warrant re-evaluation and revisions of the chosen BMPs, the appropriate changes will be made without unnecessary delay. I am aware that failure to properly implement and maintain the BMPs necessary to prevent the discharge of pollutants from this project could result in significant penalties and/or delays.

NAME OF CONTRACTOR

_____
Signature

_____
Print Name

_____
Date

SAMPLE

SECTION 00 06 10
BOND FOR FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS:

That we, CONTRACTOR, a California Corporation, as principal, and _____, as surety, are held and firmly bound unto the COUNTY OF LOS ANGELES, State of California, in the sum of XXX DOLLARS ($), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that whereas said principal has been awarded and is about to enter into the annexed contract with the County of Los Angeles, State of California, for

WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE, SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

SAMPLE

and is required by said County to give this bond in connection with the execution of said contract;

NOW, THEREFORE, if the said principal shall well and truly do and perform all of the covenants and obligations of said contract on its part to be done and performed at the times and in the manner specified therein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment. The surety hereby waives notice of any change, including changes of time, to said contract or related subcontracts, purchase orders and other obligations. The surety hereby waives notice of any change, including changes of time, to said contract or related subcontractors, purchase orders and other obligations.

WITNESS our hands this _____ day of _____, 20

CONTRACTOR

_____
President

APPROVED AS TO FORM:

_____
Secretary

DAWYN R. HARRISON
County Counsel

_____
Surety

By_____
Deputy

_____
Attorney-in-Fact

SECTION 00 06 20
PAYMENT BOND FOR LABOR AND MATERIALS

KNOW ALL PERSONS BY THESE PRESENTS:

That we, CONTRACTOR, a California corporation, as principal, and _____ as surety, are held firmly bound unto the COUNTY OF LOS ANGELES, State of California, hereinafter referred to as the County, in the sum of DOLLARS ($) lawful money of the United States, for the payment of which sum, well and truly made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas said principal has been awarded and is about to enter into a written contract with the County for:

WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT - REBID
750 SANTA ANITA AVE, SOUTH EL MONTE, CA 91733
SPECS NO.7835, CP.: 69539

which is hereto attached, made a part hereof, and to which reference is hereby made for all particulars, and is required by said County to give this bond in connection with the execution of said contract.

NOW, THEREFORE, if said principal, as contractor in said contract, or principal's subcontractor, fails to pay any of the persons referred to in Section 9100 of the Civil Code of the State of California for labor performed, skills or other necessary services bestowed, site improvement made, equipment leased, or appliances, equipment, implements, machinery, materials, power, provender, provisions, teams, or trucks furnished or used in, upon, or about the performance of this work contracted to be done, or for amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, said surety shall pay for the same in an amount not exceeding the sum specified above, and if suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court. This bond is executed pursuant to Chapter 7 of Division 3, Part 4, Title 15 of the Civil Code of the State of California, and shall inure to the benefit of any of the persons referred to in said Civil Code Section 9100, as it now exists or may hereafter be amended, so as to give a right of action to such persons or their assigns in any suit brought upon this bond. No premature payment by said County to said principal shall exonerate any surety unless the Board of Supervisors of said County shall have actual notice that such payment is premature at the time and it is ordered by said Board, and then only to the extent that such payment shall result in loss to such surety, but in no event more than the amount of such premature payment.

It is agreed, that any alterations in the work to be done, or increase or decrease of the materials to be furnished, which may be made pursuant to the terms of said contract shall not in any way release either the principal or surety hereunder, nor shall any extensions of time granted under the provisions of said contract release either the principal or surety, and notice of such alterations or extensions of this contract is hereby waived by the surety.

WITNESS our hands this _____ day of _____, 20

CONTRACTOR

_____
President

APPROVED AS TO FORM:

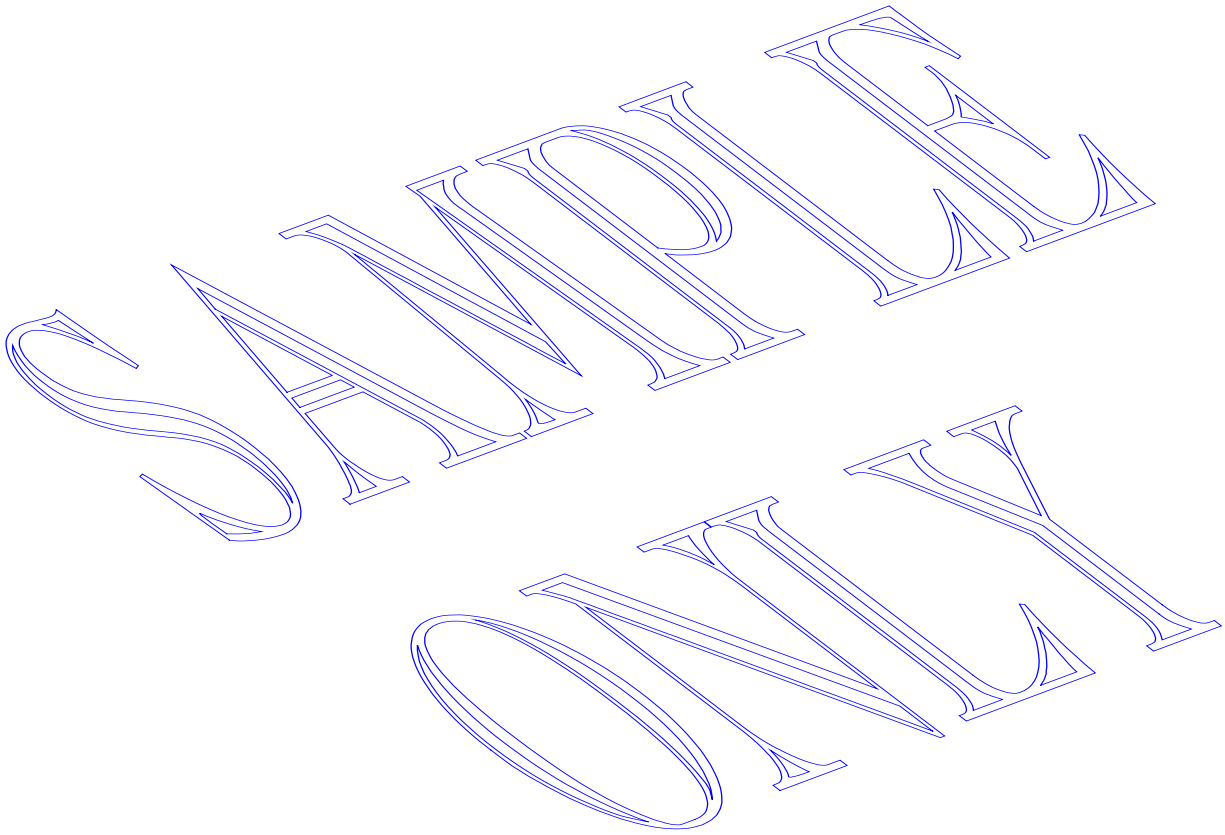
_____
Secretary

DAWYN R. HARRISON
County Counsel

_____
Surety

By_____
Deputy

_____
Attorney-in-Fact


SAMPLE
ONLY

SECTION 00 07 00

GENERAL CONDITIONS

A. Bid Form, Equals, Use of Drawings & Manual

1. Bid Forms
2. Equals
3. Additional Sets of Drawings and Project Manual

B. Drawings & Specifications

4. Drawings and Specifications
5. Contract Documents and Order of Precedence
6. Interpretation of Drawings and Specifications
7. Project Manual
8. Standard Specifications
9. Substitutions Required Because of Federal Government Restrictions or Lack of Product Availability
10. As-Built Drawings
11. Reference Materials

C. Schedule, Changes in Work

12. Construction Schedule
13. County's Right to Delay Commencement of the Work
14. Updated Schedules
15. Changes in the Work
16. Provisions for Extras
17. Time Extensions and Compensation for Delay

D. Inspection/Permits, Tests, Quality, Warranties

18. Observation
19. Permits, Licenses, and Inspections
20. Tests

E. Substantial Completion, Occupancy by County

21. Substantial Completion
22. Occupancy by County

F. Employment Requirements

23. Workers
24. Hours of Work
25. Saturday, Sunday, Holidays, and Overtime Work
26. Prevailing Wage Scale
27. Employment of Indentured Apprentices
28. Affirmative Action Plan for Equal Employment Opportunity

G. Contractor Responsibilities, Restrictions

29. Payroll Records
30. Quality of Work and Material
31. Responsibility of Contractor and of Contractor's Representative on the Work
32. Repairing Damaged Work
33. List of Subcontractors and Subletting Work
34. Advertising
35. Certificate as to Compliance with Certain Regulations
36. Coordination with Others and Other Contracts
37. Contractor's Construction Equipment
38. Contractor Personnel
39. Audits and Records
40. Warranty and Corrections to Work
41. Hazardous Material
42. Contractor Safety Requirements

H. Indemnification and Insurance

43. Indemnification
44. General Insurance Requirements
45. Insurance Coverage Requirements--Types and Limits
46. Not used.
47. Not used.

I. Legal/Other

48. Assignment
49. Patents
50. Suspension and/or Termination of Work and/or Contract
51. Contractor's Warranty of Adherence to County's Child Support Compliance Program
52. Contractor's Acknowledgment of County's Commitment to Child Support Enforcement
53. Limitation of Liability
54. Forum Selection
55. Waiver
56. Prior Agreements
57. Progress Payments
58. Acceptance of Final Payment as Release
59. Substitution of Securities for Retention
60. Resolution of Construction Claims
61. Conflict of Interest
62. Anti-Trust Claims
63. County's Quality Assurance Plan
64. Laws, Codes and Regulations to Be Observed

SECTION 00 07 00

GENERAL CONDITIONS

1. BID FORMS:

One copy of the Bid Forms accompany this Project Manual for Bidder's use.

Should these specifications be issued without the Bid Forms, or should the copy be lost or damaged, the Bidder must notify the Department of Public Works, in order that he/she may receive the forms or he/she may copy the forms bound into the Project Manual. All bids must be submitted on these forms or a facsimile thereof.

The Bidder shall not attach his bid to the returned Project Manual, nor use the Bid Forms, which are bound therein.

2. EQUALS:

A. Except as may be provided in the Proprietary Specification Section of these General Conditions, whenever any material, product, thing or service is specified or indicated in the Bid Documents by brand, trade, patent or proprietary name and/or by the name of the manufacturer, the item so specified or indicated shall be deemed to be followed by the words "or equal."

B. While preparing the bid, the Bidder may, at its own risk, submit an item not specified in the Bid Documents as an "or equal" for consideration by the County. Failure to do so within the time frame described in Subparagraph D below shall bar the Bidder from proposing or substituting an "or equal" item for an item specified in the Bid Documents.

C. If the Bidder includes an "or equal" item with the bid, the Bidder must submit sufficient data to the County to substantiate the specific characteristics and qualities which make the "or equal" item the equivalent in all respects of the item specified in the Bid Documents as described in Subparagraph D below. The Bidder shall furnish such substantiating data or arrange for any necessary tests to verify the equivalent qualities of the "or equal" item at the Bidder's sole expense.

D. The first, second and third apparent low bidder will have two (2) calendar days after the bid opening to submit their list of Equals (Section 00 04 40)

and ten (10) calendar days after the bid opening to submit all substantiating data and test results. No list of Equals will be accepted after the close of business two (2) calendar days after bids are opened. Likewise, no substantiating data and test results will be accepted after the close of business ten (10) calendar days after bids are opened.

E. The County, in its sole discretion, shall determine whether the substantiating data demonstrates that an "or equal" item is equal in all respects to the item specified in the Bid Documents. If the County determines that the "or equal" item has not been substantiated to be equal in all respects, the item specified in the Bid Documents shall be furnished and/or installed by Contractor without modification of the bid amount or Contract Documents.

F. The Contract Time for completion of the Work specified in the Contract Documents shall not be affected by any circumstances whatsoever arising from the provisions of this article.

G. The Contract Documents, Drawings, and Specifications have been prepared to complement and accommodate certain specified equipment, products, or systems and any modifications, adjustment, or redesign required to assimilate any County approved substitution or "or equal" equipment, products, or systems shall be at the Contractor's expense. Contractor shall provide a complete and workable application and shall satisfy design criteria and aesthetic values to the sole satisfaction of the County.

3. ADDITIONAL SETS OF DRAWINGS AND PROJECT MANUAL:

Upon award of contract, the Contractor will be furnished with eight (8) full-size sets of Drawings. Up to twenty additional sets may be furnished upon request. Project Manuals will be issued with each set of Drawings for construction use.

4. DRAWINGS AND SPECIFICATIONS:

Specifications are intended to establish the standards for quality, performance, and technical requirements for all labor, workmanship, material, methods, and equipment necessary to complete the Work shown or reasonably implied on the Drawings and Specifications. The Drawings are intended to establish the scope, arrangement, graphic detail, and to illustrate the contract requirements. The Drawings and Specifications are intended to compliment and supplement one another, and any part of the Work that may be mentioned or indicated in one and not represented in the other shall be done the same as if it had been mentioned or represented in both. Work, materials, or equipment of a minor nature which may not

be specifically mentioned in the specifications or indicated on the Drawings, but which may be reasonably assumed as necessary for the completeness of the Work, shall be performed and or supplied by the Contractor the same as if it were shown on the Drawings or described in the Specifications. In case of discrepancy either in the figures, on the drawings, or in the specifications, the matter shall be promptly submitted to the Director, or the Director's representative, who shall promptly make a determination in writing.

5. CONTRACT DOCUMENTS AND ORDER OF PRECEDENCE:

A. In the event that any provision(s) in any component part of the Contract Documents conflicts with any provision(s) of any other component part, the following order of precedence among the Contract Documents' component parts shall govern:

1. Written Amendments and Change Orders to the Contract in reverse chronological order
2. Addenda and Notices to Bidders in reverse chronological order
3. County-Contractor Agreement
4. Project Manual and Drawings
5. Performance Bond
6. Labor and Material Payment Bond

B. In the event there is a conflict between or among any provisions within one of the component parts of the Contract Documents, the higher standard or the more stringent requirement shall govern.

6. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS:

A. The Director, or his/her authorized representative, will interpret the meaning of any part of the Drawings and Specifications about which any misunderstanding may arise. Should there appear to be any inconsistency or discrepancy in or between the Drawings and Specifications, the Contractor shall refer the matter to the Director, and then proceed without delay to complete the Work under question after the matter has been resolved by the Director. Should the Contractor proceed with the Work without referring the matter to, or obtaining resolution from the Director, Contractor does so on Contractor's own responsibility and without recourse to the County or County's employees, agents, etc.

B. If the Contractor disagrees with the interpretation of the Director, or his/her authorized representative, they shall promptly, and within ten (10) days after

receipt of the interpretation, file a written request for a hearing before the Disputes Review Board as provided herein. Such written request shall outline in detail areas and scope of the Contractor's disagreement with the interpretation. The Contractor shall continue with the Work in accordance with the Director's interpretation, maintaining accurate and complete records of all cost and time impacts related to the Work involved in the disputed interpretation. These records shall be filed with the Director in a timely manner as the Work progresses.

C. The Disputes Review Board selected by the Director is composed of three County personnel having a grade of Section Head or higher. The Board will convene to hear all matters related to the dispute within forty-five (45) calendar days after receipt of an acceptable request to convene. An acceptable "request for hearing" is defined as a request that outlines in detail the following:

1. Areas and scope of disagreement with the interpretation.

2. All areas of inconsistency/discrepancy in the drawings and/or specifications related to the dispute. Cite the specific drawings, details, specification sections, and paragraphs.

The Director shall determine whether a hearing will be conducted and may reject the request for hearing on the basis of information presented in the request.

D. The hearing will be informal and formal rules of evidence will not apply. The Board will submit its recommendation within a reasonable period of time following conclusion of the hearing. The Director will promptly render an interpretation notice to the Contractor.

7. PROJECT MANUAL:

A. The Project Manual is divided for convenience into divisions and sections as set forth in the Table of Contents preceding these General Conditions. Format is based upon the CSI Master Format for Construction Specifications. Schedules of Work included in these sections are given for convenience and shall not be considered as a comprehensive list of items necessary to complete the Work of any section.

B. Where devices or items, or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many such devices, items, or parts as are required to properly complete the Work.

8. STANDARD SPECIFICATIONS:

A. Where these Specifications or the Building Code stipulate that a material shall conform to the American Society for Testing Materials (ASTM) specifications or other recognized standards, the Contractor shall, when so required, deliver to the Department an affidavit or certificate in triplicate, signed by the manufacturer or supplier that the material furnished conforms to specifications or standards mentioned. When tests are required, the results of such tests shall be delivered to the Department.

B. References to the "Building Code" are to the edition of the applicable Building Code listed on the drawings, including any amendments thereto.

9. SUBSTITUTIONS REQUIRED BECAUSE OF FEDERAL GOVERNMENT RESTRICTIONS OR LACK OF PRODUCT AVAILABILITY:

A. In the event that certain materials or equipment specified are entirely unobtainable or not obtainable in sufficient quantities or within a reasonable time, due to Federal Government restrictions or other causes growing out of the national defense or war programs, the awarding entity may permit the use of equal and equivalent materials of other type of manufacture in their place. Before such substitutions can be made, the Contractor shall submit a written statement to the awarding entity setting forth in full the reasons why the materials specified are unobtainable and describing in full the materials which he proposed to supply in their place. Substitutions shall not be made until the approval of the awarding entity, in writing, has first been obtained.

B. Should a specified item not be obtainable due to product unavailability, the awarding entity may permit the use of equal and equivalent materials of other type of manufacture in their place. Contractor shall follow the procedure identified in Paragraph A above in order to obtain approval.

10. AS-BUILT DRAWINGS:

A. The Contractor shall keep one (1) complete and up-to-date set of prints at all times on the job, reserved for use as a record set of changes from the bid set. Throughout the duration of the construction work, this set of prints shall be the responsibility of the Contractor to maintain as a record of all field changes including underground runs, which are installed in locations other than those indicated on the Contract Drawings and those that have been indicated as to be field run as located. The lines shall be located on the Drawing dimensionally from a fixed point, such as a street-curb line, or centerline, or a permanent structure. A copy of the updated as-built prints and as-built specifications shall be made available to the County Project Manager with the monthly progress payment requests.

B. Contractor progress payment will be contingent upon the as-built drawings and specifications being maintained in current status, and the County Inspector will not approve progress payments unless these as-built drawings and specifications are current.

C. As a condition to certifying the final payment under this Contract, within 30 calendar days after substantial completion, the Contractor will submit to the Project Manager the original set of as-built prints as well as the set of as-built specifications. If needed, a complete set of blue line prints of the Drawings will be furnished to the Contractor for which the as-built drawings are required. All variations from the Contract Drawings and any additional information required by the Specifications shall be entered on the as-built drawings and specifications as they occur, neatly and legibly, in ink of a contrasting color or otherwise marked as approved by the County. Each set of as-built drawings and specification shall be signed and dated before being accepted by the County representative at the completion of the Work.

11. REFERENCE MATERIALS:

The Contractor shall furnish and maintain on-site reference material including at least one copy of all applicable codes referenced in the Contract Documents as necessary for the performance of the Work specified.

12. CONSTRUCTION SCHEDULE:

A. All time limits stated in the Contract Documents are of the essence of the Contract. The Contractor shall prosecute the Work at such time and in such manner that Substantial Completion of the Work shall occur in accordance

with the Contract and the Contract Time, including authorized adjustments thereto.

B. The Contractor shall provide a Contract Schedule for the Work in accordance with the requirements of Section 01 32 00, Construction Schedule.

C. The term "day" when used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

13. COUNTY'S RIGHT TO DELAY COMMENCEMENT OF THE WORK:

The Department, on behalf of the County, shall have the right to direct that the Contractor shall withhold actual commencement of the Work of construction until sufficient material, in the opinion of the Department, has been delivered to the site of the Work to insure completion of the Work without interruption, and the Contractor shall comply with such instructions when issued. The Contractor shall be granted an extension of the completion time of the contract equal to the number of working days delay caused to Contractor pursuant to Contractor's compliance with such instructions.

14. UPDATED SCHEDULES:

Updated schedules shall be attached with the Contractor's request for payment and shall be a condition required prior to payment. Each schedule shall include a narrative report defining problem areas, anticipated delays, and their impact on the schedule, and the corrective action that shall be taken by the Contractor and its affect.

15. CHANGES IN THE WORK:

A. Written Changes

1. The County may, at any time, without notice to the Surety, make changes in the Work within the general scope of the Contract, including changes:

a. in the Specifications and the Drawings;

b. in the method or manner of performance of the Work;

c. in the facilities, equipment, materials, services, or site to be furnished by the County;

d. directing acceleration in the performance of the Work; or

e. directing the Contractor to suspend, delay, or interrupt all or any part of the Work for such period of time as the County may determine to be appropriate for the convenience of the County.

2. Such changes shall be made in accordance with either of the following methods:

a. By a written Supplemental Agreement ordered by the County (or awarding authority if other than the County) in the manner specified by Public Contract Code Sections 20136, 20137, 20138, or 20145, or other successor statues.

b. By written Change Order, signed by the Director, in the manner and amounts specified by Public Contract Code Section 20142 or its successor statutes.

3. If any change or proposed change under this paragraph causes or would cause an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the Work, whether changed or not changed by any such order, the Contractor may request an equitable adjustment under the terms of this paragraph and under "Construction Schedule," Section 01 32 00. At County's option, the County may negotiate an equitable adjustment for the price and time impact for the proposed changed Work either prior to, or after, directing the Contractor to proceed.

4. In the event the County elects to evaluate a bid prior to directing the Contractor to proceed, the County will issue a notice describing the proposed Change Order in the form of a Request for "Quotations" (RFQ). If the Contractor does not respond within fourteen (14) days after receipt of the notice, or such other time as agreed upon, with an equitable adjustment requested in accordance with Paragraph B.5.(b) under "Equitable Adjustments," the County may issue a Change Order with no change in the Contract Amount or Contract Time. The Contractor shall not proceed with any aspect of the proposed changed Work, or delay, suspend, or interrupt any unchanged Work until the County issues the Change Order.

5. If, in the opinion of the Director, it is in the County's best interest and it is deemed necessary to proceed with a required change in the Contract Documents, and time precludes thorough analysis of the Contractor's proposal, or the parties fail to reach an agreement, the Director may order the Contractor to proceed (Proceed Order) on the basis of a tentative price based on the best estimate available at the time, with the firm price to be determined later. If a Proceed Order is issued, the Contractor shall submit his proposal for the changes in the Work within thirty (30) days after the Proceed Order or completion of the changed Work, whichever is later. All charges arising out of a Proceed Order are to be documented and verified in a manner acceptable to the Director.

6. In the event that the County requires certain Work to be accomplished and the Contractor fails in the discharge of any or all of his responsibilities described hereinbefore, the County may issue a Unilateral Change Order which is a change order issued by or at the direction of the County without the full and timely agreement of the Contractor.

    a. A Unilateral Change Order may be issued before, during or after the changed Work is physically accomplished under the following conditions:

        1. The Contractor fails to submit price and/or time extension proposal for the changed Work within thirty (30) days of receipt of the request for "Quotations" or within a reasonable time thereafter as specified by the County.

        2. The Contractor fails or refuses to execute a Change Order by affixing his signature thereto within thirty (30) days of receipt or within a reasonable time thereafter as specified by the County.

        3. The County notifies the Contractor in writing that the Change Order is considered to be unilateral and is to be an effective change to the Contract. A notation will be made on the face of the Change Order that it is unilateral and the effective date thereof. Normal distribution of copies will then be made.

7. Any other written order including direction, instruction, interpretation, or determination from the County that causes a change in the Contractor's obligations may be treated as a proposed Change Order as provided in Part B of this Article, "Constructive Changes."

8. Except as provided in this Article, no order, statement, or conduct of the County shall be treated as a Change Order under this clause or entitle the Contractor to an equitable adjustment.

9. No equitable adjustment request by the Contractor shall be allowed if asserted after Final Payment of the Contract.

B. Constructive Changes

1. Notice: The primary purpose of this paragraph is to obtain prompt reporting of County conduct or changed conditions either caused by an act of God (Public Contract Code Section 7105) or digging trenches or other excavations that extend deeper than four feet below the surface (Public Contract Code Section 7104) that the Contractor considers to constitute a change to this Contract. Except for changes identified as such in writing and signed by the County or the Director, the Contractor shall notify the County in writing within fourteen (14) days from the date of County conduct (including actions, inactions, and written communications) that the Contractor regards as a change to the Contract. On the basis of the most accurate information available to the Contractor, the notice shall state:

   a. The date, nature, and circumstances of the conduct regarded as a change;

   b. The name, function, and activity of each Contractor official, agent, or employee involved in or knowledgeable about such conduct;

   c. The identification of any documents and the substance of any communication involved in such conduct;

   d. In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;

e. The particular elements of Contract performance for which the Contractor may seek an equitable adjustment under this clause, including:

1. What specific Contract Drawings or specific sections of the Specifications have been, or may be, affected by the alleged change;

2. What labor or materials or both have been, or may be, added, deleted, or wasted by the alleged change;

3. To the extent practical, what delay and disruption in the manner and sequence of performance and effect on continued performance have been, or may be, caused by the alleged change in accordance with Section 01 32 00, "Construction Schedule;" and

4. What adjustments to Contract Amount and other provisions affected by the alleged change are estimated;

f. The Contractor's estimate of the time by which the County must respond to the Contractor's notice to minimize cost, delay, or disruption of performance, in accordance with Section 01 32 00, "Construction Schedule."

2. Continued Performance: Following submission of the notice required by Paragraph B.1 of this Article above, the Contractor shall diligently continue performance of this Contract as though not changed by the conduct reported under Paragraph B.1 until notified of the County's response under Paragraph B.3 of this paragraph, below.

3. Response: The County will, within fourteen (14) days after receipt of notice, respond to the notice in writing. In responding, the County will either:

a. Confirm that the conduct of which the Contractor gave notice constitutes a change and, when necessary, direct the mode of further performance in accordance with Part A of this Article, "Written Changes;"

b. Countermand any communication regarded as a change;

c. Deny that the conduct of which the Contractor gave notice constitutes a change, and when necessary, direct the mode of further performance; or

d. In the event the Contractor's notice information is inadequate to make a decision under A, B, or C above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the County will respond.

4. Appeals: In the event the Contractor does not agree with the County's response under B.3 above, the Contractor may submit a request to the Disputes Review Board.

5. Equitable Adjustment:

a. If the County confirms that the County's conduct effected a change as alleged by the Contractor, the Contract will be modified in writing accordingly in conformance with Part A of this Article, "Written Changes". Except for a proposed change to the Drawings or Specifications, no request for equitable adjustment under this paragraph shall be allowed for any costs incurred more than fourteen (14) days before the Contractor gives written notice under Part B of this Article.

b. In the case of a necessary change to the Drawings or Specifications for which the County is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the Drawings or Specifications before the necessary change is identified. When the cost of property made obsolete or in excess as a result of a change confirmed by the County under this paragraph is included in the equitable adjustment, the County will have the right to prescribe the manner of disposition of the property or its proceeds. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided respectively in Paragraphs (1) and (2) above of this part.

C. Compensation for Changes in the Work

1. Changes in the Work issued and signed by the Contractor pursuant to the requirements of this Contract represent and constitute full and final settlement for all costs and time (hereinafter referred to as compensation) associated with the Work (or event) described therein. Compensation is defined to include all direct and indirect labor costs, all material and equipment expenses, and all impact costs related to and/or occasioned by the Work described therein, as well as all taxes, insurance, and profit. It is agreed that the basis of compensation to the Contractor for Work either added or deleted by Changes in the Work shall be determined by one or more of the following methods below. All amounts for overhead, profit, insurance, and all other direct and indirect costs of the changes in the Work (except for bonds as provided in Paragraph C.2 shall be computed in accordance with percentages set forth in Paragraph C.1.c and C.8.c of this Article.

a. Method A

By unit prices for items of Work scheduled to be done under the unit price provisions of the Contract. The cost or credit for such added or omitted Work shall be determined by multiplying the number of units added to or omitted from the Work by the applicable unit price.

b. Method B

By agreed lump sum. All lump sum quotations prepared by the Contractor shall be supported by legible and itemized cost by trades. The itemized breakdown accompanying the quotation shall quantify all added and deleted labor, material, and construction equipment directly involved. The Contractor must also obtain and furnish with quotation, itemized breakdown(s) as described above, signed by each subcontractor or vendor participating in the change regardless of tier. All labor cost, including associated fringe benefits and insurance costs, shall be verified by certified payrolls and/or standard rates in accordance with the Prevailing Wage Scale.

c. Method C

If neither Method A nor Method B are agreed upon before the changes to the Work are commenced, then the Contractor shall be paid as follows:

The actual cost, documented to the satisfaction of the County, of labor, materials, and equipment furnished by the Contractor and/or the actual cost of subcontractor Work incurred by the Contractor as provided in Paragraph C.8, plus the following percentages which are considered fair and reasonable compensation for overhead, profit, insurance, and all other direct and indirect costs of the Changes in the Work (except for bonds as provided in Paragraph C.2:

18% of the cost of labor as provided in Paragraph C.3 where furnished by the Contractor;

15% of the cost of materials as provided in Paragraph C.4 where furnished by the Contractor;

10% of the actual cost of equipment as provided in Paragraph C.5; and

5% of the actual cost of the first tier subcontract Work as provided in Paragraph C.8.

Overhead charges shall include those charges as specified in Paragraph C.3.c below.

d. Unilateral Change Order

1. The terms of a Unilateral Change Order, including the change in Contract price and/or completion date shall, in the County's judgment, be fair and reasonable.

2. When a Unilateral Change Order has been issued, it will have the full force and effect of a Contract modification. It will be included in schedules, payment applications, reports, and all official records of the Contract. The issuance of a Unilateral Change Order will not prejudice any of the Contractor's rights to make claims or appeal disputed matters under other provisions of the Contract.

3. If the Contractor objects to a Unilateral Change Order, Contractor shall state, in writing, specific objections to, or specific points of disagreement with, the Work described in the Unilateral Change Order within thirty (30) days of receipt of such Change Order.

2. To the total additional cost of the Work as computed by any of the three above methods, the Contractor may add, upon furnishing to the County satisfactory evidence of the cost thereof, the actual cost of additional bond premiums incurred by the Contractor as a result of the additional cost to the Work up to a sum not to exceed 1.5 percent (1.5%) of the additional cost to the Work.

3. Labor: The cost of labor used in performing the Work, whether the employer is the Contractor, Subcontractor, or other forces, will be the sum of the following:

   a. The gross actual wages paid including income tax withholdings but not including any employer payments to or on behalf of the workmen for health and welfare, pension, vacation, insurance, and similar purposes.

   b. To the actual gross wages, as defined above, a percentage will be applied based upon current applicable labor rates concerning payments made to or on behalf of workmen other than actual wages. This percentage shall constitute full compensation for all payments other than actual gross wages as specified below. The Contractor shall compute a separate percentage for each craft, or a composite percentage for all crafts if so approved by the County. All computed percentages shall be submitted to the County for approval within thirty (30) days after receipt of Notice to Proceed with the changes to the Work or as directed by the County prior to any changed Work being performed.

   c. The charges for labor shall include all classifications through foremen when engaged in the actual and direct performance of the Work. They shall not include charges for such overhead personnel as superintendents, assistant superintendents, office personnel, timekeepers, and maintenance mechanics.

4. Materials: The cost of materials required for the accomplishment of the Work shall be the delivered cost to the purchaser, whether Contractor, subcontractor, or other forces, from the supplier thereof, except as the following are applicable:

   a. If cash trade discount by the actual supplier is offered or available to the purchaser, it shall be credited to the County if such discount was taken.

   b. If materials are procured by the purchaser by any method which is not a direct purchase from and a direct billing by the actual supplier, to such purchaser, the cost of such materials, including handling, shall be deemed to be the price to the actual supplier as determined by the County.

   c. If the materials are obtained from a supply or source owned wholly or in part by the purchaser, payment therefore will not exceed the lesser of the price paid by the purchaser for similar materials furnished from said source on Contract items or the current wholesale price for such materials delivered to the worksite, whichever price is lower.

   d. The cost of such materials shall not exceed the lowest current wholesale price at which such materials are available in the quantities concerned, delivered to the job site, less discounts as provided in Subparagraph 4.a.

   e. If the Contractor does not furnish satisfactory evidence of the cost of such materials from the actual supplier thereof, the cost shall then be determined in accordance with Subparagraph 4.d.

5. Equipment: Equipment rented/leased by the Contractor or subcontractor and utilized on this project for the purposes of this Article shall be paid for on the basis of arms-length rental agreements entered into and invoices paid by the Contractor or subcontractor for that equipment. These invoices shall be submitted as evidence of the expense incurred.

   a. The Contractor or subcontractor shall be paid for the use of owned equipment at prices for the use of machinery and equipment determined by using 80 percent (80%) of equipment

use costs published by the Associated Equipment Distributors, which edition is in effect at the time of the change. Contractor or subcontractor-owned equipment required to be on stand-by or to be present on the site, even though idle, shall be paid for at 50 percent (50%) of the owned equipment rate established above.

b. The Contractor or subcontractor shall furnish all data which might assist the County in the establishment of such rates.

1. Operators of equipment will be paid for as provided under Subparagraph C.3 above.

2. All equipment shall be in good working condition and suitable for the purpose for which the equipment is to be used. Contractor is responsible for any necessary repairs and ongoing maintenance of said equipment.

3. Unless otherwise specified, manufacturer's ratings and manufacturer modifications shall be used to classify equipment for the determination of applicable equipment rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

4. Individual pieces of equipment or tools having a new value of five hundred dollars ($500.00) or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore.

6. Equipment Located at the Site: The time to be paid for equipment located at the site shall be the time the equipment is required for the changed Work being performed. Moving time, loading, unloading, and hauling will not be paid for if the equipment is already located at the Site.

7. Equipment Not Located at the Site: For the use of equipment moved to the Site and used exclusively for changed Work, the Contractor will be paid the rates hereinbefore specified, as follows:

a. The period shall begin at the time the equipment is unloaded at the site; shall include each day that the equipment is at the

site, excluding Saturdays, Sundays, and other legal holidays unless the changes to the Work are performed on such days; and shall terminate at the end of the day on which the County directs the Contractor to discontinue the use of such equipment. The maximum time to be paid per day will not exceed eight (8) hours without prior written approval from the Director.

b. Payment for transporting, loading, and unloading equipment will be made only when such equipment has been moved to the site for the sole and express purpose of accomplishing the changed Work.

8. Subcontracts: The cost for Subcontract work will be the actual cost to the Contractor or subcontractor for Work performed by a Subcontractor as follows:

a. The cost incurred by the first tier subcontractor for labor, materials, and equipment as limited by Paragraphs C.3, C.4, and C.5; plus

b. The following percentages which are considered fair and reasonable compensation for overhead, profit, insurance and all other direct and indirect costs of the changes in the Work (except for bonds as provided in Paragraph C.2:

18% of the cost of labor as provided in Paragraph C.3;

15% of the cost of materials as provided in Paragraph C.4;

10% of the cost of equipment as provided in Paragraph C.5.

c. To the total additional cost to the Work as computed in accordance with Paragraphs 8.a and 8.b above, the subcontractor, upon furnishing satisfactory evidence of the cost thereof, the actual cost of additional bond premiums incurred by the Subcontractor as a result of the additional cost to the Work up to a sum not to exceed 1.5 percent (1.5%) of the additional cost to the Work.

16. PROVISIONS FOR EXTRAS:

No new Work of any kind performed hereunder shall be considered as extra Work outside the scope of the Contract unless a separate estimate is given for said Work before it is commenced, the same is approved by the Department as reasonable and equitable, and it has been ordered under one of the three methods set forth in article, "CHANGES IN THE WORK," Paragraphs A, B, or C. Except for extra Work ordered by the Department according to unit prices or by changes or additions in the Work embraced in a Change Order issued by it, any extra Work performed will not be paid for by the County. The Contractor will prepare and submit change order requests as directed by the County Project Manager.

17. TIME EXTENSIONS AND COMPENSATION FOR DELAY:

A. Adjustments in the Contract Time shall be governed by the principles of this Article and shall be made in accordance with the conditions stated in Specification Section 01 32 00, Construction Schedule.

B. Actions or inactions of the County, or events for which the County has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Compensable delays.

C. Events which are outside the control of, and without the fault or negligence of either the County or the Contractor, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as Excusable delays. Unless the County considers that extreme circumstances warrant consideration, extensions of time because of inclement weather will not be granted.

D. Actions or inactions of the Contractor, or events for which the Contractor has assumed contractual responsibility, which would independently delay the date of Substantial Completion beyond the current Contract Completion Date shall be designated as non-excusable delays.

E. Concurrent delay is any combination of the above three types of delay occurring on a calendar date, except in cases where the combination consists of two or more instances of the same type of delay occurring on a calendar date.

F. Any event, action, inaction, or other cause which may give rise to a delay shall constitute a basis for adjustment in:

1. Contract Time, only if it can be demonstrated that the date of Substantial Completion will be delayed beyond the current Contract Completion Date and that the delay is classified as a Compensable or Excusable delay; and/or

2. Contract Amount, only if it can be demonstrated that the Contractor's time-related costs to complete the Work will be increased and the delay is classified as a Compensable delay.

18. OBSERVATION:

A. All Work shall meet with the approval of the Department and shall be completed in conformity with the Drawings and Project Manual approved by, and on file with, the Los Angeles County Board of Supervisors, such Drawings and the Project Manual will be made part of the Contract to be entered into for the Work referred to herein. The County at its discretion may require the contractor to obtain approval/clearance from the Inspector of Record for certain items to ensure the quality of the work.

B. The Department or its representative will have access to the Work at all times. The Contractor will furnish all facilities for inspection at the construction site, and at shops or yards, and shall not cover up any Work until the same has been approved by the Department. If Work should be covered up before being inspected, the Contractor will be required to remove such portions of the Work as may be necessary to disclose the part in question.

C. The County of Los Angeles or its authorized representatives will be given access to the Work at all times. Such access will not be subject to restrictions which are not directly related to the provision and maintenance of health and safety.

D. The Contractor will be issued a "Notice of Noncompliance" for any portion of the contract Work that does not satisfy the requirements of the Drawings and Specifications. No Work subject to a "Notice of Noncompliance" will be paid for by the County until such Work is brought into full compliance with the Drawings and Specifications to the satisfaction of the County. The Contractor must obtain the County's approval for all corrected deficiencies and/or non-compliant work prior to proceeding with work that may be affected by the deficient and/or non-compliant work. The Contractor shall not build on or conceal work that is deficient and/or non-compliant. Furthermore, work that

is built or dependent upon item(s) that are deficient and/or not-compliant will not be approved on the progress payment request.

E. An Inspection Notice will be issued if the contract Work has not been executed in full compliance with the Drawings and Specifications. The Contractor is responsible for bringing all Work subject to an Inspection Notice into full compliance with the Drawings and Specifications at no additional cost to the County.

F. Technical Reports may be generated for the purpose of evaluating the quality, correctness, functionality, etc., of the Contractor's Work or performance under this contract in accordance with the requirements of the Drawings and Specifications.

19. PERMITS, LICENSES, AND INSPECTIONS:

A. The Contractor will obtain and pay for all permits required for the Work except the following "no-fee" permits: building, electrical, mechanical, plumbing, and sewer Work. Further, the Contractor will obtain and pay for all permits incidental to the Work or made necessary by Contractor's operation. This includes Contractor/Manufacturer designated structures such as prefabricated buildings, light poles, special shoring, and the like. The Contractor shall also pay for the plan check of prefabricated buildings.

B. To comply with Section 3800 of the Labor Code of the State of California, the Contractor and all Subcontractors requiring a permit (building, plumbing, grading, electrical, etc.) shall file a Workers' Compensation Certificate with the Department of Public Works, Business Relations and Contracts Division, Contracts Administration Section.

C. Exclusive of off-site inspection specified to be the County's responsibility, the Contractor will arrange and pay for all off-site inspection of the Work including certification thereof required by the specifications, drawings, or by governing authorities.

D. The County will provide on-site inspection of the Work and will arrange for off-site inspection when noted on the drawings and/or when specified in the various technical sections of the Specifications as the responsibility of the County. All other required inspection will be the responsibility of the Contractor.

E. The County will not pay any costs for licenses required in the performance of the Work. The Contractor shall assume this responsibility in total.

20. TESTS:

A. County's Responsibilities

1. The County reserves the right to test or require the Contractor to obtain "called tests" of any materials or performance over and above "required tests" as defined in the following Paragraph B.1, and provided such "called tests" show the Work meets the specified requirements, the County will pay for the cost of the tests. If the Contractor was required to obtain the test from a third party, the County will reimburse the Contractor on the basis of Contractor's certified statement of the results and costs, with appropriate supporting documentation.

B. Contractor's Responsibilities

1. The Contractor will arrange and pay for all tests of materials or performance as required by the Specifications or by ordinance or governing authority. These are defined as "required tests".

2. The Contractor shall pay for all "called tests" as defined in preceding subparagraph A.1, when the test results show the materials or performance fails to meet the specified requirements. Immediately thereafter, the Contractor, at Contractor's own expense, shall remove the improper Work and replace same with materials or performance meeting the specified requirements. The Contractor shall also bear the expense of any tests required of the replaced Work, and of any subsequent removal, replacement, and testing as may be necessary to obtain materials or performance meeting the specified requirements.

21. SUBSTANTIAL COMPLETION:

A. The date of Substantial Completion of the Work, or designated portion thereof as set forth in the Contract Documents, is the date certified by the County when construction is sufficiently complete, in accordance with the Contract Documents, so the County may occupy or use the Work, or designated portion thereof, for the use for which it is intended.

B. When the Contractor considers that the Work, or designated portion thereof as set forth in the Contract Documents, is substantially complete as defined above, the Contractor shall prepare for submission to the County a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the County determines that the Work or designated portion thereof is substantially complete, it will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion. The Certificate shall state the responsibilities of the County and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall list remaining items to be corrected or completed. The Work not fully completed or corrected shall be completed to the satisfaction of the County within thirty (30) calendar days after Substantial Completion, or within a period of time mutually agreed upon between the Contractor and the County. In the event the Contractor fails to complete or correct the remaining items within the allotted time, the County may complete or correct the items and deduct the cost thereof from the Contract amount.

C. Warranties required by the Contract Documents, as discussed in Article 40 of the General Conditions, shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

D. Upon Substantial Completion of the Work or designated portions thereof, and upon application of the Contractor, the County, in County's sole discretion, may release and/or reduce the amounts retained subject to the limitations of Public Contract Code Section 9203.

E. In accordance with the General Conditions, the County reserves the right to occupy substantially completed portions of the Work and any such portion shall be subject to the above provisions for Substantial Completion.

22. OCCUPANCY BY THE COUNTY:

A. The Contractor, Contractor's employees, and representatives will be admitted by the County to the premises for the purpose of executing the Work to be performed under this contract, but they shall have no tenancy.

B. It is further understood that the County shall have the right to take temporary possession of, or use any portion of, any substantially completed part of the Work. Before taking possession of any Work, the County shall furnish the Contractor a list of items of Work remaining to be performed or corrected on

those portions of the Work that the County intends to take possession of or use. However, a failure of the County to list any item of Work shall not relieve the Contractor of responsibility for complying with the terms of the Contract. The County's possession or use shall not be deemed an acceptance of any Work under the Contract.

C. While the County has such possession or use, the Contractor shall be relieved of the responsibility for the loss of, or damage to, the Work in place resulting from the County's possession or use. If prior possession or use by the County delays the progress of the Work or causes additional expense to the Contractor, an adjustment may be made in the Contract Amount or the Contract Time, under the applicable scheduling and cost provisions of this Contract.

23. WORKERS:

None but workers skilled in the various trades required on this contract shall be employed upon the Work. Any mechanic or laborer employed upon the Work who, in the opinion of the Department, is non-cooperative or who shall prove careless or incompetent, shall be immediately removed from the Work by the Contractor, when notified to do so, and shall not be re-employed upon the Work.

24. HOURS OF WORK:

Work in excess of eight (8) hours per day will be permitted by employees of contractors under this Contract only so long as Section 1815 of the Labor Code of California is complied with by such contractors.

25. SATURDAY, SUNDAY, HOLIDAY, AND OVERTIME WORK:

A. No construction Work shall be done on Saturdays, Sundays, or holidays recognized by the County government and no Work shall be performed outside of normal Working hours without the consent of the Department, unless required under these specifications. In any event, all Work shall be subject to approval of the Department. Prior to the start of such Work, the Contractor shall arrange with the Department for the continuous or periodical inspection of the Work and tests of materials, when necessary. If requests are made by contractors for permission to Work overtime, nights, Saturdays, Sundays, or holidays, and such requests are granted, the Contractor shall bear all extra expense to the County or the awarding entity for inspection and other incidental expenses caused by such overtime work. If Contractor is requested, in the interest of the awarding entity, to work overtime by the

Department; or if overtime Work is specifically required by these Specifications, all extra expense of inspection will be paid by the County. Should the Contractor find it necessary in order to complete the Work according to schedule to perform certain of Contractor's operations on Saturdays, Sundays, holidays or overtime, these operations shall be performed as part of the Work included in the contract price and shall not constitute a basis for additional payments. Refer to above paragraph for the obligations for the Contractor to assume the cost of inspections.

B. The County reserves the right to order in writing Work outside of normal working hours to avoid inconvenience of occupants of existing facilities or to perform special operations that, in the judgment of the Department best serve the intent of the Contract Documents and the orderly prosecution of the Work. If the County elects to order Work outside of normal working hours, the Contractor shall make all arrangements to supply an adequate Work force for the task to be accomplished and will be compensated for the premium portion of the wages paid, plus labor burdens applicable to the premium portion only of the wages paid. Contractor shall submit copies of Contractor's payrolls indicating the premium wages actually paid, and the County will issue a Change Order to reimburse the Contractor for Contractor's actual costs only.

26. PREVAILING WAGE SCALE:

A. The Contractor shall comply with all provisions of the Labor Code of the State of California.

B. Under the provisions of said Labor Code, the State Department of Industrial Relations will ascertain the prevailing hourly rate in dollars and details pertinent thereto for each craft, classification or type of workers, or mechanic needed to execute any contract which may be awarded by the awarding entity.

C. Particulars of the current Prevailing Wage Scale, which are applicable to the Work contemplated under these Specifications, are filed with the awarding entity and the Department and must be posted at the project site.

27. EMPLOYMENT OF INDENTURED APPRENTICES:

A. Contractor shall comply with Section 1777.5 and 1777.7, Labor Code, State of California.

B. All Contractors shall employ registered apprentices at a ratio of not less than one hour of apprentice's work for every five hours of labor performed by a journeyman. Contractors shall be responsible for the compliance of all Subcontractors.

C. Contractor and Subcontractors shall keep an accurate record showing the name of the craft and wage rate of each apprentice and journeyman employed by each entity. Subcontractor shall provide, weekly, such records to the Contractor. Records shall be made available to the Division of Apprenticeship Standards and the County of Los Angeles or the awarding entity, for the purpose of determining compliance. Failure to comply may result in withholding payments and other penalties as provided by the Labor Code.

28. AFFIRMATIVE ACTION PLAN FOR EQUAL EMPLOYMENT OPPORTUNITY:

A. The following provisions pertaining to equal employment opportunity are incorporated into this Contract. All references herein to "Contractor" shall be deemed to refer to the "general" Contractor.

B. During the performance of any construction Contract in excess of $10,000, the Contractor agrees as follows:

1. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor certifies and agrees that all persons employed by such firm, Contractor's affiliates, subsidiaries, or holding companies are, and will be, treated equally by the firm without regard to or because of race, color, religion, sex, or national origin and in compliance with all anti-discrimination laws of the United States of America and the State of California.

2. In all advertisements for labor or other personnel, or requests for employment of any nature, the Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

3. The Contractor shall deal with Contractor's Subcontractors without regard to or because of race, color, religion, sex or national origin.

4. The Contractor shall comply with current Federal employment and reporting requirements for County-funded construction contracts.

Specifically, the Contractor shall make a good faith effort to comply with federal employment goals for minority and female employment and shall report minority and female employment data in a timely manner on the federal form provided by the contract awarding authority.

5. The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract of understanding, a notice, to be provided by the contract awarding authority, advising the said labor union or workers' representative of the Contractor's commitments under this section.

6. The Contractor shall allow the County access to Contractor's employment records during regular business hours to verify compliance with these provisions when so requested by the County.

7. The Contractor agrees that if the County finds that any of the above provisions has been violated, the same shall constitute a material breach of contract upon which the County may determine to cancel, terminate, or suspend the Contract. While the County reserves the right to determine independently that the anti-discrimination provisions of the Contract have been violated, in addition, a determination by the Federal Equal Employment Opportunity Commission or the California Fair Employment and Housing Commission that the Contractor has violated federal or state anti-discrimination laws may constitute a finding by the County of Los Angeles that the Contractor has violated the anti-discrimination provisions of the Contract.

8. At County's option, and in lieu of canceling, terminating, or suspending the Contract, the County may impose damages for any violation of the anti-discrimination provisions of this paragraph, in the amount of two hundred dollars ($200) for each violation found and determined. The County and Contractor specifically agree that the aforesaid amount shall be imposed as liquidated damages, and not as a forfeiture or penalty. It is further specifically agreed that the aforesaid amount is presumed to be the amount of damages sustained by reason of any such violation, because, from the circumstances and the nature of the violation, it is impracticable and extremely difficult to fix actual damages.

9. The Contractor shall include the provisions of the foregoing Paragraphs B.1. through B.8. in every subcontract, so that such

provisions will be binding upon each Subcontractor performing Work required by this contract.

29. PAYROLL RECORDS:

A. The Contractor shall comply with the requirements of Section 1771.4 and Section 1776 of the Labor Code, State of California. The Contractor and its subcontractors shall furnish the records specified in Section 1776 directly to the Labor Commissioner in an electronic format, in the manner prescribed by the Labor Commissioner, on the Department of Industrial Relations website. The Contractor and its subcontractors shall maintain payroll records as enumerated in Labor Code Section 1776 (a). When requested by the County, the Contractor and its subcontractors shall submit to the County a copy of all weekly certified payrolls, indicating that the wage rates are not less than those determined by the State of California Department of Industrial Relations and the classifications set forth for each laborer or mechanic conform with the Work they performed. Contractor shall submit a weekly payroll report" (Form 347, A-1-131, or similar) shall accompanied by a written declaration, made under penalty of perjury. The Contractor shall be responsible for the submission of copies of payrolls for all subcontractors within ten (10) days after their payroll period. Failure of the Contractor to comply with the Labor Code requirements to pay prevailing wages and to maintain certified payroll records may result in withholding from progress payments amounts for underpaid wages and penalties as authorized by the Labor Code.

B. When requested by the County, the Contractor, all subcontractors, and some subconsultants will be required to submit certain certified payrolls and labor compliance documentation electronically at the discretion of, and in the manner specified by the County.

Electronic submittal will be a web-based system, accessed on the World Wide Web by a web browser. The Contractor, its subcontractors, and certain subconsultants will be given a log on identification and password to access the web-based labor compliance reporting system.

Use of the web-based system will entail additional data entry of weekly payroll information including; employee identification, labor classification, total hours worked and hours worked on this project, wage and benefit rates paid, etc. In addition, the Contractor may use payroll and accounting software that is capable of interfacing with the web-based system. The payroll and accounting software must be capable of generating a 'comma delimited file'

or 'comma separated value (CSV) file' that will interface with the web-based system.

This requirement applies to all subcontractors, subconsultants, and vendors required to submit certified payrolls and provide labor compliance documentation. The information may be used to provide statistical informational data to public or jurisdictional agencies.

30. QUALITY OF WORK AND MATERIAL:

A. All materials, parts, and equipment furnished by the Contractor shall be new, first quality, and free from defects and imperfections. Workmanship shall be in accordance with the best standard practices.

B. Any item or Work installed by the Contractor, but not in conformance with the drawings and specifications, shall be removed by and at the Contractor's expense upon written request from the County.

C. If such items or Work are not removed or satisfaction obtained by the County within thirty (30) calendar days of such request, then the County may have such items or Work removed and Work completed to conform to drawings and specifications at the Contractor's expense.

31. RESPONSIBILITY OF CONTRACTOR AND OF CONTRACTOR'S REPRESENTATIVE ON THE WORK:

The Contractor shall give personal attention and supervision to the Work until same is entirely completed. In the absence of the Contractor from the Work, he shall have a representative in charge who shall be competent to superintend and direct the progress of the Work and who shall be authorized to receive instructions and to act for the Contractor on all matters related to the Work. The name of this representative shall be sent by letter to the Department immediately after the awarding of the contract.

32. REPAIRING DAMAGED WORK:

A. All portions of the Work that may be damaged by accident or in the course of or on account of building operations, or by reason of any other cause whatsoever during the progress of the Work, shall be carefully and neatly repaired or reconstructed and the whole left in first-class condition and turned over to the County ready for use.

B. Should any part of the Work of this contract be cut into or damaged by other Contractors, the Contractor and party causing such damage shall make adjustments between themselves relative to reconstruction or repairs and payment for same.

33. LIST OF SUBCONTRACTORS AND SUBLETTING WORK:

A. No part of the construction Work shall be done as piece Work, nor shall it be let to a Subcontractor after the execution of the original contract except as provided by law. In case part of the Work should be sublet, these General Conditions shall govern each trade insofar as they may apply to the Work of that trade.

B. Where more than one Contractor or where Subcontractors are engaged upon the Work, they shall coordinate their efforts (in accordance with Article 36 of these General Conditions regarding other contractors, or under the control and guidance of the General Contractor), and shall be responsible, one to the other, for any damage or injury to the work.

C. Bidders and Contractor shall be governed by the provisions of Sections 4100 to 4113, inclusive, of the Public Contract Code of the State of California. Bidders shall set forth in their Bids, on forms provided for same, the name and location of the mill, shop, or office of each Subcontractor who shall perform the Work or labor or render service to the Contractor in or about the construction of the Work, and the portion of the Work which shall be done by each Subcontractor.

D. No subcontract shall be assigned or transferred except as provided in the above sections of the Public Contract Code of the State of California.

E. In case any Work is let to a Subcontractor, the Contractor shall be at all times responsible for the Work so done to same extent as if the Contractor were doing or had done the Work.

F. If a Subcontractor is named who shall perform the Work or labor or render service to the Contractor with respect to a material specified or indicated by patent or proprietary name and/or by the name of the manufacturer, and such Subcontractor cannot reasonably act with like respect to the material offered as an equal then, the Bidder shall, in his Bid Form, include with the pertinent data to be listed on the "Equals" page(s), the name and address of the Subcontractor who shall act with respect to the equal material.

G. In accordance with Public Contract Code Sections 4100, et seq., the Bidder must list all subcontractors who shall perform in excess of one-half of one

percent of the Work. (See Subcontractors' Section of the Instructions to Bidders.)

34. ADVERTISING:

No advertising matter shall be attached or painted on surfaces of buildings, fences, or canopies, except that names of Contractors and Subcontractors, with their addresses and the designation of their particular branch, may be shown on signs of a removable type. Size and location of such signs shall be subject to approval of the Department. The Contractor shall provide a project identification signboard as specified.

35. CERTIFICATE AS TO COMPLIANCE WITH CERTAIN REGULATIONS:

A. The Contractor shall file with the Department, prior to the acceptance of the Work, a certificate in form, substantially as follows:

B. I (We) hereby certify that all Work has been performed and materials supplied in accordance with the drawings, specifications, and contract documents for the above Work, and that:

1. Not less than the prevailing rates of wages as ascertained by the Department has been paid to laborers, workers, and mechanics employed on this Work.

2. There have been no unauthorized substitution of Subcontractors; nor have any unauthorized subcontracts been entered into.

3. No subcontract was assigned or transferred or performed by anyone other than the original Subcontractor; except as provided in Sections 4100-4113, inclusive, of the Public Contract Code.

(Signed)_____
Contractor

36. COORDINATION WITH OTHERS AND OTHER CONTRACTS:

A. The County reserves the right to award other contracts for any Work on any portion of the project not included in this Contract.

B. Where coordination with other Contractors is required, the Contractor shall make the appropriate provisions in Contractor's CPM schedule for the access to the site by those Contractors, the schedules of Work developed by them,

and any coordination required between any of those Contractors and between any of them and this Contractor.

C. The Contractor shall perform the Work of the Contract so that it will properly coordinate and fit the Work performed by other Contractors. He shall give the other Contractors every reasonable opportunity to perform their Work, store materials, and place equipment thereof, and fit their Work to the Work of other Contractors. They shall furnish to the other Contractors all information necessary in order that they may properly connect and fit their Work to Contractor's in ample time, so that they may have reasonable opportunity to prepare their Work therefore. They shall make the Work of this Contract ready to receive the Work of the other Contractors at the time fixed thereof, and shall fit this Work to that of the other Contractors at the time fixed therefore.

D. The Contractor shall cooperate with others in the prosecution of all Work and shall not interfere with material, equipment, or workers of the County or other Contractors engaged by the County at the site of the Work.

E. All Contractors engaged in Work at the site shall have, insofar as practical, equal use of the premises and facilities. In case of disagreement regarding such use, the matter shall be referred to the Department, whose decision relative to said use shall govern.

F. If any part of the Contractor's Work depends on proper execution or results upon the Work of any other separate Contractor, the Contractor shall inspect and promptly report to the Director any apparent discrepancies or defects in such Work that render it unsuitable for such proper execution and results. Failure of the Contractor to inspect and report shall constitute an acceptance of the other contractor's Work as fit and proper to receive the Contractor's Work, except as to defects which may develop in the other separate contractor's Work after the execution of the Contractor's Work.

G. Should the Contractor cause damage to the Work or property of any separate Contractor on the project, the Contractor shall, upon due notice, settle with such other Contractor by agreement or arbitration if it will so settle. If such separate Contractor sues the County or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, the County shall notify the Contractor who shall defend such proceedings at the Contractor's expense, and if any judgment or award against the County arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the County for all attorney's fees and court or arbitration costs which the County has incurred.

37. CONTRACTOR'S CONSTRUCTION EQUIPMENT:

The Contractor shall furnish and maintain all equipment such as stairs, ramps, runways, scaffolds, hoists, etc., required for the proper execution of the Work. All such equipment and construction shall meet all requirements of all ordinances and laws applicable thereto.

38. CONTRACTOR PERSONNEL:

A. The Contractor agrees to employ only orderly and competent workers, skillful in the performance of the type of Work required under this Contract, to do the Work and agrees that whenever the County informs the Contractor in writing that any workers on the Site are incompetent or disorderly, such Worker shall be discharged from the Work and shall not again be employed on the Work without the County's written consent.

B. The Contractor shall give adequate attention to the faithful prosecution and completion of this Contract and shall keep on the Site at all times during project's progress, competent personnel superintendent and any necessary assistants to supervise and direct the Work. Grounds for removal of Contractor personnel specifically include (but is not limited to) the failure or refusal of such personnel to adhere to the Contractor's planned Construction Schedule as developed by the Contractor under Section 01 32 00.

39. AUDITS AND RECORDS:

The Contractor shall maintain all data and records pertinent to the Work performed under this Contract, in accordance with generally accepted accounting principles, and shall preserve and make available all data and records until the expiration of four (4) years from the date of final payment under this Contract, or for such longer period, if any, as is required by applicable statute or by other articles of this Contract. The authorized representatives of the County shall have access to all such data and records for such time period to inspect, audit, and make copies thereof during normal business hours. Contractor covenants and agrees that it shall require that any subcontractor utilized in the performance of this Contract shall permit the authorized representatives of the Los Angeles County Department of Public Works to similarly inspect and audit all data and records of said Subcontractors relating to the performance of said Subcontractors under this Contract for the same time period.

40. WARRANTY AND CORRECTIONS TO WORK:

A. In addition to any other warranties in the Contract Documents, the Contractor warrants that Work performed under this Contract conforms to the Contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any Subcontractor or supplier at any tier.

B. Corrections to the Work may be required during construction or any applicable warranty period. At the County's option, the cost of such corrections may be withheld from progress payments.

C. This warranty shall continue for a period of one (1) year from the date of Substantial Completion of the Work. If the County takes occupancy of any part of the Work before Substantial Completion, a warranty covering that specific portion of the Work shall begin for a period of one year from the date the County takes beneficial occupancy. The County will notify the Contractor in writing of the scope of any partial occupancy and the specific items under warranty.

D. The Contractor shall remedy at the Contractor's expense any failure to conform to the requirements of the Contract Documents or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to County-owned or controlled real or personal property, when that damage is the result of:

1. The Contractor's failure to conform to or comply with Contract requirements; or

2. Any defect of Contractor-furnished equipment, material, workmanship, or design.

E. The Contractor shall restore any Work damaged in fulfilling the terms and conditions of this Article. The Contractor's warranty with respect to Work repaired or replaced shall be extended for one (1) year from the date of repair or replacement.

F. The Director shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

G. If the Contractor fails to remedy any failure, defect, or damage within ten (10) working days (or immediately in the case of an emergency where delay would cause serious risk of loss or damage) after receipt of notice, the County shall have the right to remove, replace, repair, or otherwise remedy the failure, defect, or damage, and all direct and indirect costs of such

removal, replacement, repair, and correction, including compensation for additional professional services, shall be paid by the Contractor.

H. With respect to all warranties, express or implied, from Subcontractors, manufacturers, or suppliers for Work performed and materials furnished under this contract, the Contractor shall:

1. Obtain all warranties that would be given in normal commercial practice;

2. Require all warranties to be executed, in writing, for the benefit of the County, if directed by the Director; and

3. Enforce all warranties for the benefit of the County, if directed by the Director.

I. In the event the Contractor's warranty has expired, the County may bring suit at County's expense to enforce a Subcontractor's, manufacturer's or supplier's warranty.

J. Unless a defect is caused by the Contractor or Subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the County, nor for the repair of any damage that results from any defect in County-furnished material or design.

K. This warranty shall not limit the County's rights under other articles of this Contract or as provided by law with respect to latent defects, gross mistakes, or fraud.

L. The terms of this Article do not relieve the Contractor of any legal liability for defects discovered after one year from the date of occupancy. The obligations imposed by this article shall survive termination of the Contract.

41. HAZARDOUS MATERIAL

A. Hazardous Material is any product, substance, chemical, crude oil (or any products, by-products, or fractions thereof), whose nature, quantity, and/or intensity of existence, use, manufacture, disposal, transportation, spill, release or effect, either by itself or in combination with other material or materials in, on or about the project site: (a) is or becomes potentially injurious to the public health, safety or welfare, environment, or the project site; (b) is or becomes regulated or monitored by any governmental authority; or (c) may, according to statutory or common law theory, such as nuisance

(public or private), waste, trespass, negligence, strict liability, or tort, be a basis for liability in tort, or be a basis for liability to third parties.

B. Contractor shall notify the County when the Contractor has reason to suspect the presence of any Hazardous Material on the project site, whether or not such material was generated by Contractor or the County.

C. In the event the presence of hazardous material is suspected or discovered on the project site, the County shall retain an independent testing laboratory to determine the nature of the material encountered and whether corrective measures or remedial action is required.

D. Except as may be otherwise provided herein, the Contractor shall not be obligated to commence or continue Work in the affected area until any known or suspected hazardous material discovered on the project site has been removed, or rendered or determined to be harmless by the County, as certified by an independent testing laboratory and approved by the appropriate government agency.

E. In the event the presence of hazardous materials on the project site is not caused by the Contractor, the County shall pay for all costs of testing and remediation, if any, and shall compensate Contractor any additional costs incurred or project delay in accordance with the applicable provisions of changes in the work herein. In addition, the County shall defend indemnify and hold harmless the Contractor and its agents, officers, directors and employees from and against any and all claims, damages, losses, costs, and expenses incurred in connection with or arising out of relating to the performance of the Work in the area affected by the hazardous material.

F. In the event the presence of hazardous materials on the project site is caused by the Contractor, the Contractor shall pay for all costs of testing and remediation, if any, and shall compensate the County for any additional costs incurred as a result of Contractor's generation of hazardous material on the project site. In addition, the Contractor shall defend, indemnify, and hold harmless the County and its Special Districts and agents, officers, and employees from and against any and all claims, damages, losses, costs, and expenses incurred in connection with, or arising out of, or relating to, the presence of hazardous material on the project site.

G. The terms of this hazardous material provision shall survive the completion of the Work and/or any termination of this Contract.

42. CONTRACTOR SAFETY REQUIREMENTS:

In the performance of this Contract, the Contractor shall comply with all applicable federal, state, and local laws governing safety, health, and sanitation.

A. **Jobsite Safety:** The Contractor shall be solely responsible for ensuring that all work performed under the Contract is performed in strict compliance with all applicable Federal, State and local occupational safety regulations. The Contractor shall provide at its expense all safeguards, safety devices, and protective equipment, and shall take any and all actions appropriate to providing a safe jobsite.

B. **Project Safety Official:** The Contractor shall designate in writing a Project Safety Official who shall be at the jobsite at all times, and who shall be thoroughly familiar with the Contractor's Injury and Illness Prevention Program (IIPP) and Code of Safe Practices (CSP). The Project Safety Official shall be available at all times to abate any potential safety hazards and shall have the authority and responsibility to shut down an operation, if necessary. Failure by the Contractor to provide the required Project Safety Official shall be grounds for the County to direct the cessation of all work activities and operations at no cost to the County until such time as the Contract is in compliance.

C. **Safety Indemnification:** To the extent allowed by law, the Contractor agrees to defend, indemnify and hold harmless the County and its officers, employees, and agents from and against any and all investigations, complaints, citations, liability, expense (including defense costs and legal fees), claims and/or causes of action for damages of any nature whatsoever, including but not limited to injury or death to employees of the Contractor, its subcontractors or County attributable to any alleged act or omission of the Contractor or its subcontractor which is in violation of any CAL/OSHA regulation. The obligation to defend, indemnify and hold harmless includes all investigations and proceedings associated with purported violations of Section 336.10 of Title 8 of the California Code of Regulations pertaining to multi-employer work sites. The County may deduct from any payment otherwise due the Contractor any costs incurred or anticipated to be incurred by the County, including legal fees and staff costs, associated with any investigation or enforcement proceeding brought by CAL/OSHA arising out of the Project.

43. INDEMNIFICATION:

A. Until the Work is completed and accepted by the awarding entity, the Contractor shall indemnify, defend, and hold harmless the County, its Special Districts, elected and appointed officials, officers, employees, agents, and trustees (the indemnified parties) from and against any and all liability, loss, injury, or damage including (but not limited to) demands, claims, actions, fees, costs and expenses (including attorney and expert witness fees) arising from or connected with the Contractor's acts and/or errors and omissions arising from and/or relating to the Project. This indemnification does not apply to liability caused by the active negligence of the County.

B. The Contractor shall assume all risks and bear all cost for loss of, damage to, or missing or stolen equipment, tools, vehicles, and materials owned, hired, leased, or used by the Contractor for this Project.

44. GENERAL INSURANCE REQUIREMENTS:

Without limiting the Contractor's indemnification, the Contractor shall provide and maintain, during the term of this Agreement, the insurance specified in this Agreement. Such insurance shall be primary to, and not contributing with, any insurance or self-insurance programs maintained by the County and such coverage shall be provided and maintained at the Contractor's own expense.

A. Evidence of Insurance: Certificate(s) or other evidence of coverage satisfactory to the County shall be delivered to the project contract administrator (as identified in the Invitation for Bids) at Los Angeles County Department of Public Works, Business Relations and Contracts Division, Contracts Administration Section, P.O. Box 1460, Alhambra, CA 91802-1460, prior to commencing services under this Agreement. Such certificate(s) or other evidence shall:

1. Specifically identify this Agreement, including the project name and specification number.

2. Clearly evidence all insurance required in this Agreement.

3. Contain the express condition that the County is to be given written notice by the issuing insurance company by mail at least 30 days in advance of cancellation for all policies evidenced on the certificate of insurance.

4. Include a copy of the additional insured endorsement to the commercial general liability policy, adding the indemnified parties (the

County of Los Angeles and its Special Districts) as insureds for all activities arising from this Agreement.

5. Show the Contractor's insurance as primary to the County's insurance and self-insurance programs. This may be evidenced by adding the following statement to the additional insured endorsement, "It is further agreed that the insurance afforded by this policy is primary to any insurance or self-insurance programs maintained by the additional insureds, and the additional insureds insurance and self-insurance programs are excess and non-contributing to the named insureds insurance."

6. Confirm deductibles or self-insured retentions shall not exceed $25,000, and the deductibles/retentions apply on a "per occurrence" or "per loss" basis. The County retains the right to require the Contractor to provide a bond guaranteeing payment of all such retained losses and costs attributable to the Contractor's retention, or, withhold payment to Contractor in the amount of all or any deductibles/retentions as the County deems appropriate.

B. Insurer Financial Ratings: Insurance is to be provided by an insurance company authorized to do business in California and acceptable to the County, with an A.M. Best rating of not less than A:IX, unless otherwise approved by the County.

C. Waiver of Subrogation: The Contractor agrees to release the indemnified parties and waive its rights of recovery against the indemnified parties under the insurance policies specified in this Agreement.

D. Cancellation of or Changes in Insurance: Contractor shall provide County with, or Contractor's insurance policies shall contain a provision that County shall receive, written notice of cancellation or any change in Required Insurance, including insurer, limits of coverage, term of coverage or policy period. The written notice shall be provided to County at least ten (10) days in advance of cancellation for non-payment of premium and thirty (30) days in advance for any other cancellation or policy change. Failure to provide written notice of cancellation or any change in Required Insurance may constitute a material breach of the Contract, in the sole discretion of the County, upon which the County may suspend or terminate this Contract.

E. Failure to Maintain Insurance: Contractor's failure to maintain or to provide acceptable evidence that it maintains the Required Insurance shall constitute a material breach of the Contract, upon which County immediately may withhold payments due to Contractor, and/or suspend or terminate this Contract. County, at its sole discretion, may obtain damages from Contractor

resulting from said breach. Alternatively, the County may purchase the Required Insurance, and without further notice to Contractor, deduct the premium cost from sums due to Contractor or pursue Contractor reimbursement.

F. Sub-Contractor Insurance Coverage Requirements: Contractor shall include all Sub-Contractors as insureds under Contractor's own policies, or shall provide County with each Sub-Contractor's separate evidence of insurance coverage. Contractor shall be responsible for verifying each Sub-Contractor complies with the Required Insurance provisions herein, and shall require that each Sub-Contractor name the County and Contractor as additional insureds on the Sub-Contractor's General Liability policy. Contractor shall obtain County's prior review and approval of any Sub-Contractor request for modification of the Required Insurance.

45. INSURANCE COVERAGE REQUIREMENTS--TYPES AND LIMITS:

The County's insurance requirements specify that Contractors should obtain coverage from insurance companies acceptable to the County who have a current A.M. Best rating of not less than A:IX. A Best rating of A:IX indicates that the company evidences strong financial strength and ability to meet their ongoing financial obligations to policyholders.

A. Builders Risk Course of Construction Insurance: Such coverage shall:

1. Insure against damage from perils covered by the Causes-of-Loss Special Form (ISO form CP 10 30), and be endorsed to include earthquake, flood, ordinance or law coverage, coverage for temporary offsite storage, debris removal, pollutant cleanup and removal, testing, preservation of property, excavation costs, landscaping, shrubs and plants and full collapse coverage during construction (without restricting collapse coverage to specified perils).

2. If Contractor's work involves testing air conditioning systems, boilers, pressure vessels, major machinery or major electrical panels, policy shall include coverage for such testing.

3. Be written on a completed-value basis and cover the entire value of the construction Project, including County-furnished materials and equipment, against loss or damage until completion and acceptance by the County. See Supplementary Conditions, Section 00 08 00, Article 7, Insurance Coverage Requirements—Types and Limits, for additional information regarding replacement value of County-furnished materials and equipment.

B. General Liability Insurance: Such coverage shall be written on ISO policy form CG 00 01 or its equivalent. See Supplementary Conditions, Section 00 08 00, Article 7, Insurance Coverage Requirements—Types and Limits, for additional information regarding limits, occurrence, policy aggregate, and products/completed operations aggregate.

C. Automobile Liability Insurance: Such coverage shall be written on ISO form CA 00 01 or its equivalent. Such insurance shall include coverage for all "owned," "hired," and "non-owned" automobiles, or coverage for "any auto." See Supplementary Conditions, Section 00 08 00, Article 7, Insurance Coverage Requirements—Types and Limits, for additional information regarding liability limits.

D. Workers Compensation and Employers Liability Insurance: Such coverage shall provide workers compensation benefits, as required by the Labor Code of the State of California. Such policy shall be endorsed to waive subrogation against the County for injury to the Contractor's employees. If the Contractor's employees will be engaged in maritime employment, the coverage shall provide the benefits required by the U.S. Longshore and Harbor Workers Compensation Act, Jones Act, or any other Federal law to which the Contractor is subject.

1. In all cases, the above insurance shall include Employers Liability coverage with limits not less than:

a.	Each accident:	$1 million
b.	Disease – policy limit:	$1 million
c.	Disease – each employee:	$1 million

E. Performance Security Requirements:

Prior to execution of the Contract, the Contractor shall file surety bonds with the County in the amounts and for the purposes noted below, and on bond forms provided by the County. All bonds issued in compliance with the Contract shall be duly executed by a solvent surety company that is authorized by the State of California, is listed in the U.S. Department of Treasury's Listing of Approved Sureties (Annual Circular 570) and is satisfactory to the County, and it shall pay all premiums and costs thereof and incidental thereto (see http://www.fms.treas.gov/c570/).

1. Materials and Labor Bond (Payment Bond): Shall be in the sum of not less than 100% of the Contract price to assure the payment of claims

of material men supplying materials to the Contractor, subcontractors, mechanics, and laborers employed by the Contractor on the Work. This bond shall be so conditioned as to inure to the benefit of persons furnishing materials for or performing labor upon the Work. This bond shall be maintained by the Contractor in full force and effect until the Work is completed and accepted by the County, and until all claims for materials, labor, and subcontracts are paid.

2. Bond for Faithful Performance: Shall be in the sum of not less than 100% of the Contract price to assure the faithful performance of the Contract. This bond shall be so conditioned as to assure the faithful performance by the Contractor of all Work under said Contract, within the time limits prescribed, including any maintenance and warranty provisions, in a manner that is satisfactory and acceptable to the County, that all materials and workmanship supplied by the Contractor will be free from original or developed defects, and that should original or developed defects or failures appear within a period of one year from the date of acceptance of the Work by the County, the Contractor shall, at Contractor's own expense, make good such defects and failures and make all replacements and adjustments required, within a reasonable time after being notified by the County to do so, and to the approval of the Department of Public Works. This bond shall be maintained by the Contractor in full force and effect during the performance of the Work of the Contract and for a period of one year after acceptance of the Work by the County.

Each bond shall be signed by both the Contractor (as Principal) and the surety.

Should any surety or sureties upon said bonds or any of them become insufficient or be deemed unsatisfactory by the County, the Contractor shall replace said bond or bonds with good and sufficient sureties within ten days after receiving notice from the County that the surety or sureties are insufficient or unsatisfactory. Should any surety or sureties be deemed insufficient or unsatisfactory, no payment(s) shall be deemed due or will be made under this Contract until the new sureties shall qualify and be accepted by the County.

46. Not used.

47. Not used.

48. ASSIGNMENT:

A. The Contractor shall not assign this Contract without the consent of the County. The Contractor shall be bound by and comply with all applicable provisions of the Labor Code of the State of California and shall keep informed of and observe and comply with and cause all of Contractor's agents and employees to observe and comply with all federal, state, and local laws which in any way affect the conduct of the Work of this Contract.

B. Work performed on County-owned property, irrespective of political subdivision location, shall be governed by the County Building Laws, and Work performed outside the property lines of County-owned property shall be governed by the local laws of the County, city, or other municipal government having jurisdiction.

49. PATENTS:

In the event that any patented article, material, or process is to be installed or used in the performance of the Work as shown on the drawings or particular specifications therefore, the Contractor shall pay the royalty chargeable and shall save, keep, and bear the County harmless from all damage, costs, and expenses by reason of any infringement of the patent therefor, or by reason of the failure to pay the royalty chargeable for use thereof, and any loss to the County or the awarding entity in the event that the County is enjoined from using such patented article or material and the incidental damage caused by the loss of use and damage to County property or awarding entity in removing same, and cost of replacing the article or material the use of which is enjoined. Provided further the Bond for Faithful Performance shall be deemed to expressly apply to this provision of the specifications.

50. SUSPENSION AND/OR TERMINATION OF WORK AND/OR CONTRACT:

A. Suspension of Work

1. The Director may order the Contractor in writing to suspend, delay or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the County.

2. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize incurring costs allocable to the Work covered by the order during the period of Work stoppage.

3. If the performance of all or any part of the Work is, for an unreasonable period of time, suspended, delayed, or interrupted by (a) an act of the County in the administration of this Contract, or (b) by the County's failure to act within the time specified in this Contract (or, if no time is specified, within a reasonable time), an adjustment shall be made for any increase in cost of performance of this Contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption, and the Contract modified in writing accordingly. However, no adjustment shall be made under this Article for any suspension, delay, or interruption to the extent (a) that performance would have been suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or (b) for which an adjustment is provided for or excluded under any other provision of this Contract.

4. No claim under this paragraph shall be allowed (a) for any costs incurred more than fourteen (14) calendar days before the Contractor shall have notified the County in writing of the act or failure to act involved, (but this requirement shall not apply as to a claim resulting from a suspension order), and (b) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment. No part of any claim based on the provisions of this clause shall be allowed if not supported by adequate evidence showing that the cost would not have been incurred but for a delay within the provisions of this Article.

B. Termination for Convenience

1. The Director may, whenever the interests of the County so require, terminate this Contract, in whole or in part, for the convenience of the County. The County shall give written notice of the termination to the Contractor specifying the part of the Contract terminated and the date termination becomes effective.

   a. The Contractor shall incur no further obligations in connection with the terminated Work, and, on the date set in the notice of termination, the Contractor shall stop Work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated Work. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated Work. The County may direct the Contractor to

assign the Contractor's right, title, and interest under the terminated orders or subcontracts to the County. The Contractor must still complete the Work not terminated by the notice of termination and may incur obligations as are necessary to do so.

b. The County may require the Contractor to transfer title and deliver to the County in the manner and to the extent directed by the County: (a) the fabricated or unfabricated parts, Work in process, completed Work, supplies, and other material produced or acquired for the Work terminated; and (b) the completed or partially completed plans, drawings, information, and other property that, if the Contract had been completed, would be required to be furnished to the County. The Contractor shall, upon direction of the County, protect and preserve property in the possession of the Contractor in which the County has an interest. If the County does not exercise this right, the Contractor shall use its best efforts to sell such supplies and manufacturing materials for the benefit of the County.

c. If the parties are unable to agree on the amount of a termination settlement, the County shall pay the Contractor the following amounts:

1. For Contract Work performed before the effective date of termination, the total (without duplication of any items) of:

(a) The percentage of the Contract price which equals the percentage (%) of Work completed in accordance with the schedule of values, less prior progress payments, and any applicable Liquidated Damages. The amounts of outstanding Stop Notices shall be withheld until the Stop Notices are resolved as provided by law.

(b) The cost of settling and paying terminated subcontracts and orders that are properly chargeable to the terminated portion of the Work;

2. The reasonable costs of effectuating the settlement of the Work terminated, including:

(a) Accounting, clerical, and other expenses reasonably necessary for the preparation of termination settlement bids and supporting data;

(b) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(c) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

C. Termination for Default

1. If the Contractor refuses or fails (a) to commence the Work within the time required by this Contract, (b) to prosecute the Work or any separable part with the diligence that will ensure completion within the time specified in this Contract, including any authorized extension, (c) to provide sufficient and properly skilled workers or proper materials or equipment to complete the Work in an acceptable manner and without delay, (d) to promptly pay its subcontractors, laborers, and materialmen, (e) to perform any of Contractor's other obligations under this Contract, or (f) to complete the Work within the time specified in this Contract ("events of default"), the County may, by written notice to the Contractor, terminate the right to proceed with the Work (or the separable part of the Work). In this event, the County may take over the Work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the site necessary for completing the Work. The Contractor and Contractor's sureties shall be liable for any damage to the County resulting from events of the default, whether or not the Contractor's right to proceed with the Work is terminated. This liability includes any increased costs incurred by the County in completing the Work.

2. The Contractor's right to proceed shall not be terminated because of delays, nor will the Contractor be charged with damages under this article, if:

a. The delay in completing the Work arises from unforeseeable causes beyond the control and without the fault or negligence

of the Contractor (examples of such causes include: (i) acts of God, (ii) acts of the public enemy, (iii) acts of the County in either its public or contractual capacity, (iv) acts of another Contractor in the performance of a contract with the County, (v) fires, (vi) floods, (vii) epidemics, (viii) quarantine restrictions, (ix) strikes, (x) freight embargoes, (xi) unusually severe weather, or (xii) delays of Subcontractors or Suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the Subcontractors or Suppliers); and,

b. The Contractor, within fourteen (14) calendar days from the beginning of any delay (unless extended by the County), notifies the County in writing of the causes of the delay in accordance with Specification Section 001310, Construction Schedule. The County shall ascertain the facts and the extent of the delay. If, in the judgment of the County, the findings warrant such action, the time for completing the Work shall be extended by Change Order. The findings of the County will be final and conclusive on the parties.

3. If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the County.

4. The rights and remedies of the County in this article are in addition to any other rights and remedies provided by law or under this Contract. Time is of the essence for all delivery, performance, submittal, and completion dates in this Contract.

D. Termination for Improper Consideration

1. County may, by written notice to Contractor, immediately terminate the right of Contractor to proceed under this Contract if it is found that consideration, in any form, was offered or given by Contractor, either directly or through an intermediary, to any County officer, employee, or agent with the intent of securing the Contract or securing favorable treatment with respect to the award, amendment, or extension of the Contract or the making of any determinations with respect to the Contractor's performance pursuant to the Contract. In the event of such termination, County shall be entitled to pursue the same

remedies against Contractor as it could pursue in the event of default by the Contractor.

2. Contractor shall immediately report any attempt by a County officer or employee to solicit such improper consideration. The report shall be made either to the County manager charged with the supervision of the employee or to the County Auditor-Controller's Employee Fraud Hotline at (213) 974-0914 or (800) 544-6861.

3. Among other items, such improper consideration may take the form of cash, discounts, services, the provision of travel or entertainment, or tangible gifts.

E. Notice of suspension or termination for any reason shall be given in writing and shall be complete one day after deposit in the United States mail in a sealed envelope with postage prepaid and directed to the Contractor at Contractor's address as filed with the County, or upon personal delivery to any person whose actual knowledge of such suspension or termination would be sufficient notice to the Contractor. Actual knowledge of such suspension or termination by an individual Contractor or by a copartner, if the Contractor be a partnership or by the president, vice-president, secretary or general manager, if the Contractor be a corporation, or by the managing agent regularly in charge of the Work on behalf of said Contractor, shall in any case be sufficient notice.

51. CONTRACTOR'S WARRANTY OF ADHERENCE TO COUNTY'S CHILD SUPPORT COMPLIANCE PROGRAM:

A. Contractor acknowledges that County has established a goal of ensuring that all individuals who benefit financially from County through Contract are in compliance with their court-ordered child, family, and spousal support obligations in order to mitigate the economic burden otherwise imposed upon County and its taxpayers.

B. As required by County's Child Support Compliance Program (County Code Chapter 2.200) and without limiting Contractor's duty under this Contract to comply with all applicable provisions of law, Contractor warrants that it is now in compliance and shall, during the term of this Contract, maintain compliance with employment and wage reporting requirements as required by the Federal Social Security Act (42 USC Section 653a) and California Unemployment Insurance Code Section 1088.5, and shall implement all lawfully served Wage and Earnings Withholding Orders or District Attorney Notices of Wage and Earnings Assignment for Child or Spousal Support,

pursuant to Code of Civil Procedure Section 706.031 and Family Code Section 5246(b).

C. Failure of Contractor to maintain compliance with these requirements shall constitute a default by Contractor under this Contract. Without limiting the rights and remedies available to County under any other provision of this Contract, failure to cure such default within ninety (90) days of notice by the Los Angeles County District Attorney shall be grounds upon which the County Board of Supervisors may terminate this Contract.

52. CONTRACTOR'S ACKNOWLEDGMENT OF COUNTY'S COMMITMENT TO CHILD SUPPORT ENFORCEMENT:

Contractor acknowledges that County places a high priority on the enforcement of child support laws and the apprehension of child support evaders. Contractor understands that it is County's policy to encourage all County Contractors to voluntarily post County's L.A.'s Most Wanted: Delinquent Parents poster in a prominent position at Contractor's place of business. County's District Attorney will supply Contractor with the poster to be used.

53. LIMITATION OF LIABILITY:

A. This project may be awarded by or the Contract may be assigned to a joint powers authority or a nonprofit corporation established by the awarding entity. Bonds, certificates of participation, or other evidences of indebtedness will be issued by a joint powers authority or nonprofit corporation or the awarding entity or the County, for the purpose of constructing the Work contemplated by these Drawings and Specifications. The proceeds of said sale shall be the sole source of funds for payment of all Work to be done and all claims of any kind that may be made under the provisions of this Contract. Neither the awarding entity, nor (if different) the issuing entity, nor any individual parties thereto, nor the County, nor the County's agents and Special Districts, shall have any liability whatsoever to the Contractor or others arising out of, or in any way connected with, Work to be performed hereunder, save and except as such liability may be paid and discharged out of said proceeds, and except as specifically provided for in these specifications. Contractor shall look solely to said proceeds for payment of Work to be done or any claims whatsoever that may be asserted hereunder. Contractor expressly releases and discharges the awarding entity, the issuing entity, and the County and each of them from any and all liability, cost, or expenses save and except such liability, cost, and expense as may be paid for out of said proceeds.

B. The issuing entity will adopt a policy to sell and issue bonds, certificates of participation, or other evidences of indebtedness at such times and in sufficient amounts to ensure that funds are provided for the prompt payment, as installments become due, for Work performed hereunder.

54. FORUM SELECTION:

Contractor hereby agrees to submit to the jurisdiction of the courts of the State of California. The exclusive venue of any action brought by Contractor, on Contractor's behalf or on the behalf of any Subcontractor, which arises from this agreement or is concerning or connected with services performed pursuant to this agreement, shall be deemed to be in the courts of the State of California located in Los Angeles County, California.

55. WAIVER:

The waiver by the County of any term, covenant, or condition herein contained shall not be deemed to be a waiver of such term, covenant, or condition on any subsequent breach of the same or any other term, covenant, or condition herein contained.

56. PRIOR AGREEMENTS:

This Contract contains all of the agreements of the parties hereto with respect to any matter covered or mentioned in this agreement and no prior agreements or understanding pertaining to any such matter shall be effective for any purpose. No provision of this Contract may be amended or added to except by an agreement in writing signed by the parties hereto or their respective successor-in-interest.

57. PROGRESS PAYMENTS:

In accordance with Public Contract Code Section 20104.50, the County shall make progress payments within thirty (30) days after receipt of an undisputed and properly submitted payment request from a Contractor on a construction contract. Interest shall be paid to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure if the County fails to make payment within the thirty (30) days. If the payment request is determined not to be a proper payment request suitable for payment, it shall be returned to the Contractor as soon as practicable, but not later than seven (7) days after receipt accompanied by a document setting forth in writing the reasons why the payment request is not proper. The Contractor will prepare and submit progress payments as directed by the County Project Manager.

58. ACCEPTANCE OF FINAL PAYMENT AS RELEASE:

The acceptance by the Contractor of the final payment shall be and shall operate as a release to the County and the awarding entity of all claims and all liability to the Contractor for all things done or furnished in connection with this Work and for every act and neglect of the County, awarding entity, and others relating to or arising out of this Work. No payment, however final or otherwise, shall operate to release the Contractor or his sureties from any obligation under this contract or the Performance and Payment Bond.

59. SUBSTITUTION OF SECURITIES FOR RETENTION:

In accordance with Public Contracts Code Section 22300 et seq., the Contractor may substitute securities for retention monies to be withheld to ensure performance under this Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld may be deposited with the County, or with an approved State or Federally chartered bank as the escrow agent. The County will then pay such retention moneys to the Contractor. It is the Contractor's obligation to secure the services of a state or federally chartered bank to act as escrow agent. Securities eligible for investment include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit. The Contractor shall be the beneficial owner of any securities substituted for retention monies withheld and shall receive any interest earned by the securities. The standard form of the County's Escrow Agreement is on file at the Business Relations and Contracts Division of the Department of Public Works. The terms of that Agreement are incorporated by reference.

60. RESOLUTION OF CONSTRUCTION CLAIMS:

The provision of Public Contract Code 20104 et seq. relating to the resolution of construction claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between a Contractor and a local agency are hereby incorporated in this Contract.

61. CONFLICT OF INTEREST:

No County employee whose position in County enables him to influence the award of this agreement or any competing agreement, and no spouse or economic dependent of such employee, shall be employed in any capacity by Contractor herein, or have any other direct or indirect financial interest in this Agreement.

62. ANTI-TRUST CLAIMS:

In entering into a public works Contract or a Subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the 44 Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2, Division 7, of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works Contract or Subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

63. COUNTY'S QUALITY ASSURANCE PLAN:

The County or its agent will evaluate Contractor's performance under this agreement on not less than an annual basis. Such evaluation will include assessing Contractor's compliance with all contract terms and performance standards. Contractor deficiencies which County determines are severe or continuing, and that may place performance of the agreement in jeopardy if not corrected, will be reported to the Board of Supervisors. The report will include improvement/corrective action measures taken by the County and Contractor. If improvement does not occur consistent with the corrective action measures, County may terminate this agreement or impose other penalties as specified in this agreement.

64. LAWS, CODES AND REGULATIONS TO BE OBSERVED:

A. The Contractor shall become familiar and comply with all Federal, State, County and City laws, ordinances or regulations controlling the action or operation of those engaged in the work, or affecting materials used, and operate in accordance therewith.

B. In accordance with this requirement, it has not been considered necessary to enumerate all wiring, plumbing and other requirements covered by the codes. The Contractor, in making a bid, agrees that the requirements of such ordinances will be as carefully adhered to as if they were specifically set forth in the specifications.

C. The Contractor shall hold harmless the County and all of its officers, agents and servants against any claims or liability arising from, or based upon the violation of such laws, by-laws, ordinances, regulations, orders or decrees, whether by the Contractor or the Contractor's employees, except where the instance of violation is done in accordance with the specifications.

D. Work performed on County-owned property, irrespective of political subdivision location, shall be governed by the County Building Laws; and work performed outside the property lines of County-owned property shall be governed by the local laws of the County, City, or other municipal government having jurisdiction.

* * *

(00700.REV 5/2008)

SECTION 00 08 00

SUPPLEMENTARY CONDITIONS

1. DEFINITIONS:

Whenever the following words appear in the Contract Documents, they will be construed to have the following meanings:

a. "County" means the County of Los Angeles.

b. "Awarding Entity/County" means either the County; the County, as agent for such joint powers authority or nonprofit corporation as may be involved in the issuance of bonds, certificates of participation or other evidences of indebtedness to finance the work contemplated herein; or said joint powers authority or nonprofit corporation.

c. "Board of Supervisors" means the Board of Supervisors, County of Los Angeles, California.

d. "Department" means the Department of Public Works.

e. "Owner" means the County of Los Angeles, represented by the Department of Public Works.

f. "Director" means the Director of the Department of Public Works or his authorized representative.

g. "Landscape Architect" means Withers and Sandgren, or their authorized representative.

h. "Project Manual" means the manual prepared for the project, consisting of the Bid and Contract Requirements, Conditions of the Contract, and Technical Specifications.

I. "Contract" means the agreement which has been executed by the Contractor and the County.

j. "Contract Documents" means those documents identified in Paragraph 5 of the General Conditions.

k. "Contractor" means the Prime Contractor awarded the Contract by the Board of Supervisors.

l. "Award of Contract" means the date the Board of Supervisors awards the construction Contract to the Contractor.

m. "Notice to Proceed" means the date the Director authorizes the Contractor to proceed with the Contract work.

n. "Acceptance of the Project" means Los Angeles County Board of Supervisors or Director's acceptance of the work.

o. "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The work may constitute the whole or a part of the project.

p. "The Project" is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include Work by the County or others.

q. "Substantial Completion" means the Date of Substantial Completion of the Work, or designated portion thereof as set forth in the Contract Documents, certified by the County when construction is sufficiently complete, in accordance with the Contract Documents, so the County may occupy or use the Work, or designated portion thereof, for the use for which it is intended.

r. "Disputes Review Panel" reviews all matters related to disputes over the interpretation of the Drawings and Specifications.

s. "Notice to Bidders" means any written modification to the Contract Documents issued prior to the bid date.

t. "Day" means calendar day unless otherwise specified.

u. "Drawings" means the graphical and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the work, generally including plans, elevations, sections, details, schedules, and diagrams.

v. "Specifications" means that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the work, and performance of related services.

w. "Inspection Notice": A sequentially numbered written notice issued to the Contractor for the purpose of, but not limited to, the following:

1) Define items/installations that deviate from the Contract Documents and which payment may be withheld.

2) Alert as to problem areas prior to issuing Noncompliance.

3) Void previously issued Inspection or Noncompliance Notice when corrections have been made.

4) Give notice of approval.

5) Provide general project information.

6) Define delinquent submittals.

7) Advise Contractor of not complying with safety requirements.

x. "Noncompliance Notice": A sequentially numbered written notice issued to the Contractor that defines materials, installations, and/or situations that do not comply with codes or the Contract Documents and which payment cannot be made. The statement "remove and replace" will be included when required.

2. PAYMENTS:

Payments on account of the Work comprising the original Contract shall be made upon demand of the Contractor as follows:

a. A working day of the month shall be selected by the County and the Contractor, which day shall remain constant throughout the life of the project, and vary only as needed to fall on a working day. A payment request equal to ninety-five percent (95%) of the labor performed and material actually installed in the work during the previous thirty (30) days or since the last payment request shall be submitted by the Contractor and presented to the County for payment.

b. A payment request for the 5% withheld from the monthly progress payments shall be submitted by the Contractor to the County upon completion and acceptance by the County of all the work called for under the original Contract.

c. In the event of payment on account of additional work for a Change Order, supplemental agreement, or unit price authorization, the retention shall be as stipulated by the original Contract.

d. When progress payments are to be made, no payment on account of the work and at any time while there is work in progress, will be considered an acknowledgment that any or certain portions of the work have been done in accordance with the Drawings and Specifications. Should there be any balance due the Contractor at the time of the acceptance of the work such balance shall be paid upon said acceptance.

e. All demands for payment shall be itemized and rendered in six (6) copies by the Contractor and shall be certified by the Director when found by him to be correct. Payment will be made to the Contractor within thirty (30) days after the approval by the Director.

f. Cost of bonds or liability insurance shall not be included as an item in the demands for monthly progress payments. In the compilation of demands for progress payments, neither stipulated nor bid unit prices for deductions shall be used as the basis for computing prices for the work completed.

g. When the Contractor has requested payments that would bring his total payment to fifty percent (50%) of the Contract, all subcontractors and material suppliers on record with the Contract Administrator will be notified by U. S. Mail regarding the status of such payment.

Subcontractors and material suppliers of record will be advised to refer to their rights under the Civil Code relating to the "Stop Notices" and other means or methods of securing payment for their work or materials.

3. PAYMENT FOR STORED MATERIAL:

The Department, at its discretion, may authorize "Progress Payments" at the invoiced price, minus retention specified under "Payments", for:

a. Material and equipment delivered to the site but not incorporated in the Work.

b. Material and equipment delivered and stored off the site in a bonded warehouse or other location within Los Angeles County, which warehouse or other location is satisfactory to and has been approved by the Department.

c. The provisions allowing prepayment for materials will be applied to large items of equipment and construction materials of special manufacture or order for the job, such as:

1. Electrical switchgear, generators, and transformers over 15 KVA.

2. Mechanical items including air handlers over 15 horsepower, boilers, chillers, and fabricated ductwork.

3. Reinforcing steel and structural steel when fabricated to job requirements.

4. Carpeting, floor tile or ceiling tiles.

5. Electrical fixtures (less lamps) and light standards.

6. Door and security hardware.

7. Window wall assemblies.

8. Precast concrete members such as wall panels, "tees" or girders.

Contractor must furnish with his Request for Payment acceptable evidence showing such material and/or equipment has been paid for in full, together with a verified statement that same is/are free from all liens and encumbrances and will be utilized in the Work covered by this Contract and a material list sufficient for physical inventory at the storage location. All shop drawings and material submittals must be approved prior to authorizing payments.

All storage, handling and rehandling costs, insurance and responsibility for protection and proper installation of such material and equipment, is the obligation of the Contractor. No payment, pursuant to this provision for material or equipment, shall in any way relieve the Contractor of its responsibility to obtain or provide, at its expense, any such material or equipment, or release the Contractor from any of its obligations under this Contract.

Department may enter upon the premises where the material and/or equipment is stored for inspection, checking, or any other purpose it deems necessary. The Contractor will be reimbursed for any Los Angeles County taxes levied against such material or equipment while so stored, upon presentation of a receipted tax bill for same.

4. EQUIPMENT LAYOUT DRAWINGS:

When any section of the specifications requires the submittal of an "Equipment Layout Drawing", the Contractor shall coordinate all work under various sections of the Specifications to assure that no interferences occur in the rooms or areas for which such drawings have been required and that necessary clearances are provided.

Installation of affected equipment shall not proceed until required drawings have been approved by the Department.

5. AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS:

The following forms and reports are required to be completed by the Contractor and/or Subcontractors according to the instructions furnished for each and at the time shown below for each:

a. Within ten (10) working days of subcontract award:

- Contractor's Notification of Subcontracts Awarded

b. Prior to commencement of work:

- Notice of EEO Commitment

c. During the construction period:

- Monthly Employment Utilization Report (form CC257)

6. SURVEY OPERATIONS:

The Contractor shall be responsible for all survey and layout operations and shall be responsible for the following:

a. Locate elevations of all improvements, establish control points and benchmarks adequate for the use of all trades so that all parts of the work are within the specified and indicated tolerances.

b. As the work proceeds, verify all grades, lines, and dimensions indicated on the drawings, and report errors and inconsistencies to the Architect in writing. Do not proceed until errors and inconsistencies are corrected.

c. Maintain staking as required by construction progress and maintain construction progress and maintain control points and benchmarks until final completion of the project.

7. INSURANCE COVERAGE REQUIREMENTS—TYPES AND LIMITS:

A. Builders Risk Course of Construction Insurance:

1. Insure against damage from perils covered by the Causes-0f-Loss Special Form (ISO form CP 10 30), and the perils of earthquake, flood, risk of transit loss, loss during storage (both onsite and offsite), and collapse during construction (without restricting collapse coverage to specified perils). If Project involves testing air conditioning systems, boilers, pressure vessels, major machinery or major electrical panels, policy shall include coverage for such testing.

2. Cover all property to be installed (including labor) for the full Contract value (without coinsurance) against loss or damage until completion and acceptance by the County.

3. Such coverage shall be equal to the total Contract cost.

B. General Liability Insurance:

Minimum coverage requirements shall provide limits of not less than $1,000,000 per occurrence, $2,000,000 policy aggregate, and $2,000,000 products/completed operations aggregate.

C. Automobile Liability Insurance:

Minimum coverage requirements shall provide a limit of liability not less than $1,000,000 per accident.

D. Workers Compensation and Employers Liability Insurance: Such coverage shall provide workers compensation benefits, as required by the Labor Code of the State of California. Such policy shall be endorsed to waive subrogation against the County for injury to the Contractor's employees. If the Contractor's employees will be engaged in maritime employment, the coverage shall provide the benefits required by the U.S. Longshore and Harbor Workers Compensation Act, Jones Act, or any other Federal law to which the Contractor is subject.

1. In all cases, the above insurance shall include Employers Liability coverage with limits not less than:

i.	Each accident:	$1 million
ii.	Disease – policy limit:	$1 million
iii.	Disease – each employee:	$1 million

E. Professional and Special Liability Insurance:

Such insurance shall cover liability arising from any error, omission, negligent or wrongful act of the Contractor, its officers, or employees. The coverage shall also provide an extended two-year reporting period commencing upon termination or cancellation of this Agreement.

Minimum coverage requirements shall provide a limit of not less than $1,000,000 per occurrence and $2,000,000 policy aggregate.

8. CERTIFICATE OF INSURANCE:

a. Refer to General Conditions, Articles 43, 44, and 45, regarding insurance.

b. Certificate of Insurance shall include the following statement:

"It is further understood and agreed that these insurance policies comply with the Contract requirements of this project."

c. The cancellation clause shall be modified to read as follows:

"Should any of the above-described policies be canceled before the expiration date thereof, the issuing company will mail 30 days written notice to the below-named certificate holder.

d. The Certificate of Insurance shall clearly state that the County of Los Angeles and its Special Districts are named as Additional Insured.

e. Include the name of the project and specification number on all insurance certificates.

9. CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT:

The Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act of 1970 (42 U.S.C. 1857 et seq.) and the

Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) as amended. Violations shall be reported to the County and the Regional Office of the Environmental Protection Agency.

10. LOBBYING OF COUNTY OFFICIALS:

Contractor and each County lobbyist or County lobbying firm as defined in Los Angeles County Code Section 2.160.010, retained by Contractor, shall fully comply with the County Lobbyist Ordinance, Los Angeles County Code Chapter 2.160. Failure on the part of Contractor or any County lobbyist or County lobbying firm retained by Contractor to fully comply with the County Lobbyist Ordinance shall constitute a material breach of this Contract upon which County may immediately terminate or suspend this Contract.

11. CORRESPONDENCE:

All correspondence shall be addressed to the County of Los Angeles, Department of Public Works, P.O. Box 1460, Alhambra, California 91802-1460, Attention: Project Management Division. This address shall be included in all contracts with subcontractors and suppliers.

12. EMPLOYMENT OF LAID-OFF COUNTY EMPLOYEES - SKILLED TRADES AND OTHERS:

a. Should Contractor, or any Subcontractor performing more than $250,000 of the Contract value, require additional or replacement personnel to perform services under this Contract, other than the performance of a skilled trade, Contractor shall give first consideration for such employment openings to qualified former County employees who are on a re-employment list.

b. Should Contractor, or any Subcontractor performing more than $250,000 of the Contract value, require additional or replacement personnel to perform a skilled trade not covered by an existing union hiring agreement under this Contract, Contractor is encouraged to consider for such employment openings qualified County employees who are targeted for layoff or qualified former County employees who are on a re-employment list. In no event shall the County be liable for any cost, delay, or impact claims arising out of efforts to hire such present and former County employees.

* * *

SECTION 00 09 12

COUNTYWIDE LOCAL AND TARGETED WORKER HIRE PROGRAM – BEST EFFORTS

PART 1 – GENERAL

1.01 SUMMARY

This Section 00 09 12 includes:

Part 1 – General
1.01 – Summary
1.02 – Definitions
1.03 – Local and Targeted Worker Hire Program (LTWHP)

Part 2 – Administration
2.01 – Administration & Compliance
2.02 – Community Service Providers

Part 3 – Forms
3.01 – Form 00 09 12-A: LTWHP Craft Employee Request Form
3.02 – Form 00 09 12-B: LTWHP Workforce Utilization Plan
3.03 – Form 00 09 12-C: FPL List of Zip Codes
3.04 – Form 00 09 12-D: Local and Targeted Worker Hire Status Report

1.01 **BEST EFFORTS HIRING GOALS FOR THIS PROJECT**

The County of Los Angeles has implemented a Local and Targeted Worker Hire Policy (LTWHP) to facilitate the hiring of Local and Targeted workers. Pursuant to this policy, this project has a **best efforts goal** of at least 30 percent of total California Construction Labor Hours worked by performed by a qualified Local Resident. There is no Targeted Worker hiring requirement.

LTWHP also requires that a minimum ratio of one apprentice hour for every five journeyman hours shall be enforced, per State Labor code requirement, and the Contractor will strive to obtain half of all apprentice hours on the project be performed by Local and Targeted Workers.

Contractor will strive to obtain half of all apprentice hours on the project be performed by Local and Targeted Workers.

1.02 **DEFINITIONS**

Terms used in the implementation of the LTWHP shall be defined as follows:

A. **California Construction Labor Hours –** Includes all craft worker hours performed on the project by California residents, excluding the hours performed by off-site material fabricators, designers, project office staff, or vendors.

B. **Certified Payroll Reports** – The Contractor shall comply with the requirements of Section 1776 of the Labor Code, State of California for the submission of Certified Payroll Reports (CPR). The Contractor and its subcontractors shall submit a copy of all CPR's to the County on a monthly basis, no later than on the first Monday of the subsequent month. Contractor and its subcontractors shall submit all CPR's to the County electronically if an online system is designated by the County**.**

C. **Community Service Providers –** A network of public and private partners working to support workers and businesses by serving their employment and training needs. These providers include local one-stop job/career centers funded by the Federal Workforce Innovation and Opportunities Act (WIOA). These centers help businesses find skilled workers and connect customers to work related training and education; most services are available at no cost. Examples of Community Service Providers are listed in Section 2.04.

D. **Craft Employee Request Form –** The form used by the Contractor and its subcontractors to request dispatch of craft workers (including, but not limited to, apprentices and journeymen), who are Local Residents or Targeted Workers, from a Community Service Provider or union hiring hall in the event that assistance in obtaining such workers is needed. The request form is submitted by the Contractor/subcontractors, completed and executed by the Community Service Provider or union hiring hall, and a copy retained by the Contractor for auditing purposes.

E. **Local and Targeted Worker Hire Status Report** – A monthly report required to be submitted to the County as listed on Form 00 09 12-D.

F. **Local Resident** – A Local Resident is defined as an individual whose primary place of residence is within the Tier 1 or Tier 2 ZIP Codes of the County, as listed in Forms 00 09 12-A and 00 09 12-C.

G. **Workforce Utilization Plan** – Form 00 09 12-B submitted by the Contractor on behalf of itself and its subcontractors prior to commencing work, specifying a Workforce Utilization Plan, which contains the workforce plan and schedule for the hiring of qualified Local Residents and Targeted Workers, including the use of the subcontractors' workforce to meet the LTWHP hiring goal. The Contractor shall submit updates of the Workforce Utilization Plan to reflect changes in project conditions, schedules, or subcontractors.

I. **Targeted Worker** - A Targeted Worker is an individual who is a County resident and faces at least one or more of the following barriers to employment:

1. Has a documented annual income at or below 100 percent of the Federal Poverty Level;
2. No high school diploma or GED;
3. A history of involvement with the criminal justice system;
4. Protracted unemployment (receiving unemployment benefits for at least 6 months);

5. Is a current recipient of government cash or food assistance benefits;
6. Is homeless or has been homeless within the last year;
7. Is a custodial single parent;
8. Is a former foster youth; or
9. Is a veteran, or is the eligible spouse of a veteran of the United States armed forces, under Section 2(a) of the Jobs for Veterans Act (38 U.S.C.4215[a]).
10. Eligible Migrant and seasonal farmworkers
11. English Language Learners
12. Older Individuals (55+)
13. Disabled
14. Individuals with Low levels of Literacy
15. Multi-Craft Core Curriculum (MC3) program graduates.

J. **Tier 1 Zip Codes** – Tier 1 ZIP Codes are those Zip codes listed in Form 00 09 12-A.

K. **Tier 2 Zip Codes** – Tier 2 ZIP Codes are those Zip codes listed in Form 00 09 12-C.

1.03 LOCAL AND TARGETED WORKER HIRE PROGRAM

A. The Contractor and its subcontractors shall apply its best efforts to meet the Local Resident hiring goals:

1. Best efforts shall be used to ensure that at least 30 percent of total California Construction Labor Hours worked on the project are performed by a qualified Local Resident.

2. A minimum ratio of one apprentice hour for every five journeyman hours shall be enforced, per State Labor code requirement, and the Contractor will strive to obtain half of all apprentice hours on the project be performed by Local and Targeted Workers.

B. The available pool of Local Residents whose primary place of residence is within Tier 1 ZIP Codes (listed under Form 00 09 12-A), must first be exhausted in the manner specified in Section 2.01G before employing worker(s) from Tier 2 ZIP Codes (listed under Form 00 09 12-C).

C. All California Construction Labor Hours shall be included in the calculation for the percentage goals set forth in Section 1.03 A.

D. The Contractor and its subcontractors shall not discriminate against or give preference to any particular individual or group based on race, color, gender, sexual orientation, age or disability.

PART 2 – ADMINISTRATION

2.01 ADMINISTRATION & COMPLIANCE

A. The Contractor and its subcontractors shall use the Craft Employee Request Form (Form 00 09 12-A) for all requests for dispatch of qualified Local Residents and Targeted craft workers (including apprentices and journeymen) in the event that assistance in obtaining such workers is needed from a Community Service Provider, union hiring hall, or other source.

C. When requested by the County, the Contractor, on behalf of itself and its subcontractors, shall submit a Workforce Utilization Plan (Form 00 09 12-B) to the County Project Manager that contains the workforce hiring plan and schedule for the hiring of qualified Local Workers and the assignment and use of the subcontractors' workforce to meet the Local Worker Hiring goals. The Contractor, thereafter, shall submit updates of the Workforce Utilization Plan to reflect changes in project conditions, schedule, or subcontractors until the County has determined substantial compliance is achieved.

D. No later than the 15th calendar day of each month, the Contractor shall submit to the designated County representative a completed Local and Targeted Hire Status Report containing the relevant information for the preceding month. The Local and Targeted Hire Status Report shall contain, at a minimum, the information specified below for Contractor and its subcontractors:

1. For each California Project Craft Worker (apprentices and journeymen): (a) the total labor hours, total number of all workers (apprentices and journeymen), hours worked on the project; and (b) the wages earned on the project.
2. Total number of Local Residents (apprentices and journeymen), hours worked (apprentices and journeymen), segregated by Tier 1 and Tier 2 Residency Preference Areas, and wages earned by each Local Resident.
3. Total number of Targeted Worker hours worked (apprentices and journeymen by Tier 1 and Tier 2 Residency Preference Areas) and Targeted Worker data and workers demographic profile.
4. Total number of hours worked by Local Residents by subcontractor.

E. No later than the 15th calendar day of each month, the Contractor and all its subcontractors shall submit the Local and Targeted Hire Status Report to the designated County representative (or submit the data online if the County elects to provide an online system), to demonstrate progress in meeting the local hire participation. Failure to submit the Local and Targeted Worker Hire Status Report to the designated County representative shall be deemed to constitute zero percent local hire participation for the month.

F. The County may, in its sole discretion, elect to provide an online system for the Contractor and all of its subcontractors to input the data required in the Local and Targeted Worker Hire Status Report. If the County so elects, the Contractor and

subcontractors shall utilize that online system in lieu of completing and submitting the Local and Targeted Worker Hire Status Report.

G. The Contractor and its subcontractors shall first meet the Local Worker Hire participation goals by employing qualified workers from the Tier 1 Preference Area. If the Contractor is unable to meet their entire Local Worker Hire need from this area, it must submit to the Project Manager a statement certifying that it has exhausted all available qualified Local Workers from this area during a 48-hour period before pursuing workforce from the Tier 2 Preference Area.

H. At the conclusion of the project, the County will conduct a final evaluation of the Contractor's compliance with LTWHP.

I. For construction contracts where the work is performed for a private County Lessee, the Lessee shall be responsible for administration of all aspects of this Section 2.01. At the conclusion of the project, the Lessee shall provide a full report to the designated County Representative of all monthly information required to be collected in this Section 2.01.

2.02 COMMUNITY SERVICE PROVIDERS

Examples of Community Service Providers that may be used by Contractor and subcontractors to identify Local Residents and Targeted Workers include:

- Los Angeles County Workforce Development, Aging, and Community Services: http://wdacs.lacounty.gov/
- LA Jobs: https://www.jobsla.org/vosnet/Default.aspx
- Cal Jobs: http://www.caljobs.ca.gov/vosnet/Default.aspx
- Helmets to Hardhats: https://www.helmetstohardhats.org
- Los Angeles County America's Job Center of California: http://workforce.lacounty.gov/

PART 3 – FORMS

Form 00 09 12-A: LTWHP Craft Employee Request Form

Form 00 09 12-B: LTWHP Workforce Utilization Plan for WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT

Form 00 09 12-C: FPL List of Zip Codes

Form 00 09 12-D: Local and Targeted Worker Hire Status Report

DISPATCH REQUESTOR:_____
(Contractor and Subcontractor Name)

DATE:_____

LOCAL AND TARGETED WORKER HIRING PROGRAM
00 09 12-A CRAFT EMPLOYEE REQUEST FORM – BEST EFFORTS
WHITTIER NARROWS SPLASH PAD PROJECT- REBID

County of Los Angeles requires that at least 30 percent of total California Construction Labor Hours worked on the project must be performed by a qualified Local Resident. The available pool of Local Residents whose primary place of residence is within Tier 1 ZIP Codes, listed below, must first be exhausted in the manner specified in Section 2.01F before employing worker(s) from Tier 2 ZIP Codes (listed under Form 00 09 12-C).

EMAIL FORM TO:

Community Organization	Name:		Tel:		Email:
Local Union	Name:		Tel:		Email:
GC or Sub Compliance Office:	Name:		Tel:		Email:
LTWHP/Jobs Coordinator	Name:		Tel:		Email:
Project Manager	Name:		Tel:		Email:

TIER 1 RESIDENCY AREA ZIP CODES (TO BE PROVIDED BY THE COUNTY): Local Workers in these zip codes shall be first dispatched to Whittier Narrows Splash Pad Project. Zip Codes must be completed by Outreach and Compliance Section.

90602	90640	91706	91731	91732	91733	91746	91754	91755	91770	91776	90601	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TIER 2 RESIDENCY AREA ZIP CODES (TO BE PROVIDED BY THE COUNTY): Local Workers from these zip codes shall be referred for project work after all available qualified workers in the Tier 1 Residency Preference area have been exhausted to Whittier Narrows Splash Pad Project. See Form 00 09 12-C.

CRAFT WORKER REQUEST:

QTY#	CRAFT POSITION	JOURNEYMAN OR APPRENTICE LEVEL	LOCAL WORKER (TIER 1 RESIDENCY AREA REQUIRED)	LOCAL WORKER (TIER 2 RESIDENCY AREA)	DATE	TIME

Please have the worker(s) report to the following project site address indicated below:

Project Name_____

Site Address: _____ Report to: _____

On-site Tel #: _____ On-site Fax: _____

Comment or special instructions: _____

Completed by Community Service Provider Organization or Union

Received By: _____ Date Received: _____ Dispatch Date:_____

Requested Dispatch Available for Dispatch Unavailable for Dispatch

Tier 1 Residency Worker ☐
Tier 2 Residency Worker ☐

☐ *See instruction below.

*Attach letter stating reason for not dispatching local worker(s) who reside in the Tier 1 and Tier 2 Area zip codes.

Print Dispatcher Name: _____ Phone: _____

Contractor: **Prime**

Workforce Utilization Plan / Projection Hours

Project Name: **Whittier Narrows Splash Pad Project - Rebid** **Date:** _____

Project Duration: 0 Calendar Days

	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	**Total**
PROJECTED PROJECT HOURS														
Local Hours (Tier 1)	10													10
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	30%													30%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%
ACTUAL PROJECT HOURS														
Local Hours (Tier 1)	15													15
Local Hours (Tier 2)	20													20
Total Project Hours	100													100
Total Local Hours (%)	35%													35%
Targeted Worker Hours	10													10
Targeted Worker Hours (%)	10%													10%

COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY
QUALIFYING ZIP CODES

Tier 1, 2 and Qualifying Zip Codes are defined as:

Tier 1 Zip Code: A Tier 1 Qualified Local Resident is defined as a County resident whose primary residency is: (1) within five (5) miles of the proposed project site; and (2) is within a Qualifying Zip Code. If a qualifying Zip Code is partially located within the 5-mile radius, then the entire Zip Code is considered as a Tier I Zip Code, and workers living in that entire Zip Code area may qualify as Tier I hiring.

Tier 2 Zip Code: A Tier 2 Qualified Local Resident is defined as a County resident whose primary residency is: (1) within a Qualifying Zip code; and (2) that Qualifying Zip Code is beyond five (5) miles of the proposed project site.

Qualifying Zip Code: A Qualifying Zip Code is defined as a zip code within the County of Los Angeles, where either: (1) the average percentage of households living below 200 percent of the Federal Poverty Level (FPL) for that individual's primary residency's Zip Code is greater than the County average for such households; or (2) the Zip Code is one of 11 additional Zip Codes determined by the Board on September 6, 2011 to be a Zip Code where at least 30 percent of the population is living in poverty, and with an unemployment rate of at least 150 percent of the national average.

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
90001	Florence / South Central (City of LA)		X		X	
90002	Watts (City of LA)		X		X	
90003	South Central (City of LA)		X			
90004	Hancock Park (City of LA)	X	X	X		
90005	Koreatown (City of LA)		X			
90006	Pico Heights (City of LA)	X	X			
90007	South Central (City of LA)	X	X			
90008	Baldwin Hills / Crenshaw (City of LA) / Leimert Park (City of LA)		X			
90010	Wilshire Blvd (City of LA)		X			
90011	South Central (City of LA)	X	X			
90012	Civic Center (City of LA) / Chinatown (City of LA)	X				
90014	Los Angeles	X				
90015	Downtown Los Angeles (City of LA)	X	X			
90016	West Adams (City of LA)		X			
90017	Los Angeles	X				
90018	Jefferson Park (City of LA)		X			
90019	Country Club Park (City of LA) / Mid City (City of LA)		X			
90020	Hancock Park (City of LA)		X			
90021	Downtown Los Angeles (City of LA)	X				
90022	East Los Angeles	X			X	
90023	East Los Angeles (City of LA)	X			X	
90026	Echo Park / Silverlake (City of LA)	X				
90028	Hollywood (City of LA)			X		X
90029	Downtown Los Angeles (City of LA)	X		X		
90031	Montecito Heights (City of LA)	X				
90032	El Sereno (City of LA) / Monterey Hills (City of LA)	X				
90033	Boyle Heights (City of LA)	X				
90034	Palms (City of LA)		X	X		
90035	West Fairfax (City of LA)		X	X		
90036	Park La Brea (City of LA)		X	X		
90037	South Central (City of LA)		X			
90038	Hollywood (City of LA)			X		
90040	Commerce, City of	X			X	

COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY
QUALIFYING ZIP CODES

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
90042	Highland Park (City of LA)	X				
90043	Hyde Park (City of LA) / View Park / Windsor Hills		X			
90044	Athens		X			
90047	South Central (City of LA)		X			
90057	Westlake (City of LA)	X				
90058	Vernon	X	X		X	
90059	Watts (City of LA) / Willowbrook		X		X	
90061	South Central (City of LA)		X			
90062	South Central (City of LA)		X			
90063	City Terrace	X				
90089	Exposition Park(City of LA)		X			
90201	Bell / Bell Gardens / Cudahy				X	
90220	Compton / Rancho Dominguez		X			
90221	East Rancho Dominguez		X		X	
90222	Compton / Rosewood / Willowbrook		X		X	
90242	Downey				X	
90247	Gardena		X			
90250	Hawthorne (Holly Park) / Lawndale (Federal Bldg)		X			
90255	Huntington Park / Walnut Park		X		X	
90262	Lynwood				X	
90270	Maywood				X	
90280	South Gate		X		X	
90301	Inglewood		X			
90302	Inglewood		X			
90303	Inglewood		X			
90304	Lennox		X			
90401	Santa Monica			X		
90501	Torrance		X		X	
90601	Whittier	X			X	
90602	Whittier	X			X	
90640	Montebello	X			X	
90706	Bellflower				X	
90716	Hawaiian Gardens				X	
90723	Paramount				X	
90731	San Pedro (City of LA) / Terminal Island (City of LA)				X	
90744	Wilmington (City of LA)		X		X	
90802	Long Beach				X	
90804	Long Beach				X	
90805	North Long Beach (Long Beach)		X		X	
90806	Long Beach				X	
90810	Carson / Long Beach		X		X	
90813	Long Beach				X	
91001	Altadena					X
91046	City of Glendale					X
91103	Pasadena					X
91201	Glendale					X
91203	Glendale					X
91204	Glendale (Tropico)					X
91205	Glendale (Tropico)					X
91303	Canoga Park (City of LA)			X		
91331	Arleta (City of LA) / Pacoima (City of LA)			X		X
91335	Reseda (City of LA)			X		
91340	San Fernando			X		
91342	Lake View Terrace (City of LA) / Sylmar (City of LA)			X		X
91343	North Hills (City of LA)			X		
91352	Sun Valley (City of LA)			X		X

COUNTY OF LOS ANGELES
LOCAL AND TARGETED WORKER HIRE POLICY
QUALIFYING ZIP CODES

Zip Code	Region	SD1	SD2	SD3	SD4	SD5
91401	Van Nuys (City of LA)			X		
91402	Panorama City (City of LA)			X		
91405	Van Nuys (City of LA)			X		
91406	Van Nuys (City of LA)			X		
91411	Van Nuys (City of LA)			X		
91502	Burbank					X
91601	North Hollywood (City of LA)					X
91605	North Hollywood			X		X
91606	North Hollywood			X		X
91702	Angeles National Forest	X				X
91706	Baldwin Park / Irwindale	X				X
91731	El Monte	X				
91732	El Monte	X				
91733	South El Monte	X				
91744	Cityof Industry / La Puente / Valinda	X				
91746	Bassett / City of Industry / La Puente	X				
91754	Monterey Park	X				
91755	Monterey Park	X				
91766	Phillips Ranch / Pomoona / Chino	X				
91767	Pomona	X				X
91768	Pomona	X				
91770	Rosemead	X				X
91776	San Gabriel	X				X
91803	Alhambra	X				
93243	Lebec					X
93534	Lancaster					X
93535	Hi Vista					X
93543	Littlerock / Juniper Hills					X
93550	Palmdale / Lake Los Angeles / Sierra Madre					X
93552	Palmdale					X
93553	Littlerock / Juniper Hills / Pearblossom / Llano					X
93560	North Lancaster					X
93591	Palmdale/Lake Los Angeles					X

LOCAL AND TARGETED HIRE STATUS REPORT
LOS ANGELES COUNTY

Project: Whittier Narrows Splash Pad Project-Rebid
Supervisorial District: SD 1
Project Code:
Contractor(s): Multiple Contractors
Craft(s): Multiple Crafts
Construction Contract Amount: $0.00
Mandatory Local and Targeted Hiring Goal: 30.00%

From Date: 9/302025
To Date: 9/30/2025
Total Forecast Hours: 0.00
Total Project Hours to Date: 0.00
Total Hours Percent Complete: 10.00%

Area	Total Number of Workers Sep 01-Sep 30	% of Total Workers Sep 01-Sep 30	Total Hours Worked Sep 01-Sep 30	% of Total Hours Worked Sep 01-Sep 30	Cumulative Total Number of Workers	Cumulative % of Total Workers	Cumulative Total Hours Worked	Cumulative % of Total Hours Worked	Cumulative Wages w/ Benefits	Cumulative Number of Foremen	Cumulative Foremen Hours	Cumulative Foreman Hours %	Cumulative Number of Journeymen	Cumulative Journeyman Hours	Cumulative Journeyman Hours %	Cumulative Number of Apprentices	Cumulative Apprentice Hours	Cumulative Apprentice Hours %
Tier 1	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Tier 2	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Other in LA County (non-local)	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Outside of LA County	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Employees Not In Specified Zip Lists	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Local and Targeted Workers																		
Local Resident (Tier 1 + Tier 2)	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Targeted Worker	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Demographic Profile																		
African American	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Asian	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Caucasian	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Hispanic	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Native American	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Not Specified	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Two Or More Races	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Other	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Male	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Female	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Veteran	0	0.00%	0.00	0.00%	0	0.00%	0.00	0.00%	$0.00	0	0.00	0.00%	0	0.00	0.00%	0	0.00	0.00%
Total Employees	0		0.00		0		0.00		$0.00	0	0.00		0	0.00		0	0.00	

SAMPLE

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SECTION 01 00 00

PROJECT GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope of the Contract (1.02)
B. Permanent Utility Services (1.03)
C. Work not Included (1.04)
D. Drawings (1.05)
E. Time of Completion (1.06)
F. Long Lead Time Materials and Equipment (1.07)
G. Liquidated Damages (1.08)
H. Examination of Site and Work (1.09)
I. Cooperation (1.10)
J. Restrictions to the Work (1.11)
K. Cutting and Patching (1.12)
L. Air Quality Management District Rules (1.13)
M. Shop Drawings (1.14)
N. Cleaning (1.15)
O. Existing Utility Lines (1.16)
P. Protective Measures (1.17)
Q. Project Administration (1.18)
R. Best Management Practices (BMP) Requirements (1.19)
S. Work In Progress Under Other Contracts (1.20)

1.02 SCOPE OF THE CONTRACT

A. Work to be done under the Contract consists of furnishing all materials, all equipment, and performing the Work required by these Specifications and the Drawings hereinafter, described and necessary, to complete the construction of the Whittier Narrows Recreation Area Splash Pad Project.

B. The work includes but is not limited to the following:
The project is the construction of a nature themed interactive water play splash pad that reflects the natural surroundings of Legg Lake, features include accessibility improvements, seating, shading, covered outdoor showers, prefabricated mechanical building, new private fire hydrant, splash pad ground sprays and bubblers, climate appropriate landscape with irrigation.

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1.03 PERMANENT UTILITY SERVICES

The Work shall include all operations necessary to place required utility services in operating condition, including service lines from points of connection shown on Drawings, permanent meters, connections, and inspections. The work (when so scheduled) includes installation of telephone conduit, backboards, and terminal cabinets as shown, and cooperation with the serving utility company for the installation of other telephone equipment and cables. The County will arrange and pay for telephone switchboards, instruments, and cables.

All other expenses in connection with utility service installations shall be borne by the Contractor; however, upon receipt of certified cost statements, the County will reimburse Contractor for all charges made by serving companies in connection with permanent utility service installations.

Drawing notes and/or specification provisions of trade sections concerning utilities shall take precedence over the foregoing provisions.

1.04 WORK NOT INCLUDED

All items indicated on the Drawings as "N.I.C." (not in contract).

1.05 DRAWINGS

The Work shall conform to the Drawings in Appendix B with sheet numbers and titles as listed on Sheet No. 1 of the Drawings.

1.06 TIME OF COMPLETION

A. The work to be performed under the contract shall be completed within 224 calendar days, beginning with the date stipulated in the written notice to proceed issued by the Director.

B. Failure to complete the work by the identified completion date will be subject to the Liquidated Damages identified in Paragraph 1.08.

C. Final Payment Request shall be submitted within twenty (20) days after completion of the contract work, including all punch list items.

1.07 LONG LEAD TIME MATERIALS AND EQUIPMENT

A. The Contractor shall make every effort to demand of his Subcontractors and suppliers, relative to long lead time items, that they order such items well in

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advance of the scheduled time of installation. Time extensions for late ordering of such materials will not be allowed.

1.08 LIQUIDATED DAMAGES

A. All time limits stated in the Contract Documents are of the essence of the Contract and should the Contractor fail to complete the work required to be done on or before the time of completion as set forth in these specifications, including any authorized extension of time, it is mutually understood and agreed by and between the awarding entity and the Contractor that the use by the public of the Contract Work will be correspondingly delayed, and that by reason thereof, the awarding entity and the public will necessarily suffer great damages; that such damages from the nature of the case will be extremely difficult and impractical to fix; and that the awarding entity and the Contractor have endeavored to fix the amount of said damages in advance as follows:

1. The sum of $1,000 a day for each day's delay in the completion of the work beyond the time limit stipulated in Paragraph 1.06.

B. It is further mutually understood and agreed by and between the awarding entity and the Contractor that the sum of liquidated damages set forth above will be additive to a total of $1,000 a day for each and every day's delay in the event that the time limits, as hereinbefore specified, are concurrently exceeded. Any authorized extensions of time will be added to the time limits stipulated.

C. The Extended Overhead Daily Rate is not applicable when it is determined that liquidated damages apply due to a Contractor's delay.

1.09 EXAMINATION OF SITE AND WORK

A. Bidders must examine the location, physical conditions, and surroundings of the proposed Work and judge for themselves the extent to which these factors will influence the performance of the Contract Work.

B. The plans for the Work show conditions as they are supposed or believed by the Department to exist, but it is not intended, or to be inferred, that the conditions as shown thereon constitute a representation, express or implied by the County or its officers, that such conditions are actually existent, nor shall the Contractor be relieved of the liability under his Contract, nor the County, or any of its officers, be liable for any loss sustained by the Contractor as a result of any variance between conditions as shown on the

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plans or referred to in the Specifications and the actual conditions revealed during the progress of the Work.

C. The County will conduct a prebid conference and job walk of the project site on **June 18, 2026 at 10:00 AM**.

1.10 COOPERATION

In the entrance and exit of all workers and in bringing in, storing, or removing of materials and the erection and maintenance of equipment and in the manner and time of prosecuting the work, the Contractor shall cooperate with those in authority on the premises to prevent the entrance of those whose presence is forbidden or undesirable, and he shall observe all rules and regulations in force on the premises and avoid undue interference with the convenience, sanitation, and routine of County departments occupying the premises.

1.11 RESTRICTIONS TO THE WORK

A. The Department reserves the right to determine which of the Contractor's operations are noise, dust, or dirt producing, or which disrupt utility service, or which constitute blocking of passageways, exits, entrances, etc., or which in any way constitute an interference in the proper function of the building.

B. Contractor shall maintain clear access to all protection equipment at all times, including access to fire hydrants.

C. Control of Tools: During the progress of the work, all hand tools, including power driven hand tools, cables, ropes, and other implements shall be transported and retained, except when in use in an approved locked toolbox. Care shall be taken that no tool is left unguarded or left where it might be taken by an unauthorized person.

D. All work by the Contractor is subject to inspection at any time and without notice by the County.

E. The working hours are Monday through Friday between 7:00 a.m. to 4:00 p.m. unless otherwise specified by the County.

1.12 CUTTING AND PATCHING

The Contractor shall perform all cutting, patching, and finishing operations occasioned by the Work under the Contract, whether or not such operations are indicated on the Drawings or specifically mentioned in the various sections of the

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Specifications. All such operations shall be performed in the best practices of the various trades involved and to the satisfaction of the Department. All patching and finishing materials shall match existing adjacent surfaces in every respect, including design, type and quality of materials, finish, and color. Cutting, patching, and finishing shall include all such operations in existing areas required by the Work under the Contract.

1.13 AIR QUALITY MANAGEMENT DISTRICT RULES

The Contractor shall become familiar with requirements of the South Coast Air Quality Management District Rules 50, 66, 66.l, 66.2, 403, and 1113. The Contractor is responsible for conforming to and using materials which meet the requirements of the above-specified rules.

1.14 SHOP DRAWINGS

Furnish shop drawings as required in the various sections of the Specifications or as requested by the Department. Unless otherwise specified, submit six (6) copies of shop drawings to the Department for review, including one PDF digital copy. One set will be returned to Contractor marked "no exceptions noted" or "exceptions noted." If changes are required, six (6) copies of corrected shop drawings shall be delivered to the Department. Shop drawings shall be of sufficient size and scale to clearly show all details; shop drawings of millwork and cabinet work shall show molding full size. No materials shall be furnished or Work done on items requiring shop drawings prior to acceptance. Acceptance of shop drawings shall not relieve the Contractor from responsibility for deviations from the Contract Documents, nor from responsibility for errors or omissions of any sort in the shop drawings. Neither does such acceptance relieve the Contractor from his responsibility for the correct installation, or for the proper operation in service, of items requiring shop drawings.

1.15 CLEANING

During progress of Work and upon completion of each part of the Work as defined by the sections into which these Specifications are divided or as separated by the various trades involved in the Work, each area shall be cleaned of debris emanating from the Work. The Contractor shall remove excess materials, waste, rubbish, and debris, and his construction and installation equipment from the premises. Any dirt and stains caused by the Work under the Contract shall be removed from the surfaces of the structures and from equipment and fixtures. Final acceptance of the Work done under these Specifications will not be given until the cleaning has been inspected and approved by the Department.

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1.16 EXISTING UTILITY LINES

Except as indicated on the Drawings or in the Specifications, the Contractor will not be liable for the rerouting of existing active underground lines, which may be discovered during the progress of the Work.

1.17 PROTECTIVE MEASURES

The Contractor shall implement adequate measures to protect the construction site from vandalism and/or theft during the course of construction. Protection including supplies, tools and materials at off hours including weekends and holidays.

1.18 PROJECT ADMINISTRATION

All materials supplied and all Work done by the Contractor shall be under the general administration of the Department and in accordance with the Drawings and Specifications.

1.19 BEST MANAGEMENT PRACTICES (BMP) REQUIREMENTS

A. The Contractor shall comply with Section 01 57 00 (for projects less than one acre), Section 01 57 00 (for projects greater than one acre), the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMP's) Manual, latest edition. A copy of the BMP Manual can be obtained at the Los Angeles County Department of Public Works Cashier's Office, 900 South Fremont Avenue, Alhambra, CA 91803, (626) 458-6959.

B. Related Work: Cleaning; Section 01 74 23.

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SECTION 01 12 16

PHASING OF THE WORK

PART 1-GENERAL

1.1 SUMMARY

A. The existing facilities will remain open and operational during the Work renovations. The Work must be undertaken such that the existing facilities can maintain a safe, secure, healthy, comfortable and reasonably convenient environment for its normal operations. The Work shall be completed in Phases such that the User may occupy and use portions of the newly completed Work and vacate other portions of the facility for Builder's access prior to substantial completion of the entire project. Temporary facilities for the User's operations and other needs are required to provide a similar number and amount of amenities as currently exist. The Builder shall prepare and submit a construction phasing and sequencing plan for approval by the Professional, Project Manager, and User which minimizes the impacts of construction on normal operations in accordance with this Section and the Phasing Plans or an approved alternative plan. The Construction Phasing and Sequencing Plan shall be updated as required during the course of the Work. Updates and revisions must be submitted for approval by the Professional, the Project Manager and User.

1.2 REQUIREMENTS INCLUDED

A. Summary of Work

B. Life Safety Plans

C. Safety and Staging Plan

D. Phasing Plans

1.3 COMPLIANCE REQUIREMENTS

A. The various portions of the work shall be complete, functional and operational prior to performing work which disrupts the operations that are to be moved to the new area.

B. The scheduling requirements of the contract may include proposed alternatives to the phasing included herein, which shall be prominently indicated as deviations. Such deviations do not alter the phasing requirements except as specifically approved. Criteria for acceptance include no increase to disruptions to operations and no extension to the opening dates of the project elements.

C. Builder shall prepare and submit a construction phasing and sequencing plan for approval by the Professional, the Project Manager and User within 10 days of Award and prior to beginning the Work [demolition and renovation] activities.

D. Performance criteria for review and acceptance is defined in Section 1.4 below.

E. The various portions of the work shall be functional and operational prior to performing work which disrupts the operations that are to be moved to the newly completed areas.

1.4 CONSTRUCTION PHASING PERFORMANCE CRITERIA

A. Safety

1. Builder must maintain a safe environment for Occupants and Visitors to work around. Clear and protected access and egress routes shall be maintained around construction areas and activities for people, equipment, and vehicles. Provide professionally prepared temporary signage to direct people and traffic along routes not used under normal conditions.

2. Provide temporary barriers, barricades, and walls as necessary to separate construction areas and activities from Occupants and Visitors.

B. Health

1. Contractor must maintain a healthy environment for Occupants and Visitors at all times.

2. Protect the occupied areas of the [existing building] [facilities] from dust, fumes, and other airborne pollutants. Provide separation walls between construction / renovation areas and occupied areas to protect the occupants. If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MEREV) of 8 shall be used at each return air grille. Replace the filters as needed and at the conclusion of the project.

3. Protect Occupants and Visitors from excessive or harmful noise exposure.

4. Maintain occupant access and use of restroom facilities at all times during normal business hours.

5. Maintain all utility services during the utility relocation or new service work. Maintain utility services throughout the project. If a brief service interruption is required to accomplish the Work, the Professional, the Project Manager and User must be notified in advance. A coordination meeting must be held with the Professional, the

Project Manager and User to review service interruption procedures prior to the service interruption.

C. Comfort

1. Provide reasonably finished spaces for use by Occupants and Visitors during the progress of the Work. Temporary construction separation walls shall be paint finished or equivalent on public sides.

2. Restrict noisy activities to hours outside of normal business hours defined as 6:30 AM to 10:30 PM unless approved sound mitigating separation is provided.

D. Convenience

1. Maintain Occupants and Visitors access to facility amenities, such as vending, seating, and restroom facilities. Relocate moveable amenities as required to maintain access. Provide temporary electrical power to amenities with power requirements at temporarily relocated positions.

2. Protect the User's existing equipment during construction activities to prevent damage or contamination due to the progress of the Work.

3. Daily clean-up activities must be included in the Phasing and Sequencing Plan for Work in occupied areas performed outside normal business hours.

1.5 PROJECT PHASES

A. Shall be the contractor’s means and methods to determine sequences and phasing of the work while access around construction areas, including restroom, parking, pathways, and lake remains available to visitors and County staff at all times. Security for construction and staging/lay down area on site will be provided by the Contractor.

PART 2 PRODUCTS (Not Applicable)

PART 3. EXECUTION (Not Applicable)

END OF SECTION

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SECTION 01 14 00

ALTERATION PROJECT PROCEDURES

1.00 GENERAL

1.01 CONTRACTOR'S USE OF THE PREMISES

A. The Contractor will be restricted in the use of the site to that area designated by the County. If the allotted space is too restrictive, provide a written request to the County, identifying the amount of additional area required, the reason why the existing area is inadequate, and any incentives for the County to provide the additional space.

B. Obtain and pay for the use of additional storage or work areas if required for operations.

1.02 INTERRUPTION OF EXISTING SERVICES

A. The facility is in continuous operation.

B. If an interruption of any existing utilities and/or equipment operations to the existing building will be required provide the County a minimum of 7 days notice for minor interruption and 14 days advance notice for major interruption, obtain County's permission and if required by the County, interrupt service only during non-business hours unless otherwise noted in the Contract Documents. Interruptions affecting areas outside the tenant improvement space constitutes a major interruption.

1.03 PROTECTION OF EXISTING IMPROVEMENTS

A. Take all precautions necessary to protect existing building, utilities and other site improvements from damage due to the work of this Project, and be responsible for their restoration of any damaged property to its original condition if damage is a result of the Contractor's construction activities.

B. Cooperate with County to sequence the work so as not to unnecessarily interfere with operation of occupied facilities. Prior to demolition or construction work, consult with County to determine a construction schedule which will permit the existing facilities to function without interruption. Thereafter, Contractor shall provide County's Representative with a minimum of fourteen days advance notice, in writing, of anticipated portion of the Work which may, because of noise or otherwise, require advance operational planning.

C. In planning and performing the Work, make every effort to maintain all pollutants, including noise, dirt and dust levels at the absolute minimum possible.

D. Continuously maintain ingress and egress to and from existing building for purposes of fire and emergency entrance and escape, loading and delivery, and building maintenance, to the satisfaction of the County and authorities having jurisdiction.

E. Protect all utilities against interruption, damage or contamination during construction; if necessary, provide temporary utilities to maintain services continuously. Such utilities shall include, but shall not be limited to, electricity, water, gas, sewerage, telephone, data, oxygen, nitrous oxide, vacuum and compressed air.

F. Provide temporary barriers to separate occupied areas from work areas. Seal all joints to create dust-proof enclosures.

G. Limit equipment and vehicles in ingress and egress and use of service areas to the minimum essential to operations. If there is unavoidable conflict with Contractor's equipment in such areas, upon request of County, remove such equipment immediately to facilitate emergency services, and within a reasonable time, for all other services.

1.04 DAMAGE AND RESTORATION

A. Damage to existing or new work caused by equipment or other operations, whether accidental or made necessary by reason of Contract requirements, shall be restored or replaced as specified or directed by the County, at Contractor's sole expense.

B. Restoration shall be equal to the original work, and finishes shall match the appearance of, as nearly as possible, like existing adjacent work. Restoration shall be subject to acceptance by the County and shall be made as necessary at Contractor's sole expense.

C. Work not properly restored or where not capable of being restored as intended under these specifications shall be removed and replaced as directed by County, at Contractor's sole expense.

2.00 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New materials: As specified in product Sections; match existing products and work for patching and extending work.

B. Type and quality of existing products: Determine by inspection and testing products where necessary, referring to existing work as a standard.

3.00 EXECUTION

3.01 EXAMINATION

A. Verify that demolition is complete and areas are ready for installation of new work.

B. If actual conditions differ from conditions shown on the Contract Documents, immediately report the differing conditions to the Director and wait for written instructions.

C. Beginning of work means acceptance of existing conditions.

3.02 PREPARATION

A. Cut, move or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.

B. Remove unsuitable material not marked for salvage. Replace materials as specified for finish work.

C. Remove debris and abandoned items from area.

D. Prepare surfaces and remove surface finishes to provide for proper installation of new work and finishes.

E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity.

3.03 INSTALLATION

A. Coordinate work of alterations and renovation to expedite completion.

B. Designated areas: Complete in all respects.

C. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.

D. Install products as specified in each Section.

3.04 TRANSITIONS

A. Where new work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along with a straight line at a natural line of division and make recommendations to Director.

3.05 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces which become damaged, lifted, discolored or showing other imperfections.

B. Repair substrate prior to patching finish.

3.06 FINISHES

A. Finish surfaces as specified in each Section.

B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

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SECTION 01 26 13

CONTRACTOR'S REQUEST FOR INFORMATION

PART 1 - GENERAL

1.01 SUMMARY

A. This section covers general requirements for Contractor's Requests for Information (RFI).

B. The Contractor will prepare and submit RFIs as directed by the County Project Manager.

C. Related Sections:

1. General and Supplementary Conditions for changes in the Work.

2. Section 01 31 19: Progress Meetings

3. Section 01 33 00: Submittals

1.02 SUBMITTALS

A. Submit a Request for Information to the County when:

1. An unforeseen condition or constructability question occurs.

2. Questions regarding information in the Contract Documents arise.

3. Information not found in the Contract Documents is required.

B. When possible, request such clarification either verbally or in writing at the next scheduled Project meeting. When the RFI is answered at the Project meeting, number the RFI and enter the response into the meeting minutes.

1. When the urgency of the need or the complexity of the item makes clarification at the next scheduled Project meeting impractical, prepare and submit a formal written RFI to the County.

C. RFIs shall be submitted within a reasonable time frame so as not to interfere with or impede the progress of the Work. The Contractor shall make every effort to keep the number of RFIs to a minimum. If the number of RFIs becomes unwieldy, the County may require the Contractor to abandon the RFI process and submit requests as either submittals, substitutions, or requests for change.

D. When the response to an RFI affects the cost or time duration of the project, notify the County in accordance with the General Conditions at the time of the submittal. Notification shall occur prior to commencing such work, so that the change order process can be initiated.

1. At time of the time of submittal of the RFI, notify the County to the time available before the response will cause a time or cost impact to the Project.

2. An answered RFI shall not be construed as approval to perform extra work.

E. Form of Submittal:

1. Submit legible written RFIs on a standard CSI or AIA preprinted form or other such form as approved in advance by the County in PDF. Each request shall include the following information:

a. Project name, as listed on the Contract Documents, and County Specs. Number;
b. Date;
c. RFI number;
d. Name, address, telephone and e-mail address of the Contractor;
e. Number and title of affected Specification Section(s);
f. Drawing numbers and detail numbers as appropriate;
g. Indicate if the RFI will result in a time or cost impact;
h. Clear, concise explanation of information or clarification requested;
i. Blank, lined spaces for Architect's response;
j. Signature block for County to acknowledge review of Architect's response;
k. Mark each page of each RFI attachment in the lower right corner with the RFI number;
l. Number submitted RFIs consecutively; and
m. Sign and stamp all RFI forms. RFIs from subcontractors or material suppliers shall be submitted through the Contractor. Contractor shall review all such information requests prior to submitting to the County.

F. RFIs not meeting the requirements of this Section will not be answered and any consequential impact on the project shall be the sole responsibility of the Contractor. Unanswered RFIs will be returned with a stamp or notification "Not Reviewed."

G. RFI Log: Contractor shall maintain and update the log weekly and furnish to the County when requested. The log shall contain the following minimum information:

a. RFI number
b. Date submitted
c. Brief description of content or subject
d. Date answered

H. Allow a minimum of five (5) working days for review and response. The response time will be increased if more information is required, when the RFI is submitted out of sequence, or if in the opinion of the County, more time is required to answer the RFI.

1.03 QUALITY ASSURANCE

1. Carefully review the Contract Documents before submitting a RFI to the County. Verify that the information requested is not indicated in the Contract Documents or cannot be determined from a careful review.

    1. The County may not answer RFIs for information that is readily available in the Contract Documents.

2. RFIs requesting clarification of coordination issues, shall include the Contractor's suggested solution as an attachment to the RFI.

    1. Such coordination issues include, but are not limited to, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items.

    2. Provide scale drawings or sketches indicating the proposed solution.

    3. RFIs which do not include a suggested solution will not be answered.

3. Do not use RFIs for the following:

    1. To request approval of submittals.

    2. To request approval of substitutions.

    3. To request changes to the Contract Documents and to confirm action taken by the Contractor for requested changes/substitutions to the Contract Documents.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

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SECTION 01 29 73

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Submit to the Department, six (6) copies and one (1) in PDF of an accurate and realistic Schedule of Values allocated to the various portions of the work, ten (10) calendar days from issuance of Notice to Proceed under the Consultant Services Agreement.

B. The Contractor will prepare and submit the Schedule of Values as directed by the County Project Manager.

C. The Schedule of Values, unless objected to by the Department, shall become the basis for the Contractor's applications for payment.

1. Upon request by the Department, support values given with data that will substantiate their correctness.

D. Related requirements specified elsewhere.

1. Section 01 00 00, "Project General Requirements".

1.02 FORM OF SUBMITTAL

A. Type schedule on 8-1/2" x 11" white bond paper and PDF. Identify schedule with:

1. Title of project and location.

2. Specification number.

3. Name and address of Contractor.

4. Date of submission.

B. Schedule shall list the installed value of the component parts of the work in

sufficient detail to serve as a basis for computing values for progress payments during construction.

C. Use the Table of Contents of the project specifications as a basis for the format for listing component items.

1. Identify each line item with the number and title of the respective section of the specifications.

D. List sub-values of major products or operations for each line item. Additional sub-values may be requested by the Department.

E. Costs for the various portions of the work:

1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.

2. For items on which progress payments will be requested, list the total installed value, including Contractor's overhead and profit.

F. A similar detailed schedule, itemizing costs and/or credits in a form satisfactory to the Department, shall accompany all quotations for changes in the work or for extra work. Refer to article entitled "Provisions for Extras" in the General Conditions of the project specifications.

G. Round off figures to nearest ten ($10) dollars wherever possible.

H. The sum of all values listed in the schedule shall equal the total contract sum.

1.03 REVIEW AND RESUBMITTAL

A. After review by the Department, revise and resubmit Schedule as required. Resubmit revised Schedule in same manner.

B. Progress payments will not be made until Schedule has been approved.

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SECTION 01 29 76

PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:

1. Division 1 Section "Allowances" for procedural requirements governing handling and processing of allowances.
2. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
3. Division 1 Section "Unit Prices" for administrative requirements governing use of unit prices.
4. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with Continuation Sheets.

b. Submittals Schedule.
c. Contractor's Construction Schedule.

2. Submit the Schedule of Values to Los Angeles County Project Manager at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.

3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

a. Related Specification Section or Division.
b. Description of the Work.
c. Name of subcontractor.
d. Name of manufacturer or fabricator.
e. Name of supplier.
f. Change Orders (numbers) that affect value.
g. Dollar value.

1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate. Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training in the amount of 5 percent of the Contract Sum.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.

6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Los Angeles County Project Manager and paid for by Owner.

    1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Progress payments shall be submitted by the 20th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

D. Payment Application Forms: Use AIA G702 or similar as form for Applications for Payment.

E. Payment Application Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included at end of this Section.

F. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Los Angeles County Project Manager will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

G. Transmittal: Submit signed and notarized original copies of each Application for Payment Los Angeles County Project Manager by a method ensuring receipt. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.

3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Products list.
5. Schedule of unit prices.
6. Submittals Schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of building permits.
10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
11. Initial progress report.
12. Report of preconstruction conference.
13. Certificates of insurance and insurance policies.
14. Performance and payment bonds.
15. Data needed to acquire Owner's insurance.
16. Initial settlement survey and damage report if required.

K. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

L. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.

3. Updated final statement, accounting for final changes to the Contract Sum.
4. "Contractor's Affidavit of Payment of Debts and Claims."
5. "Contractor's Affidavit of Release of Liens."
6. "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

SAMPLE APPLICATION AND CERTIFICATE FOR PAYMENT ATTACHED.

* * *

SAMPLE

APPLICATION AND CERTICATE FOR PAYMENT

TO: LACDPW - PROJECT MANAGEMENT DIVISION II
PUBLIC WORKS HEADQUARTERS BLDG.
900 SOUTH FREMONT AVENUE, 5TH FLOOR
ALHAMBRA, CA 91803

Project:
Contract No:
CP No.:

Application No: #REF!
Invoice No: #REF!
Period To: #REF!

From: Contractor

Project No: #REF!
Invoice Date: #REF!
Contract Date: #REF!

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment as, shown below, in connection with the contract.
Continuation sheet is attached.

1 ORIGINAL CONTRACT SUM		$ -
2 Net change by Change Orders		$ -
3 CONTRACT SUM TO DATE		$ -
4 TOTAL COMPLETED & STORED TO DATE (Column G on Continuation Sheet)		$ -
5 RETAINAGE		
a 0.00% of Completed Work (Column D+E on Continuation Sheet)	$ -	
b 0.00% of Stored Material (Column F on Continuation Sheet)	$ -	
Total Retainage (Line 5a+5b or Total in Column I on Continuation Sheet)		$ -
6 TOTAL EARNED LESS RETAINAGE (Line 4 less Line 5 Total)		$ -
7 LESS PREVIOUS CERTIFICATES FROM PAYMENT (Line 6 from prior Certificate)		
8 CURRENT PAYMENT DUE		$ -
9 BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)		

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Previously approved Change Orders	$ -	$ -
Change Orders approved this period	$ -	$ -
TOTALS	$ -	$ -
Net Change Order Total	$ -	

To the best of my knowledge and belief, I certify that all items, units, quantities, and prices of work shown on this application for payment are corrects; that all the work has been performed and material supplied in full accordance with the terms and conditions of this Contract on this projects; that this application for payment is a true and correct statement of the contract account up to and including the last day of period covered by this application and that no part 'Current Payment Due' has been received.

CONTRACTOR:
BY: _____ Date: _____

CERTIFIED AND APPROVED AS PER TERMS OF CONTRACT

To the best of my knowledge and belief, I certify that this application for payment does not exceed (_%) of the value of the work completed since the previous application for payment, if any plus (_%) of the value acceptable or stored materials for incorporation into work, but not installed, if any.

I further certify that this application for payment covers full payment for work completed since the previous application for payment and that any payment for prefabricated stored materials does not exceed (_%) of the value of the materials.

AMOUNT CERTIFIED..... $ -

BY: _____ Date: _____
Inspector

BY: _____ Date: _____
Architect/Engineer

BY: _____ Date: _____
County Project Manager

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptable of payment are without prejudice to any rights of the Owner or Contractor under this Contract except as set forth in the Contract.

AIA® Document G703™ – 1992

Continuation Sheet

AIA Document G702™–1992, Application and Certificate for Payment, or G732™–2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
In tabulations below, amounts are in US dollars.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED *(Not in D or E)*	TOTAL COMPLETED AND STORED TO DATE *(D+E+F)*	% *(G ÷ C)*	BALANCE TO FINISH *(C – G)*	RETAINAGE *(If variable rate)*
			FROM PREVIOUS APPLICATION *(D + E)*	THIS PERIOD					
	GRAND TOTAL								

Sample

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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SECTION 01 31 00

COORDINATION AND MEETINGS

PART 1 – GENERAL

1.01 SECTION INCLUDES:

A. Coordination
B. Preconstruction Meeting
C. Progress Meetings
D. Preinstallation Meetings

1.02 COORDINATION

A. Coordinate scheduling, submittals, and work of the various Sections of the Project Manual to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later and for accommodating items to be installed by the County.

B. Coordinate sequence of work to accommodate County occupancy as specified in Section 01 00 00.

1.03 PRECONSTRUCTION MEETING

A. Construction Manager/County Project Manager will schedule a meeting after Notice of Award.

B. Attendance Required: Architect, Project Coordinator, Prime Contractors, Major Subcontractors, Project Inspector and key County personnel.

C. Agenda:

1. Contract Agreement

a. Transmit Performance and Material Bonds to Architect
b. Review General/Supplementary Conditions
c. Deferred Approvals

2. Receive documentation from Contractor

a. Construction Schedule
b. Schedule of Values

c. List of Subcontractors with Addresses and Phone Numbers
d. List of Submittals and Estimated Date of Submittal

3. Project Administration

a. Application for Payment, Project Schedule, Lien Release, As-built Documents, Contract Administration
b. Change Orders and Proposal Requests
c. Submittals and Substitutions, Deferred Approvals
d. Site Meetings
e. Testing Lab
f. Verified Reports

4. Special County Conditions

a. Temporary Facilities
b. County Occupancy
c. Work by County
d. Access to Site – County Contract

5. Construction Process

a. Contractor to give Overview of Construction
b. Contractor to identify items to be selected by Architect/County and date selections must be made.
c. Contractor to review special requirements for equipment, safety, and noise.

6. Project Close-Out

a. Close-out Binder
b. As-Built Documents
c. Final Verified Reports

D. Architect or County Project Manager to record minutes and distribute copies within three days after meeting to participants, Architect and those affected by decisions made.

1.05 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work as needed.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required: Project Coordinator, Prime Contractors, major Subcontractors and suppliers, Project Inspector, key County personnel and Architect as appropriate to agenda topics for each meeting.

D. Agenda

1. Review Minutes of Previous Meetings
2. Review of Work Progress
3. Field Observations, Problems, and Decisions
4. Identification of problems which impede planned progress.
5. Review of Submittals Schedule or Status of Submittals.
6. Review of Off-site Fabrication and Delivery Schedules
7. Maintenance of Progress Schedule
8. Corrective Measures to Regain Project Schedules
9. Planned Progress During Succeeding Work Period
10. Coordination of Projected Progress
11. Maintenance of Quality and Work Standards.
12. Effect of Proposed Changes on Progress Schedule and Coordination
13. Other Business Relating to Work

E. Architect or County Project Manager to record minutes and distribute copies within three days after meeting to participants, Architect, and those affected by decisions made.

1.06 PREINSTALLATION MEETING

A. When required in individual specification sections, convene a preinstallation meeting prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:

1. Review conditions of installation, preparation and installation procedures.

2. Review coordination with related work.

E. Contractor to record minutes and distribute copies within three days to participants, Architect and those affected by decisions made.

1.07 COORDINATION OF SUBMITTALS

A. Schedule and coordinate submittals specified in Section 01 33 00.

B. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate request for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.

1.08 COORDINATION OF SPACE

A. Coordinate use of project space and sequence of installation of mechanical and electrical work which is indicated diagrammatically on drawings. Follow routings shown for pipes, ducts, and conduits as closely as practical, with due allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximum accessibility for other installations, for maintenance and for repairs.

B. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

1.09 COORDINATION WITH WORK BY COUNTY

A. Coordinate any work by County.

1.10 COORDINATION OF CONTRACT CLOSE-OUT

A. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.

B. After County occupancy of premises, coordinate access to site by various sections for correction of defective work and work not in accordance with Contract Documents to minimize disruption of County's activities.

C. Assemble and coordinate close-out submittals specified in Section 01 77 00.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

* * * * *

SECTION 01 31 19

PROGRESS MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scheduling and administration of progress meetings.

1.02 RELATED REQUIREMENTS

A. Instructions to bidders.

B. Project general requirements.

C. Construction schedules.

D. Shop drawings, product data and samples.

E. Quality control.

F. Temporary Facilities.

1.03 PROGRESS MEETINGS

A. The County will schedule and administer progress meetings throughout the construction of the work.

B. The County will make physical arrangements, prepare agenda and distribute notice for the meetings to participants in advance of meeting date.

C. The Project Manager will preside at meetings. Meeting minutes will be recorded and copies will be distributed to participants prior to next meeting.

D. Location of meetings: Project's field office or Project Manager's office or via Teams.

E. Attendance: Project Manager, Inspector, Contractor, job superintendent, subcontractors, suppliers and others as appropriate to agenda; Architect/Engineer and others shall attend when appropriate.

F. Minimum Agenda:

1. Approval of minutes of previous meetings.

2. Review of work progress.

3. Field observations, problems and decisions.

4. Identification of problems which impede planned progress.

5. Review of submittals schedule and status of submittals.

6. Review of off-site fabrication and delivery schedules.

7. Maintenance of progress schedule.

8. Corrective measures to regain projected schedules.

9. Planned progress during succeeding work period.

10. Coordination of projected progress.

11. Maintenance of quality and work standards.

12. Effect of proposed changes on progress schedule and coordination.

13. Other business relating to Work.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

* * *

SECTION 01 32 00

CONSTRUCTION SCHEDULES

Critical Path Method Schedule Integration System

1. GENERAL

DESCRIPTION – The work specified in this section consists of developing and maintaining a Critical Path Method (CPM) schedule integration system for the contract. Planning, scheduling, management, and execution of work in accordance with contract documents are the sole responsibility of the Contractor.

1.1 Related General Conditions/General Requirements Articles, and Specifications Sections

a.	General Conditions Articles	12.A, 12.B, 12.C
b.	General Conditions Articles	14
c.	General Conditions Articles	15.B.e.3
d.	General Requirements Articles	1.02
e.	General Requirements Articles	1.06

1.2 Generate a CPM schedule integration system with XER file type, P6 version 8.1, and PDF copy using commercially available CPM scheduling software program containing direct file interchange capability with the software program used by the Los Angeles County Department of Public Works. Prepare as directed by the County Project Manager.

1.3 Contract milestone dates, County furnished goods, availability dates, and real estate availability dates, are unique zero duration activities as a “start no earlier than” or “finish no later than” milestone. Each milestone activity will constrain its dependent work. Assume Notice to Proceed (NTP) is given at day zero for calculation of constraint dates for milestones.

1.4 Float is not for exclusive use or benefit of either the County or Contractor but is an expiring resource available to both parties on a nondiscriminatory basis. Float is used by either party, as needed to meet contract milestones and contract completion dates. Contract time extensions for contract performance will be granted only to extent that delays or disruptions to affected work paths exceed total float along those paths of current contract schedule (update schedule) in effect at time of delay or disruption. These delays or disruptions must also cause end date of work to exceed current

contract date or milestone date and be beyond control and without fault or negligence of Contractor or any subcontractor at any tier. If delays or disruptions impact an already negative float path, Contractor will not receive a time extension unless and until activity with highest float is driven even further negative.

1.5 Use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity times or durations should be submitted with written justification to obtain the County's acceptance. Use of float time disclosed or implied by use of alternate float suppression techniques shall be shared to proportionate benefit of the County and Contractor. Use of any technique solely for purposes of suppressing float will be cause for rejection of schedule submittal.

1.6 Planning units – Scheduling software supports schedule Planning Units of hours, days, weeks or months. The standard time unit applied to the schedule integration system is defined as days.

1.7 Schedule network – Use Retained Logic CPM Precedence Diagram Method of scheduling.

1.8 Analyze in detail, activities included in contract schedule to determine activity time durations in units of working days. Base durations on engineering and design resources, drawing production, submittal review periods, procurement lead time and duration, manufacturing times, labor (crafts), equipment, and materials required to perform each activity on a normal workday basis. No on-site activity shall have a duration over 10 working days except non-construction activities such as submittals, submittal reviews, procurement and delivery of materials or equipment, and concrete curing.

2. PRODUCTS

SUBMITTALS – Submit one original and four copies of schedule unless specified otherwise. Provide submittals specified in this section to the County for review and acceptance.

2.1 Baseline CPM Contract Schedule

Provide the County with a means to monitor and follow progress of all phases of work, with contractually specified interim milestones and completion dates, and with constraints, restraints or sequences included in the contract. Degree of schedule detail required shall include factors to the satisfaction of the County, including but not limited to the following:

2.1.1 Master list of submittals and all other requirement as referenced in Section 01 33 00 Submittals.

2.1.2 Contract interim milestones and contract completion date, substantial completion dates, constraints, restraints, sequence of work indicated.

2.1.3 Type of work to be performed, sequences, and labor trades involved.

2.1.4 Purchases, manufacture, tests, delivery, and installation activities for major materials and equipment.

2.1.5 Deliveries of County furnished goods and/or materials in accordance with dates or schedule windows of such times set forth in the contract or furnished by the County.

2.1.6 Preparation, submittal, and acceptance of shop and/or working drawings and material samples showing a 30-day minimum time specified for the County and third party reviews of normal or routine submittals, so identified in the specifications, and the same time frame shall be allowed for at least one re-submittal or submittals so identified in the contract documents.

2.1.7 Approvals and permits required by regulatory agencies or other third parties.

2.1.8 Schedules for subcontract work.

2.1.9 Assignment of responsibility for performing specific activities.

2.1.10 Access and availability to work areas.

2.1.11 Identification of interfaces and dependencies with preceding, concurrent and follow-on construction or contractors and utilities.

2.1.12 Actual tests, submissions of test reports, and acceptance of test results.

2.1.13 Start up, testing, training, and assistance required under the contract.

2.1.14 Planning for phased or total takeover by the County.

2.1.15 Punch-list and final clean up.

2.1.16 Identification of construction restrictions as well as any activity requiring unusual shift work, such as two shifts, six day weeks, specified overtime, or work at times other than a standard work day.

2.2 The schedule of values shall be prepared and submitted together with the construction schedule.

2.3 Failure to meet these requirements may result in a determination and recommendation that the Board of Supervisors determine that the successful bidder as non-responsible because such failure reflects the bidder's ability to manage the work.

3. Current CPM Contract Schedule Updates

3.1 Initially, upon approval of the baseline CPM contract schedule, establish the current CPM contract schedule from the baseline CPM contract schedule. Thereafter, update the current contract schedule monthly with data date designated by the County. Use updated current contract schedule for subsequent planning, scheduling, and execution of work to be accomplished. Obtain County prior acceptance before making deviations in logic and activity durations in the current CPM contract schedule.

3.2 Participate with the County in periodic meetings, at least monthly, on dates directed by the County and seven days prior to monthly status. At meeting held seven days prior to the data date, provide preliminary updated current CPM contract schedule that forecasts project status on the data date and contains actual start and actual finish dates for activities in progress or completed, remaining durations of activities already in progress, percent completed, logic changes, new or deleted activities, and new change order/modifications.

3.3 Submit a standalone portion of the network (fragnet), if the current progress reflects negative float of minus 10 days or more for a milestone activity, as indicated by most recent CPM contract schedule, allowed by contract as amended by approved change orders/modifications. Show activities affected, date delay or disruption occurred or how productivity was impacted, and unmitigated impacts to schedule caused delay or disruption. Submit similar fragnet showing Contractor's plan to mitigate delay

or disruption and subsequent impacts to schedule at the County's request. Provide written narrative describing circumstances that caused delay or disruption and methodology used to determine extent of delay or disruption. Submission of such fragnets does not constitute permission to proceed with plan. Execute some or all of the following remedial actions, and submit a recovery schedule that may include:

3.3.1 Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.

3.3.2 Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or combination of the foregoing to eliminate the backlog of work.

3.3.3 Reschedule the work in conformance with the specifications requirements.

4. Before implementing any of the above actions, notify and obtain acceptance from the County. If such actions are accepted, incorporate current CPM contract schedule revisions before next update.

5. Addition of equipment or construction forces, increasing working hours or other methods, manner, or procedure to return to contractually required completion date will not be considered justification for a change order/modification, nor be treated as acceleration where the need for a recovery schedule has been caused by the Contractor and/or its subcontractors or suppliers at any tier.

6. When the Contractor experiences change order/modifications or delays and a time extension is requested, submit to the County a written time impact analysis illustrating the influence of each change or delay on current contract schedule completion date utilizing current CPM contract schedule. Include in each time impact analysis a fragnet demonstrating how the Contractor proposes to incorporate the change order/modification or delay into the current CPM contract schedule. The fragnet shall contain a sequence of new and/or activity revisions that are proposed to be added to the current CPM contract schedule in effect at the time change or delay is encountered to demonstrate influence of delay and method of incorporating the delay and its impact into the schedule as they are encountered.

6.1 Each time impact analysis shall demonstrate estimated time impact based on events of delay, date of change order/modifications, proceed order, or unilateral change order/modification given to the Contractor, status of construction at that point in time, and event

time computation of activities affected by change or delay. Event times used in analysis shall be those included in latest version of the current CPM contract schedule, in effect at time change or delay was encountered.

6.2 Submit each time impact analysis in triplicate, within ten days after a delay occurs. If the Contractor does not submit a time impact analysis for a specific change order/modification or delay within specified period of time, the Contractor will be deemed to have irrevocably waived rights to additional time and cost.

6.3 Because float time within current CPM contract schedule is jointly owned, it is acknowledged and agreed by the Contractor that the County caused delays on the project may be offset by County caused time savings (including, but not limited to: critical path submittals returned in less time than allowed for the contract, acceptance of substitution requests which result in a savings of time along the critical path for the Contractor, etc.). In such an event, the Contractor will not be entitled to receive an extension of time or delay damages until the County caused time savings are exceeded and contract completion data also exceeded.

6.4 The County will accept or reject each time impact analysis. Upon acceptance, a copy of a time impact analysis signed by the County will be returned to the Contractor for incorporation into the schedule.

6.5 Upon mutual agreement by both parties, incorporate fragnets illustrating the influence of change orders/modifications and delays into the current CPM contract schedule during first update after agreement is reached.

6.6 In the event the Contractor does not agree with the decision of the County regarding impact of a change or delay, the County's determination shall govern.

7. The Contractor shall resolve out-of-sequence progress, if any, to provide the actual construction sequence to calculate the current critical path(s) and identify any deviations of interim milestones and/or project completion.

8. As-built schedule – Submit as-built schedule covering work performed under the Contract within 30 days after final completion. As-built schedule – Certified by a planner/scheduler and Contractor's project manager as being the manner in which Contract was executed. Submittal and acceptance of the schedule will be a condition precedent to reduction/release of retainage at the end of the contract.

9. Schedule reviews – The County will review and respond to scheduling submittals within 14 days after submittal, unless a different review period is specified in this section. Submit a revised schedule within seven days after receipt of the County's response if the County requires changes or additional information.

10. Early completion schedule – If the schedule duration proposed by the Contractor is less than the completion date in the NTP, the proposed schedule will not nullify the Contractor's right to the NTP duration. The Contractor agrees that in the event a proposed early completion schedule (or any subsequent update) which is found to be acceptable by the County, indicating a duration which is less than time allowed by Contract for completion of work or of interim milestone, Contract completion time shall only be shortened by a change order/modification to equal Contractor's proposed baseline CPM contract schedule duration.

    If the schedule duration proposed by the Contractor is less than the completion date in the NTP, the proposed schedule will not nullify the Contractor's right to the NTP duration.

11. Three week rolling bar chart schedule – Once a week, on a day mutually agreed to by the County and the Contractor, a meeting will be held to assess the progress achieved by the Contractor during previous work week. Submit a project schedule listing activities completed and in progress for the previous week and the activities scheduled for the succeeding two weeks based on the current CPM contract schedule. The three week rolling bar chart schedule shall be provided from the current CPM contract schedule and include all activities scheduled including: activity ID, description, early start and early finish, total float, original duration, remaining duration, percent complete, performance of the activity, and pertinent remarks as to activity status. The schedule shall be submitted to the County before the weekly meeting for review. Submit copies of schedule by PDF.

12. Monthly Updated Current Contract Schedule

    a. One computer generated backup copy of monthly updated current CPM contract schedule file.

    b. Written narrative for updated current CPM contract schedule.

13. Fragnets

    a. One computer generated backup copy of fragnet files.

    b. Written narrative of fragnet assumptions.

14. Contract Time Scaled Network Diagrams – Submit computer generated time-scaled network diagram entitled “Current Time Scaled Network Diagram” with submittal of items referenced below.

    a. Submit with initial early work schedule submittal.

    b. Submit every month with updated current CPM contract schedule.

15. Written Narrative Reports – Include a standalone narrative of sufficient detail to explain basis of Contractor’s submittal with each schedule submittal.

    15.1 CPM Contract Schedule Submittals – Explain determination of activity durations and describe Contractor’s approach for meeting required interim and final completion milestone dates, as specified in the Contract. Include as a minimum basis and assumptions used in preparing the submittal, including crew sizes, equipment requirements, and anticipated delivery dates; restraints; critical path activities; production rates; activities requiring overtime or additional shifts; activities that contain time contingencies for impacts to be expected from normal rainfall; holidays and other non-work days; potential problem areas; permits; coordination required with the County; utilities and other parties; and long lead delivery items requiring more than 30 days from order to delivery. Identify work items that may be expedited by use of overtime or additional shifts. Identify and explain sequencing and other constraints such as manpower, material, and equipment. Include listing of holidays and special non-work days.

    15.2 Current CPM Contract Schedule Submittals – State in narrative, work actually completed and reflect progress along critical path in terms of days ahead of or behind allowable dates. Specific requirements of narrative are as follows:

15.2.1 If updated current CPM contract schedule indicates an actual or potential delay to contract completion date or interim milestone dates as specified under the contract documents or modified by change order/modification, identify causes of delays, disruptions and interruptions and provide explanation of work affected and proposed corrective action to meet milestone dates involved or to mitigate potential delays or disruptions. Document and log ,in a matrix format, activities with non-mitigated negative float until the negative float is mitigated. Identify deviations from previous month's critical path. The matrix will include applicable activity number, description, planned start and finish dates, current start and finish dates, and float quantity.

15.2.2 Identify by activity number and description, activities in progress and which activities are scheduled to complete during the next period.

15.2.3 Identify by activity number and description, activities to be started during the month following the report period. Show Contractor's forecast early and late start, and finish dates.

15.2.4 Discuss added change order/modification work items.

3. EXECUTION

3.1 Baseline CPM Contract Schedule

3.1.1 Provide Contractor's detailed activities and sequencing for work included in the contract. Assign unique activity identification for each detailed activity.

3.1.2 Indicate Contractor's best estimate for original durations, early dates, late dates, logic ties, constraint dates, and total float. Schedule activities in the sequence which Contractor intends to perform work.

3.1.3 Include following activity sequence for major material and equipment procurement:

3.1.3.1 Submittal preparation; review for acceptance; and fabricate/deliver – Divide procurement items that may contain multiple submittals occurring at different time intervals into separate sequences that can be tracked on individual basis. Include a maximum original duration of 20 working days for re-review.

Resubmittal activities shall contain submittal preparation activities for other material and equipment procurement (non-major) to schedule.

3.1.4 Baseline CPM contract schedule activity requirement are as follows:

3.1.4.1 Activity descriptions – Briefly convey scope and location of work indicated.

3.1.4.2 Activities – Discrete items of work accomplished under contract that provide measurable and recognizable parts of work.

3.1.4.3 Include as contract deliverables, submittal and approval of permit applications and variances, samples of materials, shop drawings, working drawings, inspection and test plans, safety and security plans, and site traffic control plans. Include activities of the County that may affect progress as well as those of affected utility companies and other similarly involved third parties. Include activities in the baseline CPM contract schedule as stipulated in general requirements.

3.1.4.4 Work activities – Show duration in work days.

3.1.4.5 Work activities – Durations of 10 working days or less except for non-construction activities such as procurement of materials, or fabrication of equipment. Should a work activity require more than 10 working days, subdivide work activity to define appropriate work items.

3.1.4.6 Critical path is defined as the sequence(s) of activities with the least amount of float.

3.1.4.7 Failure to include any element of work required for performance of the contract in baseline CPM contract schedule will not excuse Contractor from completing work required to achieve milestone completion, notwithstanding acceptance of baseline CPM contract schedule submittals.

Activities that are susceptible to weather delays caused by rain shall contain time contingencies for those potential delays. The time contingencies shall be described in the appropriate activity log windows of

scheduling software. In scheduling the work, Contractor shall plan for normal rainfall (including its subsequent effects on days following extremely heavy rain).

3.2 Baseline CPM Contract Schedule Changes

When commencing new work associated with a change order/modification, incorporate work into the current baseline CPM contract schedule submittal as new activities after discussion with the County concerning how changes will be placed into the revised baseline CPM contract schedule. After an official change order/modification has been issued for work, add it to the schedule.

3.3 Fragnets

3.3.1 Submit revised current CPM contract schedule within 14 days of request. If Contractor falls behind in prosecution of work, as indicated by negative critical path, or submittal of current CPM contract schedule no longer appears to represent actual prosecution of work.

3.3.2 Properly connect to and constrain by, previously existing predecessor and successor activities, as applicable, activities of revised portion(s) of schedule. Band impacted activities in separate networks (fragnets); indicating specific delay or impact issues and submit to the County for review. Combine approved fragnets into current CPM contract schedule.

3.3.3 Time extensions will be granted only to the extent that equitable time adjustments for activity or activities affected exceed total or remaining float along critical path of activities at time of actual delay, or at time a change order/modification was issued. Float or slack time is not for the exclusive use or benefit of the Contractor but is an expiring resource available to all parties as needed to meet contract milestones and contract completion date. Time extensions will not be granted nor delay damages paid until delay occurs:

3.3.3.1 Which is beyond the control and without the fault or negligence of the Contractor and its subcontractors or suppliers, at any tier; and

3.3.3.2 Which extends actual performance of work beyond applicable current Contract completion date and most recent date predicted for completion of project on approved schedule update, current as of time of the

delay or as of time of issuance of a change order/modification.

3.4 Submittal of Schedule

3.4.1 Contractor shall submit the construction schedule within ten (10) calendar days, per Section 00 01 00, Paragraph 1.14e, after receipt of the Notice to Proceed (NTP) on hard copies and CD that is compatible with P6. The Contractor shall provide to the County for review a P6 and PDF copies of the construction schedule indicating the sequence of operations, description of the work, calendar definition and duration showing entire job performed within the specified contract time.

3.4.2 If the schedule duration proposed by the Contractor is less than the completion date in the NTP, the proposed schedule will not nullify the Contractor's right to the NTP duration.

3.4.3 The County shall review the Contractor's construction schedule. The Contractor shall incorporate all the revisions requested by the County and submit the final schedule within seven (7) calendar days of its receipt from the County.

3.4.4 The schedule of values shall be prepared and submitted together with the construction schedule.

3.4.5 Failure to meet these requirements may result in a determination and recommendation that the Board of Supervisors determine that the successful bidder as non-responsible because such failure reflects the bidder's ability to manage the work.

3.4.6 The schedule shall be revised at no additional cost to the County and resubmitted for review when:

3.4.6.1 Changes to contract affect contract completion time.

3.4.6.2 "Slippage" occurs because of procurement delays, rain, strikes and other delays.

3.4.6.3 Any activities are modified from previous submittal.

3.4.6.4 Delay on initial non-critical items is of such magnitude as to change the critical path.

3.5 Responsibility for Completion

The Contractor shall furnish sufficient forces, offices, facilities and equipment, and shall work such hours including night shift and overtime operations, as necessary to ensue the prosecution of the work in accordance with the current monthly construction schedule update. If, in the opinion of the County, the Contractor falls behind in meeting the construction schedule as presented in the current monthly schedule update, the Contractor shall take such steps as may be necessary to improve its progress, and the County may require it to increase the hours of work, the number of shifts, overtime operations and/or the amount of construction plant and equipment without additional cost to the County.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Submittal Procedures
B. Construction Progress Schedules
C. Shop Drawings
D. Product Data
E. Samples
F. Manufacturers' Instructions
G. Manufacturers' Certificates
H. Coordinated Drawings
I. Request for Information
J. Contractor's Photographs

1.02 SUBMITTALS LIST AND SCHEDULE

A. Submittal: Within 30 days or submission of List of Submittals, whichever is later, after award of contract, and before submitting items for review, submit two copies of submittals list and schedule.

B. The Contractor will submit and document all submittals as directed by the County Project Manager.

C. Schedule: Compile complete schedule of submittals anticipated to be made during progress of work.

1. Include list of each type of item for which Contractor's drawings, shop drawings, coordination drawings, product data, samples, certificates of compliance, manufacturer's certificates, warranties, and other types of submittals are required. Include number of Contractor's drawings, shop drawings, and coordination drawings anticipated within each submittal.

2. Sequentially number each submittal. Use original submittal number with sequentially numbered suffix for resubmittals.

3. Allow at least 10 working days, average, for Architect's review of submittals following receipt of submittal, including return to Contractor.

4. Indicate date of submittal by Contractor to Architect and date of receipt of reviewed submittals by Contractor from Architect.

5. Coordinate schedule with subcontractors and materials suppliers.

6. On acceptance by Architect, adhere to schedule except when specifically otherwise permitted. Accurately maintain submittal log for duration of contract.

D. Revisions: Revisions to original submittal list and schedule will only be accepted by the County Project Manager when revisions are required by circumstances not reasonably anticipated by Contractor during preparation of original schedule.

1.03 SUBMITTAL PROCEDURES

A. Transmit each submittal directly to Architect and copy the County Project Manager on the transmittal.

1. Bind submittals sturdily, neatly label covers.
2. Include job number as it appears on Contract Documents.
3. Include state agency application or approval number.
4. When requested by the County, all submittals shall be submitted by pdf. File.

B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.

C. Identify Project, Architect, Contractor, Subcontractor or supplier, manufacturer; pertinent Drawing Sheet and detail number(s) and specification Section number, as appropriate.

1. Provide name and telephone number of individual who may be contacted for further information.

D. Apply Contractor's stamp with Contractor's original signature or initials affixed thereto, certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents. Stamped signatures or initials are acceptable.

E. Schedule submittals to expedite the project. Coordinate submission of related items.

1. Make all submittals in accordance with the progress schedule and far enough in advance of scheduled dates of installation to provide required time for reviews for securing necessary approvals for possible revision and submittal and for placing orders and securing delivery.

F. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed work.

1. Requests for deviations from Contract Documents shall be submitted for consideration before submittal of affected items. Submit in accordance with substitution requirements of Section 01 65 00 Transport, Handling and Storage. Only deviations which have been previously accepted in writing shall be included in submittals.

G. Provide space for Contractor and Architect review stamps.

H. Revise and resubmit submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

I. Determine and verify all field dimensions and conditions, materials, catalog numbers and similar data.

J. Coordinate as required with all trades and all public agencies involved.

K. Unless otherwise specifically authorized by Architect, make all submittals in groups containing all associated items. Architect may reject partial submittals as not comply with the provisions of this Section.

L. Resubmittals:

1. Subject to same terms and conditions as original submittal.

2. The County Project Manager will accept not more than one resubmittal.

a. Should additional resubmittals be required, Contractor shall reimburse County for Architect's account for time spent in processing additional resubmittals at rate of

2.5 times rate of Direct Personnel Expense (DPE). Direct Personnel Expense is defined as direct salaries of Architect's personnel engaged or Project and portion of costs of mandatory, and customary contributions and benefits related thereto, including employment taxes and other statutory employee benefits, insurance sick leave, holidays, vacations, pensions, and similar contributions and benefits.

1.04 CONSTRUCTION PROGRESS SCHEDULES

A. Submit as required in Section 01 32 00.

1.05 SHOP DRAWINGS

A. Submit a schedule of the shop drawings, listing their required submission and review dates to the County Project Manager for approval. The submission time shall be in accordance with the requirements set forth in Section 1.02, Submittals List and Schedule, Paragraph A. The schedule shall allow sufficient time for checking by the Architect. In addition, the shop drawing submission and review dates shall be incorporated into the progress schedule required in the General Conditions.

1. "Elapsed time due to 'Revise and Resubmit' or 'Not Approved' action, indicated, on submittal review (due to inaccurate data or incomplete definition), shall not adversely affect equipment delivery and/or installation schedules".

2. "Allotted time for review/approval process shall be a minimum of ten (10) working days from the date individual submittals are received by the Architect.

B. Submit newly prepared information, drawn to accurate scale. Highlight, encircle or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as to the basis of Shop Drawings. Standard information prepared without specific reference to the Project will not be approved as Shop Drawings.

C. Shop Drawings shall include fabrications and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:

1. Dimensions
2. Identification of products and materials included.

3. Compliance with specified standards.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.

D. Sheet Size: Except for templates, patterns and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 inch x 11 inch, but not larger than 30 inch x 42 inch in PDF format.

E. The Contractor shall review, stamp with his approval as herein required, and submit with reasonable promptness and in orderly sequences, in accordance with the submittal schedule. All shop drawings required by the Contract Documents or subsequently by the Architect as covered by modifications shall be properly identified. At the time of submission, the Contractor shall inform the Architect in writing of any deviation in the shop drawings.

F. Stamp: Each page of shop drawings shall bear the Contractor's stamp, which shall signify the Contractor's representation that he has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained in the shop drawings, all in accordance with the requirements of Section 01 33 00 Submittals. Each stamp shall be accompanied by a wet signature or initial of an employee of the Contractor who may be contacted for information. Stamped signatures or initials are not acceptable.

G. Submittals not certified by being stamped and signed will be returned without action as well as those, in the Architect's opinion, that have not been adequately reviewed or coordinated by the Contractor.

H. Method of Review: Submit shop drawings, electronically as a pdf file using as directed by the County Project Manager. Comments or corrections will be noted on the shop drawings and returned to the Contractor, who shall identify all changes made since the previous submittal and resubmit in the same manner. After it is reviewed by the Architect, the shop drawings will be stamped and returned to the Contractor who shall make distribution of copies as required.

I. The Architect will review and approve shop drawings with reasonable promptness so as not to cause any delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. The Architect's approval of a separate item shall not indicate approval of an assembly in which the item functions.

1. Contractor shall allow additional time if processing must be delayed to permit coordination with subsequent submittals.

J. Submittal of shop drawings to the Architect shall be made by the Contractor with a dated transmittal form or letter, and not by subcontractors or suppliers.

K. The Architect's approval of shop drawings shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation, nor shall the Architect's approval relieve the Contractor from responsibility for errors or omissions in the shop drawings.

1. Notations by the Architect which increase contract or time of completion shall be brought to County Project Manager's attention and authorization by the County shall be obtained before proceeding with work.

L. No portion of work requiring shop drawings shall be commenced until the shop drawings have been approved by the Architect.

M. SHOP DRAWING PROCESSING

1. Requirements for Submittal of Shop Drawings

a. Shop drawings shall be submitted directly to the Architect and copy of transmittal to the County Project Manager.

2. Each shop drawing submitted for review shall have the following information:

a. Project Name
b. Specs. No.
c. Contract No.
d. Technical Specifications Section No.

3. Each item of the submittal must be referenced to the proper item of the specification or drawings.

4. A signed statement from the General Contractor stating that the submittal has been reviewed by him and that it conforms with the drawings and specifications.

5. Provide a copy of each transmittal to the County Project Manager and Inspector.

6. Types of Approvals

   a. “No Exception Taken” (Approved). This stamp will be used by the Architect for accepted shop drawings and will qualify the submittal for shop drawing number.

   b. “Exception Noted” (Approved as Noted). This stamp will be used by the Architect when minor correction will make the submittal acceptable. These corrections will be shown in red on each of the submittals or on a correction list. This approval will qualify the submittal for a shop drawing number.

   c. “Resubmit” (Rejected). Submittals which do not conform to the drawings and specifications will be returned without stamping or issuance of a shop drawing number. The rejection transmittal will state why the submittal was not acceptable and request that it be resubmitted.

N. Assignment of Shop Drawings Numbers

Each accepted submittal shall be stamped by the Architect and assigned a shop drawing number using either of the following systems. The shop drawing number will be shown on each sheet that is stamped by Architect.

1. A simple numerical sequence may be used whereby each submittal is assigned a number in order of approval (SD-1, SD 2…).

2. A numerical sequence by classification may be used such as SD-S-1 for a Structural Submittal; SD-AC-1 for an Air Conditioning Submittal; SD-C-1 for a Civil Submittal, SD-L-1 for a Landscape Submittal; SD-A-1 for an Architectural Submittal; and SD-X-1 for Miscellaneous Submittals.

3. Material submittals and paint color chips should be assigned a shop drawing number for identification purposes.

O. Transmittal of Submittals

The General Contractor shall submit to the Architect a set of shop drawings which comply with this Exhibit. Upon receipt of the submittal, the Architect will review or have his consultants review the submittal for compliance with the drawings and specifications.

P. Processing

1. Procedure

a. Shop drawings will be stamped or returned as per Section M of this Exhibit. Accepted and numbered shop drawings shall be returned to the General Contractor. The Architect will provide a pdf copy of approved shop drawings to the County Project Manager, Building Inspector, and Contractor.

b. The County Project Manager is to check shop drawings for any deviation from the drawings or specifications prior to releasing them to the Contractor. If there are discrepancies is in the shop drawings, they should be sent back to the Architect for correction.

1.06 PRODUCT DATA

A. Submit pdf copy of product data using as directed by the County Project Manager.

B. Product data shall identify applicable products, models, options and other available data specific to the project requirements.

C. After review and approval by the Architect, copies will be distributed to the County Project Manager, Building Inspector, and General Contractor. The approved product data sheets shall be retained at the site by the General Contractor to be used for reference.

1.07 SAMPLES

A. Submit samples to illustrate functional and aesthetic characteristics of the product with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

B. Unless precisely specified, submit samples of finishes from the full range of manufacturers' standard colors, textures and patterns for Architect selection, or in custom colors selected.

C. Include identification on each sample with full Project information, as required for Shop Drawings, Item, 1.04 above.

D. Submit a minimum of three (3) samples or as specified in individual sections of the specifications, two of which will be retained by the Architect.

E. Reviewed samples which may be used in the work are indicated in individual specification sections.

F. Approval or rejection of samples will be made by the Architect in writing.

1.08 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

1.09 MANUFACTURER'S CERTIFICATES

A. When specified in individual specification sections, submit manufacturers' certificate to Architect for review in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

1.10 COORDINATED DRAWINGS

A. Submit drawings which indicate routing, locations, sizes, types and numbers of components in concealed spaces where potential conflict may occur between structures, mechanical, electrical, fire sprinklers, communications and ceiling suspension systems.

B. Indicate locations of all ceiling penetrations and surface-mounted items. Provide cross sections at all areas to indicate proper support of ceilings and non-interference with work of other sections of the specifications. Cross sections shall indicate coordination required and proposed solutions for routing of elements where potential conflict exists. A reproduction of Architect's reflected ceiling plan is not acceptable.

C. Drawings shall be based on field measurements, shop drawings and product data.

D. Conflicts shall be brought to the County Project Manager's attention immediately.

E. Submit to the Architect, in writing, requests for clarification or interpretations that will affect the intent of the Contract Documents.

F. The coordinated drawings shall indicate each class of work in the affected area. The drawing or written submittal shall include Contractor's recommendations for the solution of any potential conflicts as well as recommendations tendered by any work of any section of the specifications which may be affected thereby.

G. Submit the coordinated drawings in a scale of not less than 1/8" – 1' – 0" with necessary sections and profiles at an appropriate, clearly readable enlarged scale. Submit the coordinated drawings as one reproducible and two blue-line prints as a pdf file using as directed by the County Project Manager.

H. The Architect will review the submittals, make appropriate notations and comments to ensure the solution meets the intent of the Contract Documents and then return to Contractor for implementation.

I. The Contractor shall be responsible for the proper coordination of the work of all sections of the specifications in the execution of coordinated drawing. Any installation of materials, components or equipment under one section of the specifications without full and complete agreement, knowledge and consent by fabricators of adjacent or otherwise related or affected work will not be approved.

J. It shall be incumbent upon the Contractor that all fabricators of work involved in the execution of coordinated drawings be informed, consulted and advised in sufficient advance time to arrive at solutions where no extension of contract time or extra cost to the

County will be approved due to Contractor's negligence in the expeditious, timely submittal of coordinated drawings.

1.11 REQUEST FOR INFORMATION

A. Submit Request for Information (RFI) or interpretation in writing to the County.

B. Response will be in writing, by the County, either in the construction field meeting notes or on the RFI itself, within 5 working days of receipt of RFI.

1. No change in cost interpretations or clarifications will be accepted as such.

2. Change in cost interpretation or clarifications will institute a Change Order procedure.

1.12 CONSTRUCTION PHOTOGRAPHS

A. Submit with payment request monthly. See Section 01 32 33.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

* * * * *

SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Submittals

1. Shop drawings.

2. Product or catalog data.

3. Samples.

B. The Contractor will prepare and submit shop drawings as directed by the County Project Manager.

C. Related work specified elsewhere.

1. Operating and maintenance manuals.

2. Spare parts or hardware lists.

3. Tests and certificates.

1.02 DEFINITIONS

A. Shop Drawings

1. Original drawings prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the work; showing fabrication, layout, setting or erection details.

2. Identify details by reference to sheet and detail numbers shown on Contract Drawings.

B. Product or Catalog Data

1. Manufacturers standard drawings modified to delete nonapplicable data or include applicable data.

2. Manufacturers catalog sheets, brochures, diagrams, schedules, charts, illustrations or other descriptive data. Mark each copy to identify pertinent dimensions, materials, products or models.

C. Samples

1. Physical examples to illustrate materials, equipment or workmanship.

2. Office samples to show functional characteristics of product or material. Submit with full range of colors available.

3. Field samples and mock-up; erect at site in location acceptable to Project Manager.

1.03 CONTRACTOR'S RESPONSIBILITIES

A. Prior to Submittal

1. Review and approve Shop Drawings, Product Data and Samples prior to submission to the Department.

2. Coordinate each submittal with work of the project and Contract Documents so as to cause no delays in the work.

3. By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the Contract Documents.

4. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Department's acceptance unless the Contractor has specifically informed the Department in writing of such deviation at the time of submission and the Department has given written acceptance to the specific deviation.

5. Contractor's responsibility for errors and omissions in submittals or deviations from Contract Documents is not relieved by the Department's review of submittals.

6. The Contractor shall direct specific attention, in writing or on submitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Department on previous submittals.

B. After Submittal

1. Begin no work which requires submittals until return of such submittals with the Department's stamp and signature indicating review.

2. Distribute copies of submittals to subcontractors, suppliers or manufacturers as their interests appear.

1.04 IDENTIFICATION OF DATA

A. All submittals for review shall have the following identification data, as applicable, contained thereon or permanently adhered to.

1. Project Name and Location

2. Specifications Number

3. Subcontractor's, Vendor's, and/or Manufacturer's Name, Address and Phone Number

4. Product Identification

5. Shop Drawing Title, Contractor's Drawing Number, and Date of Drawing and Revisions

6. Applicable Contract Drawings and Specifications Section Numbers

7. Contractor's Approval, Signature and Date

B. Submittal Format

Submittal No. _____

Project Name _____

_____

_____

Specifications No. _____

Product _____

Section No. _____

Supplier _____

We have reviewed the submitted, and have verified that it meets the criteria required in accordance with the plans and specifications.

Contractor's Name _____

Signature _____

Title _____

C. Catalog Data

1. Each separate catalog, brochure or single page data sheet submitted shall have the identification required and the Contractor's approval.

2. Catalogs or brochures containing multiple items for review need identification only on the cover. Identify page numbers and catalog items.

3. In the event that one or more of the multiple items are not accepted in any submittal, additional copies required will not be required until all items are accepted.

4. Provide a space approximately 4" x 4" for the Department to affix its status stamp.

1.05 COLOR AND FINISH SELECTION

A. Contractor Submittals

1. Submit as soon as practical, subsequent to award of contract, names of manufacturers and pertinent products or materials proposed for use in which a color selection is required.

2. Submit standard color charts or samples as requested by the District. All items for color selection must be submitted prior to issuance of any approvals.

3. Contractor is responsible for submitting products that comply with technical specifications.

1.06 SUBMISSION REQUIREMENTS

A. Submit all Shop Drawings, Product or Catalog Data and Samples to the District by transmittal containing identification of project, specifications number and identification of items being submitted.

B. Product Data

1. Original Submittal – Six (6) copies and one (1) PDF of all Shop Drawings and/or Product Data for review in ample time to coordinate necessary features of construction with all fabrication and installation requirements.

2. Resubmittal – When required, copies will be returned to Contractor. After revision submit new copies as stipulated for original submittal. Indicate all changes.

C. Samples

1. Original Submittal – Furnish three (3) samples, unless otherwise specified, of each item for which samples are required for review. Obtain review prior to delivery of material to project site. Such samples shall be representative of actual material proposed for use in project and of sufficient size to demonstrate design, color, texture, and finish.

2. Resubmittal – All rejected samples will be returned upon request. All resubmittals shall consist of three (3) samples.

1.07 REVIEW AND PROCESSING

A. General

1. The Department will review and accept or take other appropriate action upon Contractor's submittals for conformance with the design concept of the work and with the information given in the Contract Documents. Acceptance of a specific item shall not indicate acceptance of an assembly of which the item is component.

2. Submittals not approved by the Contractor will be returned to Contractor. Submittals will not be reviewed or accepted by the Department or Architect without Contractor's prior approval.

B. Review

1. Product Data – After review, two (2) copies bearing the Department's review stamp and signature will be returned to Contractor.

2. Samples – After review one (1) sample will be returned and the remainder will be retained by the Department until completion of the work.

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. Tests.

B. Inspections.

C. County will employ and pay for the services of an Independent Testing Laboratory or Soils Engineer to perform specified testing and/or inspections.

D. Related requirements specified elsewhere:

1. Refer to the various trade sections for specific test and inspection requirements.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. Los Angeles County Building Code.

B. Uniform Building Code Standards, as applicable.

C. California Code of Regulations.

1. Title 17 and 24.

1.03 QUALITY ASSURANCE

A. General Test Requirements. Materials to be furnished under the Contract are subject to testing and inspection for compliance with requirements of Drawings and Specifications.

B. Testing Laboratory or Agency shall be the licensed Testing Laboratory or Agency meeting the requirements of ASTM E-329, designated by the County and referred to hereafter as the Testing Laboratory. Perform all testing under supervision and control of a California registered professional engineer employed by the Testing Laboratory.

C. Soils or Foundation Engineer will be the registered professional Geotechnical Engineer employed and paid by the County.

D. Disqualified Material. Any material shipped or delivered to the site by the

Contractor from the source of supply prior to having satisfactorily passed the required testing and inspection, or prior to the receipt of a notice from the County or Architect that such testing and inspection will not be required, shall not be incorporated in the Work.

1.04 QUALITY CONTROL

A. Earthwork.

1. Approval of fill material.

2. Compaction tests.

3. Inspection of subgrades and excavations.

B. Concrete.

1. Materials.

a. Portland cement tests.

b. Concrete aggregates.

c. Reinforcing bars.

2. Concrete quality.

a. Concrete mix designs.

b. Strength tests of concrete.

3. Concrete inspection.

a. Job site inspection.

b. Batch plant or weighmaster inspection.

C. Masonry.

1. Materials.

a. Tests of brick or block masonry units.

b. Tests of mortar and grout materials.

c. Reinforcing steel bars.

2. Mortar and grout quality.

a. Strength tests for mortar and grout

3. Masonry inspection.

a. Job site inspection.

D. Structural steel and metal deck tests and inspections.

1. Materials.

a. Material identification and certification.

b. Testing of unidentified material.

2. Inspection of structural steel, light gage steel deck and welding.

a. Welding inspection (shop and field).

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials to be tested and/or inspected as specified in respective sections.

PART 3 - EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel, provide access to Work.

1. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.

B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Furnish copies of products test reports as required.

D. Furnish incidental labor and facilities:

1. To provide access to Work to be tested.

2. To obtain and handle samples at the Project site or at the source of the product to be tested.

3. To facilitate inspections and tests.

4. For storage and curing of test samples.

E. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed after such notice, reimburse County for laboratory personnel and travel expenses incurred due to Contractor's negligence.

F. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.

3.02 FIELD QUALITY CONTROL

A. Tests.

1. County will select an independent testing laboratory to conduct tests. Selection of material required to be tested shall be by the laboratory or County's representative and not by Contractor.

2. Contractor shall notify County in sufficient time in advance of manufacture of material to be supplied, which must by terms of the contract be tested, in order that the County may arrange for testing.

3. County will select and pay testing laboratory costs for all tests and inspection, except as provided elsewhere in this section.

B. Test reports.

1. One copy of all test reports shall be forwarded to the County by the testing agency. Such reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Sample taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were

sampled and tested in accordance with the requirements of (Title 24) and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements.

C. Verification of test reports.

1. Each testing laboratory shall submit to the County a verified report in duplicate covering all of the tests which were required to be by that laboratory during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering all tests.

D. Inspection.

1. The County shall at all times have access for the purpose of the inspection to all parts of the work and to the shops wherein the work is in preparation, and the Contractor shall at all times maintain proper facilities and provide safe access for such inspection.

2. The County shall have the right to reject materials and workmanship which are defective, or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the County. If the Contractor does not correct such rejected work within a reasonable time, fixed by written notice, the County may correct same and charge the expense to the Contractor.

3. Should it be considered necessary or advisable by the County at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out the same, the Contractor shall on request promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of the Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor.

4. Reimbursement of Inspection Costs. Contractor shall reimburse the County all or any part, of the actual excessive inspection costs incurred by the County due to any or all of the following.

a. Contractor's failure to complete the Work within the Contract Time and any previously authorized extensions thereof.

b. Claims between separate contractors.

c. Covering of any of the Work before the required inspections or tests are performed.

d. Extra inspections required for Contractor's correction of defective Work.

E. Inspector.

1. An Inspector employed by the County will be assigned to the Work.

2. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

* * *

SECTION 01 50 00

TEMPORARY FACILITIES

1 - GENERAL

1.01 DESCRIPTION

1.02 Field Offices
1.03 Storage
1.04 Toilets
1.05 Utilities
1.06 Construction signboards
1.07 Temporary chain link fencing
1.08 Temporary Walkways and Driveways
1.09 Parking
1.10 Staging areas

1.02 FIELD OFFICES

Contractor's field office, the contractor shall provide and maintain during the construction phase, a watertight and secure office that can be shared by the contractor and County's PM/CM and County's Inspector as needed. Office shall be at minimum heated/air conditioned, provided with operating screened windows, doors with locks, plan table, chairs for on site meetings for all participants, and all required utilities including but not limited to water, power, telecommunications, shall be arranged for and paid for by the contractor during the construction period. A security alarm warning system shall also be provided and maintained during the construction period.

1.03 STORAGE

Contractor shall provide and maintain on the premises, where directed, watertight storage for all materials which might be damaged by weather, including storage facilities for concrete test samples or other material samples required for work. Storage of materials shall be only within areas designated by the Department.

1.04 TOILETS

Contractor shall install and maintain in a sanitary condition , suitable chemical toilets for use of workmen. Toilets shall be in a location approved by the Department. There shall be a minimum of one (1) toilet for each multiple of twenty (20) Contractor's employees, or fractional part thereof, working at the job site. The temporary restroom facilities shall be serviced a minimum of three (3) times a week.

1.05 UTILITIES

The Contractor shall arrange for and provide all utility services necessary to the work, including electrical current for power and light, and water supplies; or at Contractor's option, he may use free of charge, available County utility services as may exist on the site. Motors connected to County electrical circuits shall not exceed 1/3 horsepower. Contractor shall provide, maintain and remove upon completion of work, all temporary connecting lines to sources of supplies, and temporary meters and accessories as needed.

The Contractor shall bear all expenses involved in the provisions of providing and connecting all temporary utility services. The County will assume payment for utility service charge at the time the various permanent meters are set. Refer to Project General Requirements section for permanent utility services.

1.06 CONSTRUCTION SIGNBOARDS

Refer to article entitled "Advertising" of the General Conditions. Prior to any ground breaking operation or in the case ground breaking is not required, within ten (10) days after award of contract, the Contractor shall furnish and erect two (2) identification signboards 4'-0 x 8'-0 in size, constructed of 3/4" exterior grade plywood within a frame, supported on posts, and adequately braced to resist wind stresses. The sign background shall be painted with two (2) coats of exterior type paint over a suitable primer and lettered with block letters professionally applied. The signboard shall set forth, in sequence, the following information with the layout as directed by the Department.

WHITTIER NARROWS RECREATION AREA SPLASH PAD PROJECT – REBID

County of Los Angeles
Board of Supervisors

Hilda L. Solis	1st District
Holly J. Mitchell	2nd District
Lindsey P. Horvath	3rd District
Janice Hahn	4th District
Kathryn Barger	5th District

Joseph M. Nichitta, Chief Executive Officer, Chief Executive Office
Mark Pestrella, Director, Department of Public Works
Norma Garcia, Department of Parks and Recreation

WITHERS AND SANDREN
Name of Contractor

In addition, individual signs of Contractors, subcontractors and materialmen may be displayed as approved.

Signs shall be promptly removed by the Contractor or by the owner, if individually owned, upon completion of the work. The size, construction, subject matter and location of all signs shall be subject to the approval of the Department.

1.07 TEMPORARY CHAIN LINK FENCING

1. The Contractor shall provide and maintain a 6 ft. high chain link fence around the construction area (s) consisting of 11-gauge (minimum) x 2" mesh chain link fabric attached to substantial steel pipes spaced at 10 feet on center maximum. Provide top and bottom tension wires and corner post bracing. Provide chain link gates with welded steel pipe frames and all hardware required for proper operation. Fencing shall not have any loose or easy to remove tie wires, hog rings, etc.

2. Provide and maintain the County specified chain link fence enclosures around each jobsite with vehicle and man gates as specified by the County.

3. Obtain and pay for all required permits and inspections. Construct in accordance with applicable codes and regulations of public agencies having jurisdiction.

1.08 TEMPORARY WALKWAYS AND DRIVEWAYS

A. All new temporary walkways shall be properly joined or tied in with existing walkways. All permanent walkways shall consist of concrete.

B. Areas where temporary walkways or driveways have been installed shall be returned to their condition prior to construction.

1.09 PARKING

The Contractor and subcontractor employee parking is restricted to parking onsite or as approved by the County.

1.10 STAGING AREAS

Contractor shall coordinate with County for location, extent and type of construction staging areas.

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SECTION 01 57 00

STORM WATER POLLUTION PREVENTION

PART 1 - GENERAL

1.01 **Water Pollution Control.**

1.02 **Best Management Practices (BMPs).** Apply BMPs for project that disturbs less than 1 acre of soil.

1.03 **Terms and Definitions.**

1. **Active Areas of Construction -** areas subject to land surface disturbance activities related to the Project including, but not limited to, the Project site, staging areas, immediate access areas, and storage areas. Previously active areas will be considered active areas until temporary or final soil stabilization BMPs are implemented.

2. **Accumulated Precipitation Procedure (APP) –** the methods and procedures for management and discharge of accumulated precipitation on the Project site.

3. **Best Management Practices (BMPs) -** shall be defined as specified in the permits listed in 1.05.

4. **BMP Manager** - an individual who meets the requirements of Los Angeles Regional Water Quality Control Board MS4 Permit Order No. R4-2012-0175-DWQ, Section VI. D. 8. L ii (2).

5. **BMP Manual -** the edition of the Los Angeles County Department of Public Works Construction Site Best Management Practices (BMPs) Manual in effect as of the date of advertisement of the Contract.

6. **Exposed Soil -** native soil left exposed as the result of uncovering, removal of vegetation or pavement, grading, excavation, or any other construction activity. Soil protected with temporary soil stabilization BMPs will not be considered exposed soil.

7. **Inactive Disturbed Soil Areas (DSA) –** areas that have been disturbed and have not or will not be disturbed for at least 14 Days.

8. **Non-Storm Water Discharges -** discharges that do not originate from precipitation events.

9. **Run-On -** storm water discharges that flow onto the Project site.

10. **Run-On Control BMPs -** BMPs used to divert or direct run-on either around or through the Project site.

1.04 **Abbreviations.**

Abbreviation	Word or Words
APP	Accumulated Precipitation Procedure
BMP	Best Management Practice
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board

1.05 **General.** This Project lies within the boundaries of the County of Los Angeles and shall conform to the following requirements:

a) Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities therein, except the City of Long Beach (Order No. R4-2012-0175. NPDES Permit No. CAS004001). Within the City of Long Beach (Order No. 99-060, NPDES Permit No. CAS004003).

b) Within the unincorporated areas of the County of Los Angeles, Los Angeles County Code, Chapter 12.80.

1.06 **Best Management Practices (BMPs).**

a) General. The Contractor shall effectuate a year-round program for implementing, inspecting, and maintaining BMPs for wind erosion control, tracking control, erosion and sediment control, non-storm water control, and waste management and materials pollution control.

Best Management Practices conforming to the “Minimum Requirements" specified in Table 1.06 shall be implemented throughout the duration of the Project. The Contractor shall be responsible for the implementation, maintenance, and inspection of BMPs throughout any temporary suspension of the Work or designated construction moratorium.

The National Weather Service weather forecast shall be monitored by the Contractor on a daily basis. Whenever a rain event is predicted, the contractor shall implement all required BMPs according to the BMP Manual and these Special Provisions.

i. **BMP Manual.** Water pollution control work shall conform to the requirements in the BMP Manual. BMP Manual may be accessed at Public Works’ Contracts Opportunities, https://dpw.lacounty.gov/contracts/opportunities.aspx, under **County Sites links (scroll to the bottom of the page).**

The Contractor shall have a minimum of one readily accessible copy of the BMP Manual on the Project site at all times.

b) BMP Manager. The Contractor shall designate a BMP Manager who meets the requirements of Los Angeles Regional Water Quality Control Board (RWQCB) MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2).

MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2):
"Each Permittee shall ensure that its inspectors are knowledgeable in inspection procedures consistent with the State Water Board sponsored program QSD or a Qualified SWPPP Practitioner (QSP) or that a designated person on staff who has been trained in the key objectives of the QSD/QSP programs supervises inspection operations. Each Permittee may provide internal training to staff or require staff to obtain QSD/QSP certification. Each inspector must be knowledgeable of the local BMP technical standards and ESCP requirements."

The BMP Manager shall have the responsibility and authority to fully implement, maintain and inspect the required BMP's in accordance with the Contract Documents and as directed by the County Project Manager. The BMP Manager shall be fully knowledgeable of the requirements in the BMP Manual.

The designated BMP Manager's name and qualifications shall be submitted in accordance with MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.I.ii (2), prior to issuance of the Construction Contract, Part 2 NTP.

c) Minimum Requirements. The Contractor shall implement an effective combination of erosion and sediment controls and maintain the appropriate Construction Site BMPs shown in Table 1.06. The BMPs shown in this table meet or exceed the Waste Discharge Requirements referenced in 1.05.

Table 1.06
Construction Site BMPs

ID	BMP Name	Minimum Requirement
Temporary Soil Stabilization		
SS-1	Scheduling	**X**
SS-2	Preservation of Existing Vegetation	**X**
SS-3	Hydraulic Mulch	
SS-4	Hydro seeding	
SS-5	Soil Binders	
SS-6	Straw Mulch	
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats	**X**
SS-8	Wood Mulching	
SS-9	Earth Dikes/Drainage Swales & Ditches	
SS-10	Outlet Protection/Velocity Dissipation Devices	
SS-11	Slope Drains	
SS-12	Streambank Stabilization	
Temporary Sediment Control		
SC-1	Silt Fence	**X**

SC-2	Sediment/Desilting Basin	
SC-3	Sediment Trap	
SC-4	Check Dam	
SC-5	Fiber Rolls	**X**
SC-6	Gravel Bag Berm	**X**
SC-7	Street Sweeping and Vacuuming	**X**
SC-8	Sandbag Barrier	**X**
SC-10	Storm Drain Protection	**X**

Wind Erosion Control		
WE-1	Wind Erosion Control	**X**
Tracking Control		
TC-1	Stabilized Construction Entrance/Exit	**X**
TC-2	Stabilized Construction Roadway	
TC-3	Entrance/Outlet Tire Wash	
Non-Storm Water Management		
NS-1	Water Conservation Practices	**X**
NS-2	Dewatering Operations	**X**
NS-3	Paving and Grinding Operations	**X**
NS-4	Temporary Stream Crossing	
NS-5	Clear Water Diversion	
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting	**X**
NS-7	Potable Water/Irrigation	**X**
NS-8	Vehicle Equipment Cleaning	**X**
NS-9	Vehicle Equipment Fueling	**X**
NS-10	Vehicle Equipment Maintenance	**X**
NS-11	Pile Driving Operations	
NS-12	Concrete Curing	
NS-13	Material and Equipment Use Over Water	
NS-14	Concrete Finishing	
NS-15	Structure Demolition Over or Adjacent to Water	
NS-16	Temporary Batch Plant	
Waste Management and Material Pollution Control		
WM-1	Material Delivery	**X**
WM-2	Material Use	**X**
WM-3	Stockpile Management	**X**
WM-4	Spill Prevention and Control	**X**
WM-5	Solid Waste Management	**X**
WM-6	Hazardous Waste Management	**X**
WM-7	Contaminated Soil Management	
WM-8	Concrete Waste Management	**X**
WM-9	Sanitary/Septic Waste Management	**X**
WM-10	Liquid Waste Management	**X**

Additional BMPs may be required as a result of actual field conditions, Contractor activities, or construction operations.

Year-Round Implementation Requirements. Implementation shall conform to the requirements in the BMP Manual and the following:

Temporary Soil Stabilization

ii. Active Areas of Construction shall be stabilized and temporary sediment controls implemented prior to a rain event.

Temporary Sediment Control

iii. Sediment shall not be discharged offsite or to the storm drain system or receiving waters.

iv. Stockpiles shall be removed from roadways at the end of each work day and shall be covered and bermed with perimeter sediment controls prior to every rain event and when not in use.

Wind Erosion Control

v. Wind erosion control BMPs shall be implemented in conformance with the requirements of the jurisdictional air quality regulatory agency.

Tracking Control

vi. Each entrance to, and exit from, the Project site shall be stabilized. Traffic entering/exiting the Project site shall be directed so as to only use such stabilized entrances/exits. Tracking of mud and/or sediment onto paved surfaces shall be removed by the end of each Day.

Non-Storm Water Management

vii. Accumulated precipitation shall be discharged in accordance with the Accumulated Precipitation Procedure, Section 7.2 of the BMP Manual.

viii. BMP Manual may be accessed at Public Works' Contracts Opportunities, **County Sites links,** https://dpw.lacounty.gov/contracts/opportunities.aspx

ix. Non-storm water BMPs shall be implemented to prevent un-authorized discharges.

x. Non-storm water discharges shall be in compliance with Section III of the Waste Discharge Requirements referenced in 1.05.

Waste Management and Material Pollution Control

xi. Material and waste stockpiles shall be covered prior to all rain events.
xii. Stockpiles of temporary asphalt concrete ("cold mix") shall be covered at all times.
xiii. The Contractor shall have a minimum of 3 spill response cleanup on the Project site at all times.
xiv. Spills and leaks shall be cleaned up within one hour after spillage and disposed of off the Project site.
xv. Concrete waste shall be contained in a concrete washout bin. At grade and below grade washouts are prohibited. There shall be no discharge of concrete washout or waste into the underlying soil or onto the surrounding areas. Concrete waste shall be considered as including, but not be limited to, slurry, cement, wash waters, additives, or grout.

1.07 **Accumulated Precipitation Procedure (APP).** The Contractor shall prepare an accumulated precipitation procedure (APP) for review and approval by the County Project Manager before any discharge from the Project site and as required by the County Project Manager. The APP shall describe the location of proposed discharges, the BMPs to be implemented (e.g., NS-2), and the actual equipment to be used. The APP shall be prepared and submitted in accordance with BMP NS-2 and Section 7 of the BMP Manual, https://dpw.lacounty.gov/contracts/opportunities.aspx

1.08 **BMP Inspections.** The Project site shall be inspected by the BMP Manager and documented on the LACDPW BMP checklist (contained in the BMP Manual) as follows:

a) Within 24 hours prior to a rain event.
b) Within 48 hours after a rain event (0.01 inch or more of accumulated precipitation).
c) At 24-hour intervals during extended rain events.
d) Once every week.

1.09 **Non-Storm Water Discharge Reporting.** If the Contractor identifies any non-storm water discharge(s) as identified in Section III of the Waste Discharge Requirements referenced in 1.05, or if the Project receives a written notice or order from any regulatory agency, the Contractor shall so inform the County Project Manager within 24 hours. The Contractor shall submit a written report to the County Project Manager within 5 Days of the discharge event, notice or order. The report shall include the following information:

a) The date, time, location, nature of the operation and type of discharge, including the cause or nature of the notice or order.

b) The BMPs implemented before the discharge event, or prior to receiving the notice or order.

c) The date of deployment and type of water pollution control practices deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent recurrence.

d) The Contractor shall conduct applicable water quality monitoring per the MS4 Permit Order No. R4-2012-0175-DWQ, Section VI, D. 8.l.ii (2) Section III A.4 and Table 8 of the Waste Discharge Requirements referenced in 1.05.

1.10 **Progressive Enforcement.** The Agency, as a permittee, is subject to enforcement action by the State Water Resources Control Board (SWRCB), Environmental Protection Agency, private citizens and citizen groups. The Contractor shall notify the County Manager immediately following receipt of a request from any jurisdictional regulatory agency, to enter, inspect, sample, monitor or otherwise access the Project site or the Contractor's records pertaining to water pollution control.

The Agency will assess the Contractor a penalty of $1,000 for each Day that the Contractor fails to fully-comply with the specified requirements. The penalty will be deducted from Contract progress payments due the Contractor.

The Contractor shall be responsible for the costs and liabilities imposed by law as a result of its failure to fully-comply. Costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the Agency or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act. In addition the Agency will deduct, from any monies due the Contractor, the total amount of any legal fees, staff costs, and consultant fees.

Payment. Payment for the implementation of BMPs, including the BMP Manager, construction, deployment, inspection, maintenance, removal, and the furnishing of all necessary labor, equipment, materials, and all other related costs shall be considered as included in the lump sum Bid price for "IMPLEMENTATION OF BMPs."

Payment will be prorated on a monthly basis over the duration of the Contract.

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SECTION 01 57 19

TEMPORARY AND ENVIRONMENTAL CONTROLS

SECTION 1 - GENERAL

1.1 SUMMARY

This section establishes general control requirements for protection of land and water resources; control of noise, dust, and debris, and other environmental pollution; regulation traffic, and control of other activities of the Contractor and the Contractor's subcontractors in performance of the work of the contract.

1.2 DEFINITIONS

A. Environmental pollution and damage means the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to human life; affect other species of importance to humanity; or degrade the utility of the environment for aesthetic, cultural, or historical purposes.

B. Sediment means soil and other debris that have been eroded and transported by storm or well production runoff water.

C. Inert solids/inert waste means non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established pursuant to Division 7 of the California Water Code and does not contain significant quantities of decomposable solid waste.

D. Inert fill means a permitted facility that accepts inert waste such as asphalt and concrete exclusively.

E. Construction and demolition waste includes solid waste such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair, and demolition operations.

1. Rubbish includes both combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, and bones.

2. Debris includes both combustible and noncombustible waste such as leaves and tree trimmings that result from construction or maintenance and repair work.

F. Class III landfill means a landfill that accepts nonhazardous waste such as household, commercial, and industrial waste, including construction, remodeling, repair, and demolition operations.

G. Chemical waste includes petroleum products, bituminous materials, salts, alkalis, herbicides, pesticides, organic chemicals, and inorganic waste.

H. Sanitary Wastes:

1. Garbage includes refuse and scraps resulting from preparation, cooking, distribution, or consumption of food;

2. Sewage means domestic sanitary sewage.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01 33 00.

B. Environmental Protection Program: Prior to commencement of the work of this contract. Compile and submit to the County the written environmental protection program proposed by the Contractor for compliance with requirements of this section, as defined under paragraph 1.4 below. Meet with the County to review the proposed environmental protection program, make changes in the plan, and secure the County's approval of the written environmental protection program, prior to commencement of the work.

1.4 QUALITY CONTROL

A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this section. Comply with all pertinent Federal, State, and local regulations pertaining to water, air, solid waste, and noise pollution. Require the Contractor's subcontractors to comply with the provisions of this section.

B. Environmental Protection Program:

1. After award of the contract, and prior to commencement of the work, schedule and conduct a meeting with the County representatives to discuss solid waste management and environmental protection, recycling, and rebate programs required in connection with the work.

2. Not more than 21 calendar days after the meeting, prepare and submit a written and/or graphic Solid Waste Management and Environmental Protection Plan including, but not necessarily limited to:

   a. List of Federal, state and local laws, regulations, and permits concerning environmental protection, pollution control, noise abatement, and noise control that are applicable to the Contractor's proposed operations;

   b. Procedures to be implemented to provide the required environmental protection and to comply with applicable laws and regulations;

   c. Location or locations of solid waste disposal areas proposed to be used by the Contractor, with statement as to current permits or licenses issued to those disposal areas;

   d. Contractor's proposed procedures for recycling and re-use of materials;

   e. Contractor's proposed participation in rebate programs.

   f. Revise and submit the Solid Waste Management and Environmental Protection Plan as required by the County.

   g. Approval of the Contractor's Waste Management and Environmental Protection Plan will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protective measures.

3. With each application for progress payment, submit a summary of solid waste generated by the construction and demolition operations.

   a. Submit on form copied from the example at the end of this

section on a different form acceptable to the County;

b. Include copies of all manifests, weight tickets, receipts, and invoices specifically identifying the work and waste materials from recycling centers, class III landfills, and inert fills.

C. Prepare and maintain a 3-ring binder with rebate information and product identification as required for the County to qualify for rebate programs; submit the binder with final closeout submittals.

SECTION 2 - PRODUCTS

2.1 MATERIALS

Except for materials proposed by the Contractor for compliance with the requirements of this Section, and approved in advance by the County, no materials are needed.

SECTION 3 - EXECUTION

3.1 PROTECTION OF LAND RESOURCES

A. It is intended that land resources within boundaries of the project, but outside the limits of permanent work performed under this contract, shall be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project.

B. Insofar as possible, confine activities of the Contractor to pertinent areas defined on the drawings or elsewhere in the Contract Documents. Maintain natural drainage patterns. Conduct construction activities in such a manner that ponding or stagnant water conducive to mosquito breeding habitat will not occur at any time.

C. Land Resources: Do not remove, cut, deface, injure, or destroy trees or other vegetation outside the work area limits. Do not remove, cut, deface, injure, or destroy trees or other vegetation inside the work area limits except as permitted by the County and where land resources are damaged by the Contractor, promptly replace or repair to the approval of the County and at the Contractor's expense.

D. Tree Trimming: In accordance with recognized standards for such work, trim

and seal tree limbs overhanging the line of the work and in danger of being damaged by the Contractor's operations. Remove other tree limbs as directed by the County so the tree will present a balanced appearance. Roots: Do not cut any roots unnecessarily during excavating or trenching operations, expose roots 75 mm (3 inches) in diameter of larger, encountered in the course of excavation, and do not sever but wrap them in burlap as a protective measure while exposed, and at the edge of the excavation or trench, neatly trim all roots 25 mm (1 inch) in diameter or larger that are severed in the course of excavation and paint them with a heavy coat of tree seal approved by the County.

E. When and as directed by the County obliterate all signs of temporary construction such as work areas, structures, foundation of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction; Level all temporary roads, parking areas, and other areas which have become compacted or shaped; At unpaved areas where vehicles are operated, provide a suitable surface treatment or wet down periodically to prevent dust from becoming a nuisance, keep haul roads clear of objects which create unsafe conditions, and promptly remove contaminants and construction materials dropped from construction vehicles.

F. Do not drop mud and debris from construction vehicles onto public streets; sweep turning areas and pavement entrances as needed.

3.2 NOISE CONTROL: Do not permit noise levels exceeding the following:

A. Trenchers, pavers, graders, and trucks: 90 dBA at 50 feet as measured under the noisiest operating conditions;

B. All other equipment: 85 dBA at 50 feet.

C. Use whisperized type generators as approved by the County.

D. Jack Hammers: Equip with exhaust mufflers and steel muffling sleeves; Use whisperized type air compressors as approved by the County.

E. Operations: Keep noise equipment as far as possible from noise-sensitive site boundaries, do not leave machines idling, use electric power in lieu of internal combustion engine power when practicable; Maintain equipment in a manner to reduce noise from excessive vibration, faulty mufflers, and similar

sources, provide mufflers on all engines, and schedule operations to

minimize their duration at any given location.

F. Monitoring: As needed, provide portable sound metering devices meeting requirements of ANSI S1.4 for Type 2 sound level meters. Promptly locate and correct noncomplying noise levels.

G. Contractor shall take all practical measures to minimize, or eliminate if possible, airborne and structure borne noise generated from construction activities. Contractor shall comply with the ground vibration limits as specified by ANSI S3.29-1983.

H. The use of explosives and riveting will be prohibited.

3.3 RECYCLING REQUIREMENTS

Implement a recycling program which includes separate collection of waste materials. Refer to technical specifications for recycling of building materials via an on-site crushing operation.

3.4 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION

There are no known archaeological remains at the project site. Should skeletons, artifacts, or other archaeological remains be uncovered: Suspend operations of this contract at the site of discovery, continue operations in other areas, and notify the County immediately of the finding. Should the discovery site require archaeological studies resulting in delays and/or additional work, the Contractor will be compensated by an adjustment under pertinent provisions of the contract.

3.5 BURNING RUBBISH AND DEBRIS

Do not permit open burning of rubbish, debris, and/or other combustibles on the site.

3.6 DUST CONTROL/AIR QUALITY

A. Contractor shall prevent airborne debris and dust generated during construction activities from traveling outside the area of work in accordance with SCAQMD Rule 403. All loose materials being hauled onto or out of the site in open truck beds or trailers shall be covered in accordance with State of California Vehicle code Section 23114. Wheels of all vehicles shall be cleaned prior to leaving the Project site.

B. County and City of Los Angeles streets shall be kept free of construction dirt

and debris at all times by use of street sweeping equipment. The degree of cleanliness to be maintained will be determined by the County.

C. Contractor shall water down all construction activities, such as excavation that create dust.

D. The Contractor shall provide temporary dust proof enclosures to ensure that particulate matter does not migrate outside of enclosed work areas to adjacent occupied hospital areas. The Contractor's means and methods shall dictate the exact method used to comply with this requirement.

E. Maintain and operate construction equipment so as to minimize exhaust emissions. During construction, the site shall be watered and all equipment cleaned once a day to reduce particulate and dust emissions.

F. The Contractor shall not allow any construction equipment with an internal combustion engine to idle more than five (5) minutes in accordance with California Vehicle Code § 2485 (diesel).

3.7 COMPLIANCE

A. The County will notify the Contractor in writing of any observed noncompliance with the provisions of this section, and will describe actions to be taken. Such notice, when delivered to the Contractor or his authorized representative at the job site, will be deemed sufficient for the purpose. Immediately upon receipt of such notice, initiate the required action or actions.

B. Noncompliance: If the Contractor fails or refuses to comply promptly, the County may issue an order stopping all or part of the work of this contract until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was determined that the Contractor was in compliance.

3.8 TRAFFIC REGULATION

A. Traffic Maintenance: Determine the routing of construction vehicles before starting work, based on restrictions indicated on the drawings and the safeguards and procedures necessary to carry out the work. In addition be responsible for controlling construction traffic within and adjacent to the site, provide all entrances, lifts and safeguards required necessary to the progress

of the work, and effectively control such traffic to provide minimum hazard to the work and all persons, route all construction equipment, trucks, and similar vehicles via existing public streets to and from the site as approved by the governing authorities and the Construction Access Plan.

B. Obtain and pay for permits and inspections necessitated by the use of public streets, sidewalks, curbs, and paving. Post guarantees and bonds that may be required, repair and make good any damages thereto, acceptable to the authorities having jurisdiction, construct and maintain temporary walks and bridges for pedestrians. Keep streets adjacent to the site open to vehicles and traffic.

C. Maintain constant access for police, fire, and ambulance service.

D. Provide and maintain for proper control of traffic and safety of all concerned. All necessary barricades, suitable and sufficient lights, reflectors, and danger signals, warning and closure signs, directional and detour signs, and whatever additional measures necessary.

E. Indicate on a 24-hour basis all restricted and dangerous conditions existing on or adjacent to the site, illuminate barricades, danger signals, warning signs and obstructions and night and keep waning lights burning from one hour before sunset and until one hour after sunrise.

3.9 Parking: Do not permit parking on site to interfere with activities related to the performance of the work. The Contractor is responsible for providing offsite parking for all Contractor construction personnel at no additional cost to the County, if the County provided Contractor parking area does not provide enough parking spaces for construction personnel.

END OF SECTION

SECTION 01 60 00

PRODUCT HANDLING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work Included: Products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Additional procedures also may be prescribed in other Sections of these Specifications.

1.2 QUALITY ASSURANCE

A. Include within the Contractor's written quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURER'S RECOMMENDATIONS

A. Except as otherwise approved by the Architect, determine and comply with manufacturer's recommendations on product handling, storage, and protection.

1.4 PACKAGING

A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.

B. Maintain packaged materials with seals unbroken and labels intact until time of use.

C. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the County.

D. The Architect may reject as non-complying such material and products that do not bear identification satisfactory to the Architect as to manufacturer, grade, quality, and other pertinent information.

1.5 PROTECTION

A. Protect unfinished surfaces, including jambs and soffits or openings used as passageways, through which equipment and material are handled.

B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.

C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the County.

1.6 REPAIRS AND REPLACEMENTS

A. In the event of damage, promptly make replacements and repairs to the approval of the Architect and at no additional cost to the County.

B. Additional time required to secure replacements and to make repairs will not be considered by the Architect to justify an extension in the Contract Time of Completion.

END OF SECTION

SECTION 01 66 00

TRANSPORT, HANDLING & STORAGE

PART 1 GENERAL

1.01 DESCRIPTION (PREPARATION FOR SHIPMENT)

A. Shop prime:

1. Structural steel surfaces not to be encased in concrete shall be shop primed with specified primer. Refer to Section 13 31 33 Fabric Framed Structures, 13 34 00 Fabricated Engineered Structures.

2. After factory tests and acceptance, machined and/or polished surface to remain unpainted shall be coated with minimum 2 mil thickness of rust preventive compounds, or as recommended by manufacturer.

B. Protection:

1. Protect steel surfaces to ensure their cleanliness during shipment, storage and erection.

2. Protect structural steel against damage from all sources whether mechanical, chemical or environmental.

1.02 TRANSPORTATION AND HANDLING

A. Verification of intent to ship, arrival date and cartage company must be made known to County by Contractor.

B. Immediately on delivery, a complete and thorough inspection of the structural steel by County and Contractor shall be made. Any damages incurred in shipping or handling shall be replaced promptly by Contractor at no cost to the County.

1.03 STORAGE AND PROTECTION

A. Storage and protection shall be the responsibility of the Contractor.

B. Provide complete weather protection for stored structural steel. Storage must be in Los Angeles County, and all material must be insured.

C. Inspection of stored structural steel to assure it will be free from damage or deterioration shall be provided at no additional cost.

D. All storage, handling and rehandling costs, insurance and responsibility for protection and proper installation of such material is the obligation of the Contractor. No payment, pursuant to this provision for material shall in any way relieve the Contractor of its responsibility to obtain or provide, at its expense, any such material or release the Contractor from any of its obligations under this Contract.

E. Department may enter upon the premises where the material is stored for inspection, checking, or any other purpose he deems necessary.

F. The Contractor will be reimbursed for any Los Angeles County taxes levied against such material while so stored, upon presentation of the receipted tax bill for same.

G. Contractor must furnish with his Request for Payment acceptable evidence showing such material has been paid for in full, together with a verified statement that same is/are free from liens and encumbrances and will be utilized in the work covered by this Contract and a material list sufficient for physical inventory at the storage location.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION DEBRIS RECYCLING FOR LOS ANGELES COUNTY PROJECTS

PART 1 GOAL

Consistent with the County's efforts to comply with the California Integrated Waste Management Act of 1989 (Public Resources code, Section 40000 et seq.), one goal of this project is to reduce, reuse, and/or recycle the construction and demolition debris generated by the project in accordance with Los Angeles County Code, Chapter 20.87, Construction and Demolition Debris Recycling and Reuse.

PART 2 GENERAL DEBRIS RECYCLING REQUIREMENTS

2.1 Prior to the commencement of construction, the Contractor shall submit to the Los Angeles County Public Works, Environmental Programs Division (EPD), a Construction and Demolition Recycling and Reuse Plan (RRP) via EPIC-LA.

2.2 Contractor shall submit a RRP for any work done for or on behalf of the County that generates C&D debris.

PART 3 DEBRIS RECYCLING REQUIREMENTS FOR ANY WORK DONE FOR OR ON BEHALF OF THE COUNTY

3.1 The RRP submitted in accordance with Paragraph 2.2 of this Section must demonstrate that the Contractor will reduce, reuse, and/or recycle the C&D debris generated by the project. The RRP must demonstrate that the project will deliver debris to an approved facility for recycling or reuse of at least 70% of the mixed and inert debris and 100% of soil and land clearing debris generated by the project. A list of approved facilities is available on the CND website under reference materials (dpw.lacounty.gov/epd/CD/cd_attachments/Recycling_Facilities.pdf).

The RRP must also identify proper recycling or disposal of 100% of universal waste generated by alteration or renovation projects.

3.2 As part of the Contractor's request for final payment, the Contractor shall submit a Final Compliance Report to EPD for review and approval.

The Final Compliance Report shall include information and documentation as set forth in Section D of the C&D Recycling and Reuse Guidelines.

3.3 As part of the approval of the final payment, EPD will review the Final Compliance Report to determine if the Contractor documented the quantity of debris generated, reused, and recycled, and achieved a recycling/reuse rate at least 70% by weight and of mixed and inert debris and 100% of soil debris generated and disposed during the project duration.

3.4 If EPD determines that the applicant has not provided sufficient documentation to show that all of the project C&D Debris and universal waste included in the RRP, were properly recycled, reused and/or disposed, within one year of the completion of the project plus any additional time provided by Public Works for the correction of any deficiencies, or if the documentation indicates that the project C&D debris and universal waste were not properly recycled, reused and/or disposed, EPD will calculate the applicable penalty in accordance with the penalty schedule below:

Tons of C&D Not Recycled and Not Reported	Penalty Amount	
For up to the first ton	$ 100	fixed amount; plus, as applicable, amounts below
From above the first ton up to 15 tons	$ 60	per ton (or fraction thereof); plus, as applicable, amounts below
From above 15 tons up to 45 tons	$ 45	per ton (or fraction thereof); plus, as applicable, amounts below
From above 45 tons	$ 30	per ton (or fraction thereof)

PART 4 COST

Cost of compliance with the C&D Ordinance shall be considered as included in the Contractor's lump sum base bid.

SECTION 01 74 23

FINAL CLEANING

1.00 GENERAL

1.01 DESCRIPTION

A. Principal work in this Section:

1. Keep premises, adjacent private properties and public properties free from accumulations of waste, debris and rubbish caused by construction operations.

2. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces.

1.02 SAFETY REQUIREMENTS

A. Standards: Maintain Project in accord with State and local safety and insurance standards.

B. Hazard control:

1. Store volatile wastes in covered metal containers and remove from premises daily.

2. Prevent accumulation of waste which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on Project site.

2. Do not dispose of volatile waste such as mineral spirits, oil, or paint thinner in storm or sanitary drains. Store in containers with tight-fitting lids and remove to legal dump site.

3. Special reference is made to the Los Angeles County Department of Public Works Storm Water Pollution Control Requirements for Construction Sites which require implementation of the NPDES standards. The cost of implementing the NPDES standards and adhering to the Storm Water Pollution Control Requirements must be included in the lump sum bid for the Project.

2.00 PRODUCTS (Not applicable)

3.00 EXECUTION

3.01 DURING CONSTRUCTION

A. Remove or paint over, as appropriate to the substrate, graffiti on the site or surrounding fence daily.

B. Wet down materials and rubbish to lay dust and prevent it from blowing.

C. Provide on-site covered containers for collection of waste materials, debris and rubbish. Provide a collection can at each location used as an eating area. Pick up all garbage daily.

D. Remove waste materials, debris and rubbish from site and legally dispose of at legal public or private dumping areas off County's property.

E. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

F. Comply with the County of Los Angeles Department of Health design /construction and maintenance risk assessment: Policies and Procedures Infection Control Policy Guidelines Procedure No.918.01.

3.02 FINAL CLEANING

A. In preparation for Substantial Completion or Occupancy conduct final inspection of all work.

B. Repair, patch and touch-up marred surfaces to specified finish to match adjacent surfaces.

C. Contaminated earth:

1. Final clean-up operation includes the removal and disposal of earth contaminated or unsuitable for support of plant life in planting areas, and filling of resulting excavations with suitable soil.

2. Contaminated areas include those used for disposal of waste concrete, mortar, plaster, masonry, and similar materials, areas in which washing out of concrete and plaster mixers or washing of tools and like cleaning operations have been performed, and areas that have been oiled, paved, or chemically treated.

3. Do not dispose of waste oil, solvents, paints, solutions, or like penetrating material by depositing or burying on County's property. All

material shall be disposed in accordance with all regulatory requirements.

D. Broom clean paved surfaces; rake clean other surfaces of grounds.

E. Keep Project clean until Final Acceptance by the County.

END OF SECTION

SECTION 01 77 00

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Sections of the Specifications, apply to this section.

1.02 SUMMARY

This section includes administrative and procedural requirements for contract close-out including, but not limited to, the following:

A. Inspection procedures.
B. Project record document submittal.
C. Operation and maintenance manual submittal.
D. Submittal of warranties.
E. Final cleaning.

1. Closeout requirements for specific construction activities are included in the appropriate sections.

1.03 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request:

1. In the application for payment that coincides with, or first follows, the date substantial completion is claimed, show one hundred (100) percent completion for the portion of the Work claimed as substantially complete.

a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the contract sum.

b. If one hundred (100) percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

2. Prepare and deliver to the County a completion list enumerating all items of work not complete, the work required to complete the items of work, the reason that each item is not complete, the action taken by the Contractor to complete all other work in light of the item at work remaining, and the date that the item of work will be completed.

3. Advise the County of pending insurance changeover requirements.

4. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.

5. Obtain and submit releases enabling the County unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

6. Submit record drawings, operation and maintenance manuals, project photographs, damage or settlement surveys, property surveys, and similar final record information.

7. Deliver tools, spare parts, extra stock, and similar items.

8. Make final changeover of permanent locks and transmit keys to the County. Advise the County's personnel of changeover in security provisions.

9. Complete startup testing of systems and instruction of the County's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mock-ups, construction tools, and similar elements.

10. Complete final cleanup requirements, including touch-up painting.

11. Touch up and otherwise repair and restore marred, exposed finishes.

B. Inspection Procedures: On receipt of a request for inspection, the County and the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

1. The County and the Architect will repeat inspection when requested and assured that the Work is substantially complete. If, after making such reinspection, the County determines that the work is not substantially complete, the Contractor shall be responsible for the cost that the County and the Architect incurred in the performance of

additional inspections for the purpose of determining Substantial Completion.

2. Results of the completed inspection will form the basis of requirements for final acceptance.

1.04 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.

2. Submit an updated final statement, accounting for final additional changes to the contract sum.

3. Submit a certified copy of the architect's final inspection list of items to be completed or corrected, endorsed, and dated by the architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the architect.

4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the County took possession of and assumed responsibility for corresponding elements of the Work.

5. Submit consent of surety to final payment.

6. Submit a final liquidated damages settlement statement.

7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure: The County will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed.

1. Upon completion of reinspection, the County will prepare a certificate of final acceptance. If the Work is incomplete, the architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

2. If necessary, reinspection will be repeated, and the Contractor shall be responsible for the costs of the County and the Architect incurred in the performance of the reinspection or reinspections.

1.05 RECORD DOCUMENT SUBMITTALS

A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the architect's reference during normal working hours.

B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.

2. Mark new information that is important to the County but was not shown on Contract Drawings or Shop Drawings.

3. Note related Change-Order numbers where applicable.

4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets and print suitable titles, dates, and other identification on the cover of each set.

C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda. Include with the Project Manual one (1) copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.

1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.

2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.

3. Note related Record Drawing information and product data.

4. Upon completion of the Work, submit record Specifications to the architect for the County's records.

D. Record Product Data: Maintain one (1) copy of each product data submittal. Note related Change Orders and markup of Record Drawings and Specifications.

1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.

2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.

3. Upon completion of markup, submit complete set of record product data to the architect for the County's records.

E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the architect and the County's personnel at the Project site to determine which samples are to be transmitted to the County for record purposes. Comply with the County's instructions regarding delivery to the County's sample storage area.

F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the architect for the County's records.

G. Maintenance Manuals: Organize operation and maintenance data as described in Section 01 78 23, Operations and Maintenance manuals.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the County's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:

1. Maintenance manuals.
2. Record documents.
3. Spare parts and materials.
4. Tools.
5. Lubricants.
6. Fuels.
7. Identification systems.
8. Control sequences.
9. Hazards.
10. Cleaning.
11. Warranties and bonds.
12. Maintenance agreements and similar continuing commitments.

B. As part of instructions for operating equipment, demonstrate the following procedures:

1. Startup.
2. Shutdown.
3. Emergency operations.
4. Noise and vibration adjustments.
5. Safety procedures.
6. Economy and efficiency adjustments.
7. Effective energy utilization.

C. See additional requirements for training in the specification sections.

3.2 FINAL CLEANING

A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1, Section 01 74 23, " Final Cleaning."

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.

    a. Remove labels that are not permanent labels.

    b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

    c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

    d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

    e. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean and remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the project of rodents, insects, and other pests. Provide six (6) copies of each pest control inspection report to the County.

D. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

E. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the County's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.

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SECTION 01 78 23

OPERATIONS AND MAINTENANCE

PART 1 - GENERAL

1.01 WORK INCLUDED

A. To aid the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data described in this Section and in other Sections of Division 1.

1.02 SUBMITTALS

A. Submit three (3) copies of a preliminary draft of the proposed Manual or Manuals to the Agency for review and comments.

B. Unless otherwise directed in other Sections, or in writing by the Agency, submit five (5) copies of the final Manual along with (1) copy of Manual on CD latest version of Word to Engineer prior to indoctrination of operation and maintenance personnel.

PART 2 - PRODUCTS

2.01 INSTRUCTION MANUALS

A. Where Instruction Manuals are required to be submitted under other Sections of these Specifications, prepare in accordance with the provisions of this Section.

B. Format: Print and PDF

1. Size: 8-1/2" x 11"

2. Paper: White bond, at least 20-lb. Weight

3. Test: Neatly written or printed

4. Drawings: 11" in height preferable; bind in with text; foldout acceptable; larger drawings acceptable but to fit within the Manual and provide a drawing pocket inside rear cover or bind in with test.

5. Sheets: Separate each portion of the Manual with neatly prepared flysheets briefly describing content of the ensuing portion; flysheets may be in color.

6. Measurements: Provide measurements in U.S. standard units such as feet and inches, lbs, and cfm; where items may be expected to be measured within ten years in accordance with metric formula, provide additional measurements in the "International Systems of Units" (SI).

C. Provide front and back covers for each Manual, using durable material approved by Engineer and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

- name and address of Work
- name of Contractor
- general subject of this Manual
- space for approval signature of Architect and approval date

D. Contents: Include at least the following:

1. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of emergency information regarding the installation.

2. Complete instructions rearing operation and maintenance of equipment.

3. Complete nomenclature of part of equipment.

4. Complete nomenclature and part number of replaceable part, name and address of nearest vendor, and all other data pertinent to procurement procedures.

5. Copy of guarantees and warranties issued.

6. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or others that are not relevant to this installation.

7. Such other data as required in pertinent Section of these Specifications.

PART 3 - EXECUTION

3.01 PREPARATION OF MANUAL

A. General

1. Prepare data in the form of an instructional Manual.

2. When multiple binders are used, correlate data into related, consistent groupings.

B. Include a directory for each product. Provide names, addresses and telephone numbers of Contractor, sub-contractor, suppliers, installers and authorized service and parts suppliers. Format as follows:

1. General Contractor: _____
   Address: _____
   Telephone No.: _____
   Person to Contact: _____

2. Subcontractor:
   Address: _____
   Telephone No.:_____
   Person to Contact: _____

3. Installer: _____
   Address: _____
   Telephone No.: _____
   Person to Contact: _____

4. Manufacturer:_____
   Address:_____
   Telephone No.: _____
   Person to Contact:

5. Local Service Representative:_____
   Address: _____
   Telephone No.: _____
   Person to Contact: _____

C. Identify each product by product name and other identifying symbols as set forth in Contract Documents.

1. Product Data: Include only those sheets pertinent to specific product. Clearly identify pertinent data; line out inapplicable test.

2. Drawings: Supplement product data with drawings as necessary. Coordinate drawings with information in Project records Documents to ensure correct illustration of completed installation.

3. Written test, as required to supplement product data for particular installation.

4. Submittal format and content: Provide each of the following items, as applicable, for each required items or system. Requirements will vary, depending on the equipment. Refer also to specific Specification Section requirements.

5. System description: Provide a detailed narrative description of each system, describing function, components, capacities, controls and other data specified and including the following:

    a. Number of
    b. Sizes
    c. Type of operation
    d. Detailed operating instructions, including start up and shutdown of each system, with indications for position of controls, as applicable.

6. Wiring diagrams: Complete wiring diagrams for internally wired components including controls.

7. Operating sequence: Describe in detail.

8. Manufacturers' data: Provide catalog data sheets, specifications, nameplate data and parts list.

9. Preventative maintenance: Provide manufacturers' detailed maintenance recommendations.

10. Troubleshooting: Provide manufacturers' sequence for troubleshooting procedures foe operational problems.

11. Extra parts: Provide a listing of extra stock parts furnished as part of the Contract.

12. Warranties: Provide specific manufacturer's warranty. List each component and control covered, with day and date warranty begins, date of expiration, name, address and telephone number of person to contact regarding problems during warranty period.

13. Provide operating and maintenance data on work required by the Scope of Work.

3.03 INSTRUCTION OF COUNTY'S PERSONNEL

A. Prior to final inspection and acceptance, instruct County's designated and maintenance personnel in operation, adjustment and maintenance of products equipment and systems.

B. Operation and Maintenance Manual shall constitute the basis of instruction.

* * *

SECTION 01 78 36

GUARANTEES AND WARRANTIES

PART 1 GENERAL

1.01 REQUIREMENTS

A. Section Includes: Requirements for the compilation and submittal of guarantees, warranties, and other documents specified.

1. Compile specified guarantees and warranties.
2. Compile specified service and maintenance contracts.
3. Co-execute submittals when so specified.
4. Review submittals to verify compliance with Contract Documents.
5. Submit to County's Representative for review with transmittal to the County.

B. Related Sections:

1. Section 01 33 00 Submittals.

1.02 SUBMITTAL REQUIREMENTS

A. General: Make submittals in accordance with the relevant requirements of Section 01 33 00.

B. Requirements:

1. Assemble warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, supplies and subcontractors.

2. Submit two original, signed copies, each.

3. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.

a. Product or work item.
b. Firm, with name of principal, address and telephone number.
c. Scope.

d. Date of beginning of warranty, bond, or service and maintenance contract.
e. Duration of guarantee, warranty, or services and maintenance contract.
f. Provide information for County personnel:
(1) Proper procedure in case of failure.
(2) Instances which might affect the validity of guarantee or warranty.
g. Contractor, name of responsible principal, address, and telephone number.

1.03 FORM OF SUBMITTALS

A. Prepare in duplicate packets.

B. Format: Print and PDF

1. Size 8 1/2-inches by 11-inches, punch sheets for standard 3-ring binder.

2. Fold larger sheets to fit into binders.

3. Cover: Identify each packet with typed or printed title (GUARANTEES AND WARRANTIES).

List:
a. Title or project.
b. Name of Contractor.

C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.04 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into services during progress of construction:

1. Submit documents within 10 days after inspection and acceptance.

B. Otherwise make submittals within 10 days after Date of Substantial Completion, prior to final request for payment.

C. For items of work, where acceptance is delayed materially beyond Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of guarantee/warranty period.

1.05 SUBMITTALS REQUIRED

A. Submit guarantees, warranties, and service and maintenance contracts as specified in pertinent Sections of Specification.

* * * *

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Project Record Documents required include:

1. Marked-up copies of Contract Drawings.

2. Marked-up copies of Shop Drawings.

3. Newly prepared Drawings.

4. Marked-up copies of Specifications, addenda and Change Orders.

5. Marked-up Product Data submittals.

6. Record Samples.

7. Field records for variable and concealed conditions.

8. Record information on Work that is recorded only schematically.

B. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain record documents in good order, and in a clean, dry, legible condition. Make documents and Samples available at all times for inspection by the Architect.

1.2 RECORDING

A. Record drawings shall include dimensions from not less than two permanent and salient building points.

B. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project.

C. The Architect will periodically review record documents to assure compliance with this requirement.

1.3 PROCEDURES

A. Promptly following Contract Award, General Contractor shall secure from the County one complete set of Specifications and prints of the Contract Drawings and mark them as "Project Record Documents."

B. Timing of Entries: Make entries within 24 hours after receipt of information.

C. Contractor shall be responsible for maintaining and recording changes on "Project Record Document" set.

D. Do not use "Project Record Documents" set for any purpose except for the entry of new data and for review by the Architect and County Inspector. Maintain separate job sets for subcontractors and worker's daily use.

E. Maintain "Project Record Documents" set at job site where designated by the Architect.

F. Use all means necessary to protect "Project Record Documents" set from deterioration, loss or damage until completion of work.

G. Making Entries On "Project Record Documents" Drawings: Using an erasable color pencil, other than blue, not ink or indelible pencil, clearly describe change by note and by graphic line as required. Date entries. Call attention to entry by a "cloud" around area or areas affected. In even of overlapping changes, different colors may be used for each change.

1. Changes due to approved change orders may be indicated by referencing change order number and scope of change in lieu of revising "Project Record Documents".

2. Location and depth below finish grade or above ceilings and attic spaces of utilities shall be fully dimensioned and indicated on "Project Record Documents". Dimensions shall be taken to building lines of permanent landmarks.

H. The Architect's approval of current status of "Project Record Documents" will be a prerequisite to the Architect's approval of requests for progress payments and request for final payment.

1. Progress Approvals: Prior to submitting each request for progress payments, secure the County Inspector's approval of status of "Project Record Documents."

2. Prior to submitting request for final payment and final inspection, General Contractor shall submit "Project Record Documents" set to the County Inspector, with transmittal letter, in duplicate, for approval and further processing.

3. The General Contractor shall certify that the "Project Record Documents" are complete and accurately reflect all changes or modifications to the original Construction Documents.

SECTION 01 91 00

COMMISSIONING

PART 1 - GENERAL

1.1 SUMMARY

A. Work includes the completion of formal commissioning procedures on selected mechanical and electrical equipment and systems, as listed under Commissioning Scope below.

B. Commissioning is defined as the process of verifying that the design, installation, functional performance, and maintenance requirements of selected building systems meet or exceed the Owner's Project Requirements.

C. Commissioning during construction, acceptance, and warranty phases is intended to achieve following objectives:

1. Verify and document equipment is installed and started per manufacturer's recommendations and to industry accepted minimum standards.
2. Verify and document equipment and systems receive complete operational checkout by installing contractors.
3. Verify and document equipment and system performance.
4. Verify completeness of operations and maintenance materials.
5. Ensure owner's operating personnel are trained on operation and maintenance of building equipment.

D. The commissioning process includes work and services throughout the project schedule, and is not just the functional performance testing during the Construction Phase.

E. Contractor shall be responsible for participation in the commissioning process as outlined below, and in subsequent sectional references and attachments throughout the project documents.

F. Commissioning process does not take away from or reduce responsibility of the system designers or installing contractors to provide finished and fully functioning product.

G. Commissioning procedures will be designed and coordinated under the direction of the Commissioning Authority (CA).

1.2 RELATED SECTIONS

A. Division 13 Special Construction for commissioning (testing) process activities for spray ground systems, assemblies, equipment, and components.

B. Division 22 Section Commissioning of Plumbing for commissioning process activities for plumbing systems, assemblies, equipment, and components.

C. Division 23 Section Commissioning of HVAC for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.

D. Division 26 Section Commissioning of Electrical Systems for commissioning process activities for electrical systems, assemblies, equipment, and components.

1.3 COORDINATION

A. Commissioning Team.

1. Commissioning Authority (CA)
2. Owner's Technical Staff (Owner or OTS)
3. General Contractor (C, CxC)
4. Construction Manager
5. Subcontractors (Subs)
6. Manufacturer's Representatives/Vendors
7. Architect/Design Professionals (A/E)
8. Mechanical Contractor (MC) / Electrical Contractor (EC)
9. Test and Balance (TAB) Contractor
10. Controls Contractor (CC)
11. Installing subcontractors

B. Management.

1. Commissioning Authority (CA):
   a. Under contract with the Architect (A) or Owner.
   b. Manages commissioning process with assistance of Commissioning Team: Contractor, Subcontractors and Design Professionals (A/E).

C. Scheduling: CA to work with OTS, C and Sub's to schedule commissioning activities.

1. Contractor (C) to integrate commissioning activities into master construction schedule.
2. Involved parties to address scheduling issues in timely manner to expedite commissioning process.

1.4 COMMISSIONING PROCESS

A. Following activities describe commissioning tasks coordinated by CA and C during construction in order of occurrence.

1. Scoping Meeting: Members of design and construction team involved in commissioning process meet and agree on scope of work, tasks, schedules, deliverables, and responsibilities for implementation of Commissioning Plan.
2. Commissioning Plan: Provides guidance in execution of commissioning process.
    a. Project Manual (specification) takes precedence over Commissioning Plan.
3. Submittals: Equipment documentation submitted to CA during normal submittals, including detailed startup procedures.
4. Startup/Pre-Functional Checklists: CA works with C and Sub's to develop startup plans and documentation formats, including providing Sub's, MC and EC with pre-functional checklists to be completed by Sub's and C during startup process.
5. Functional Performance Testing: CA develops specific equipment and system functional performance test procedures.
    a. Contractor and Sub's review procedures and provide feedback.
    b. C and Sub's execute procedures under direction of, and documented by, CA.
6. Deficiencies and Resolution: CA documents items of non-compliance in materials, installation or operation.
    a. Items are corrected at C or Sub's expense and equipment or systems are retested.
7. Operations and Maintenance (O&M) Documentation: CA reviews O&M documentation for completeness.
8. Training: CA reviews and coordinates training provided by C and Sub's and verifies it is completed.
9. Seasonal Testing: Deferred or seasonal testing is conducted, as required.

1.5 COMMISSIONING RESPONSIBILITIES

A. Services for Owner's Technical Staff (OTS) and Design Team are not a part of this contract.

1. Responsibilities are listed here to clarify commissioning process. See also, responsibility table included at end of this section.

B. Commissioning Authority (CA):

1. Primary Role: Develop and coordinate execution of testing plan to verify and document systems are functioning in accordance with design intent and Construction Documents.

2. May assist with problem-solving deficiencies, but ultimately that responsibility resides with Contractor (C), Sub-contractors (Sub's), and Architect (A).

3. Not responsible for design concept, design criteria, code compliance, general construction scheduling, cost estimating, or construction management.

4. Construction and Acceptance Phase:
   a. Coordinate and direct commissioning activities.
   b. Work with C (CxC) and Sub's to ensure commissioning activities are scheduled.
   c. Maintain up-to-date Commissioning Plan.
   d. Help plan and conduct commissioning scoping meeting and controls integration meetings.
   e. Request and review additional information required to perform commissioning tasks, including O&M materials, contractor startup and checkout procedures, and sequences of operation.
   f. Review Contractor submittals applicable to commissioned systems, concurrent with Architect and Owner reviews.
   g. Develop startup and checkout plans with Subs.
   h. Write and distribute pre-functional checklists, tests and startup forms.
   i. Perform site visits to observe components and system installations.
   j. Attend construction job-site meetings to monitor construction and commissioning progress.
   k. Review completed pre-functional checklist and startup reports.
   l. Assist with coordination of startup requirements with TAB requirements.
   m. Write functional performance test procedures for equipment and systems.
   n. Coordinate, witness, and document functional performance tests completed by subs.
      1) Coordinate retesting as necessary until satisfactory performance is verified.
   o. Maintain master deficiency and resolution record and provide OTS with written progress reports and test results with recommended actions.
   p. Review training proposed by subs for Owner's operating personnel.
   q. Review O&M manuals.

r. Prepare Final Commissioning Report.

5. Warranty Period:

a. Coordinate and supervise seasonal or deferred testing and deficiency corrections.
b. Assist in review of Record documentation.
c. Assist in end of warranty review/walk-through inspection.

C. Design Team (A/E):

1. Construction and Acceptance Phase:

a. Attend commissioning scoping meeting, controls integration meeting and additional meetings, as necessary.
b. Provide design intent and sequence of operation documentation as required by CA.
c. Assist in resolution of system deficiencies identified during commissioning.
d. Review and approve operations and maintenance manuals (O&M).
e. Optional: Witness equipment startup and performance testing.

2. Warranty Period:

a. Assist in resolution of system deficiencies identified during warranty period commissioning.

D. Owner's Technical Staff (OTS):

1. Construction and Acceptance Phase:
a. Plan/Attend
b. Arrange for facility operating and maintenance personnel to participate in commissioning activities and training sessions.
c. Provide final acceptance for commissioning work.
2. Warranty Period:
a. Ensure seasonal or deferred testing and deficiency issues are addressed.

E. Contractor (C, Contractor or Sub):

1. Construction and Acceptance Phase:

a. Contractor to assign a commissioning coordinator (CxC) to facilitate coordination of commissioning work by CA.
b. Attend commissioning scoping meeting, controls integration meeting and additional meetings, as necessary.

c. Furnish copies of construction documents, addenda, change orders and approved submittals and design drawings related to commissioned equipment to CA.
d. Ensure Sub's execute their commissioning responsibilities according to Project Manual and Commissioning Plan.
e. Coordinate training of owner personnel.
f. Work with Sub's to prepare O&M manuals, according to Project Manual, including updating original sequences of operation to Record (as-built) conditions.
g. Develop startup and checkout plan for commissioned equipment based on manufacturer's recommendations and pre-functional checklists from CA.
    1) Submit to CA for review and approval prior to startup.

2. Warranty Period:

    a. Ensure Sub's execute required seasonal or deferred functional performance testing.
    b. Ensure Sub's correct deficiencies and make necessary adjustments to O&M manuals and Record Drawings for issues identified during warranty period.

F. Mechanical Contractor, Electrical Contractor, Controls Contractor and TAB Contractor:

1. Construction and Acceptance Phases:

    a. Attend commissioning scoping meeting, controls integration meeting and additional meetings, as necessary.
    b. Provide additional requested documentation, prior to normal O&M manual submittals, to CA for development of startup and functional testing procedures.
    c. Assist in clarification of operation and control of commissioned equipment where Project Manual, control drawings or equipment documentation is not sufficient for writing detailed testing procedures.
    d. Help develop startup and checkout plan for commissioned equipment based on manufacturer's recommendations and pre-functional checklists from CA.
    e. During startup and checkout process, execute pre-functional checklists for commissioned equipment.
        1) Perform and document completed startup and system operational checkout procedures.
    f. Resolve punch list items before functional testing.
        1) Air and water TAB to be completed with discrepancies and problems resolved before functional testing.

g. Perform functional performance testing, under direction of CA, for commissioned equipment.
h. Resolve equipment or system deficiencies and retest as required to verify modified performance.
i. Prepare O&M manuals according to Project Manual, including updating original sequences of operation to record conditions.
j. Provide training of Owner's operating personnel.
k. Coordinate with equipment manufacturers to determine requirements to maintain validity of warranties.

2. Warranty Period

a. Execute seasonal or deferred functional performance testing.
b. Correct deficiencies and make necessary adjustments to O&M manuals and Record Drawings for issues identified during warranty period.

G. Controls Contractor (CC). Commissioning responsibilities of CC during construction and acceptance phases, in addition to those listed in Paragraph (F), are:

1. Sequences of Operation Submittals. Temperature controls submittals to include complete and detailed sequences of operation for each piece of equipment, regardless of completeness and clarity of sequences in Project Manual, and include:

a. Narrative description of system, describing its purpose, components and function.
b. Interactions and interlocks with other systems.
c. Delineation of control interactions between packaged controls and building automation system, including listing of monitored points, controlled points, and adjustable points.
d. Written sequences of control for packaged controlled equipment.
e. Sequences of control for modes of operation (Start-up, Warm-up, Cool-down, Normal occupied, Unoccupied, Emergency Shutdown, etc.).
f. Capacity control sequences and equipment staging.
g. Temperature and pressure control sequences (setbacks, resets, etc.).
h. Sequences for control strategies (economizer control, optimum start/stop, optimization, demand limiting, etc.).
i. Effects of power or equipment failure with standby component functions.
j. Sequences for alarms and emergency shutdowns.
k. Seasonal operational requirements.

2. Control Drawings Submittal

a. Control drawings to have key to abbreviations.
b. Control drawings to provide graphic schematic depictions of systems and each component.
    1) Schematics to include system and component layout of equipment that control system monitors, enables or controls, even if equipment is primarily controlled by packaged or integral controls.

c. Provide full points list with following included for each point:

    1) Controlled system
    2) Point abbreviation
    3) Point description
    4) Point type (digital/analog, input/output)
    5) Display unit
    6) Control point or setpoint (Yes / No)
    7) Monitoring point (Yes / No)
    8) Intermediate point (Yes / No)
    9) Calculated point (Yes / No)

3. Record Drawing version of control drawings and sequences of operation to be included in final controls O&M manual submittal.

4. Written plan indicating step-by-step manner and procedures that will be followed to test, checkout and adjust control system prior to functional performance testing.

5. Signed and dated certification to CA and Owner upon completion of control system checkout.

H. Equipment Suppliers

1. Provide requested submittal data, including detailed startup procedures and specific responsibilities of Owner to keep warranties in effect.
2. Provide information requested by CA regarding equipment sequence of operation and testing procedures.
3. Assist in equipment testing per agreements with Sub's.

1.6 COMMISSIONING SCOPE:

System	Equipment
HVAC System:	Roof top units
	Make up air units
	Exhaust fans
	HVAC control system

System	Equipment
	Any additional HVAC systems required for LEED certification
Electrical System:	Sweep or scheduled lighting controls Lighting occupancy sensors Any Additional Electrical Systems required for LEED Certification
Plumbing System:	Domestic Hot Water System Any Additional Plumbing Systems required for LEED Certification

PART 2 PRODUCTS

2.1 TEST EQUIPMENT

A. Standard testing equipment required to perform startup and initial checkout and required functional performance testing to be provided by Division Contractor for equipment being tested.

B. Testing equipment to be of sufficient quality and accuracy to test or measure system performance as required by Project Manual.

C. Datalogging equipment or software required to test equipment to be provided by CC but shall not become property of Owner.

PART 3 EXECUTION

3.1 MEETINGS

A. Scoping Meeting:
   1. CA will schedule, plan and conduct Commissioning Scoping Meeting and Controls Integration Meetings with entire commissioning team in attendance.
   2. CA to distribute meeting minutes to those in attendance.

B. Miscellaneous Meetings. Other meetings are to be planned and conducted by CA as construction progresses

   1. Meetings to cover coordination, deficiency resolution and planning issues

3.2 REPORTING

A. Regular Reports: CA to provide regular reports to Owner with increasing frequency as construction and commissioning progresses.

B. Progress Reports: CA to regularly communicate with commissioning team, apprising them of commissioning progress and scheduling changes through memos, progress reports, etc.

C. Commissioning Report: CA compiles final Report that summarizes tasks, findings, and documentation of commissioning process.
   1. Report addresses actual performance of building systems in reference to design intent and contract documents.
   2. Report includes:
      a. Completed pre-functional inspection checklists,
      b. Functional performance testing records
      c. Diagnostic monitoring results
      d. Identified deficiencies
      e. Recommendations
      f. Summary of commissioning activities

3.3 SUBMITTALS

A. CA reviews submittals related to commissioned equipment
   1. Reviews are intended primarily to aid in development of functional performance test procedures.

B. CA may submit written requests for additional information from contractors to facilitate the commissioning process.

C. CA may request additional design and operations narratives from design team and Controls Contractor.

3.4 START-UP, PREFUNCTIONAL INSPECTION CHECKLISTS

A. Following procedures apply to equipment commissioned, according to Article 1.6, Commissioning Scope.

B. General: Pre-functional Inspection Checklists are developed and completed for major equipment and systems being commissioned.

   1. Checklist documents equipment nameplate and characteristics data and confirms as-built status of equipment or system.
   2. Checklists ensure systems are complete and operational, so functional performance testing can be scheduled.

C. Start-up Plan. CA assists responsible contractors and Sub in developing detailed start-up plans for equipment.

1. Primary role of CA in this process is to ensure there is written documentation and that each manufacturer-recommended procedures be completed.

2. CA creates pre-functional checklists, based primarily on manufacturer's startup and checkout procedures.

    a. Each start-up item will have date and initial line for completion by contractor during start-up.

3. Start-up plans and documentation to be provided to Owner and A/E team for review.

D. Completion of Pre-functional Inspection Checklists and Startup:

1. Subs and equipment suppliers schedule startup and checkout with Owner, C, CxC and CA.
2. CA may observe start-up procedures for major pieces of primary equipment.
    a. Multiple Units: Sampling strategy may be used according to commissioning plan.
3. Lower-level equipment components (e.g., VAV boxes, reheat coils) CA may observe sampling of start-up procedures.
    a. Sampling procedures are identified in commissioning plan.
4. Subs and Vendors execute startup and provide CxC with signed and dated copy of completed start-up and pre-functional inspection checklists for routing to CA.
5. Only individuals who have completed or witnessed line-item task are to make initials or checks on forms.

E. Deficiencies, Non-Conformance and Approval in Checklists and Startup.

1. Subs to clearly list any items of start-up and pre-functional procedures not successfully completed at bottom of form or on an attached sheet.
    a. Procedures form and any outstanding deficiencies are provided to CA within two days of test completion.
2. CA reviews and verifies pre-functional inspection checklists and start-up reports and recommends approval to Owner.
3. CA assists Subs and Vendors to correct and retest deficiencies or uncompleted items, involving other members of Commissioning Team as necessary.

3.5 FUNCTIONAL PERFORMANCE TESTING

A. Following procedures apply to all equipment commissioned, according to Article 1.7, Commissioning Scope and to all commissioning functional performance testing.

B. Objectives and Scope:
   1. Demonstrate each system is operating according to documented design intent and Construction Documents.
   2. Functional performance testing comprises tests to verify components, equipment, systems, and interfaces between systems operate correctly and includes operating modes, interlocks, control sequences, and responses to emergency conditions.
   3. Verification procedures are directed, witnessed, and documented by CA.

C. Development of Test Procedures:
   1. CA develops specific test procedures and forms to verify and document proper operation of each piece of equipment and system.
   2. CA provides test procedures to Contractors and Sub's who review the tests for feasibility, safety, equipment and warranty protection prior to execution.
   3. CA may submit tests to Owner for review.
   4. Test procedure forms, developed by CA, to include the following information:
      a. System and equipment or component name(s).
      b. Equipment location and ID number.
      c. Date.
      d. Project name.
      e. Participating parties.
      f. Instructions for setting up tests, including special cautions, alarm limits, etc.
      g. Specific step-by-step procedures to execute test.
      h. Acceptance criteria of proper performance with date passed and initials boxes.
      i. Section for comments or notes.

D. Execution of Functional Performance Tests:

   1. Test Methods: Functional performance testing and verification may be achieved by direct manipulation of system inputs (i.e. heating or cooling sensors), manipulation of system inputs with building automation system (i.e. software override of sensor inputs), trend logs of system inputs and outputs using building automation system, or short-term monitoring of system inputs and outputs using stand alone data loggers.

      a. Combination of methods may be required to test complete sequence of operations.

b. CA determines which method, or combination, is most appropriate.

2. Setup: Each test procedure is performed under conditions that simulate normal operating conditions as closely as possible.

a. Sub executing test provides necessary system modifications to produce specified conditions (flows, pressures, temperatures, etc) necessary to execute test and, at completion of test, returns affected building equipment and systems to their pre-test conditions.

3. Sampling: Multiple identical pieces of non-life-safety or non-critical equipment may be functionally tested using sampling strategy developed by CA and approved by Owner. A 10% sampling rate is typical

4. Test values: If after three attempts at testing of specified sample percentage, failures are still present, remaining units are tested at Contractors' expense.

E. Coordination and Scheduling: Subs provide sufficient notice to CA regarding completion schedule for pre-functional checklists and startup of equipment and systems.

1. CA schedules functional tests through Owner, Contractor and affected Sub's and following sequential priorities followed:

a. Equipment is not "temporarily" started (for heating or cooling), until pre-start checklist items and manufacturer's pre-start procedures are completed and moisture, dust and other environmental and building integrity issues have been addressed.

b. Functional performance testing does not begin until pre-functional, start-up and TAB is completed for given system.

c. Controls system and equipment it controls are not functionally tested until points have been calibrated and pre-functional checklists are completed.

F. Problem Solving:

1. CA may recommend solutions to deficiencies identified during functional testing. Contractor, Subs and A/E team to resolve, correct and retest deficiencies.

3.6 DOCUMENTATION, NON-CONFORMANCE AND APPROVAL OF TESTS

A. Documentation:

1. CA witnesses and documents results of functional performance tests using forms developed for that purpose.

a. Prior to testing, forms are provided to Contractor, Sub's and Owner for review and approval.

B. Non-Conformance:

1. CA records results of functional test on procedure or test form.

a. Deficiencies identified during verification testing are documented on standard form and reported to Owner, Contractors and sub's.
b. Deficiency Report: Includes details of components or systems found to be non-compliant with parameters of test plans.
c. Report details adjustments or alterations required to correct system operation and identifies responsible party.

2. Corrections of minor deficiencies identified may be made during tests at discretion of CA and deficiency and resolution documented on procedure form.

3. Make every effort to expedite testing process and minimize unnecessary delays, while not compromising integrity of procedures.

4. Identified deficiency resolution:

a. No dispute on deficiency and responsibility to correct it:
1) CA documents deficiency and adjustments or alterations required to correct it.
2) Sub corrects deficiency and notifies CA that equipment is ready to be retested.
3) CA reschedules test and test is repeated.

b. Dispute about deficiency or who is responsible:
1) Deficiency is documented on non-compliance form and copy given to Owner and Contractor.
2) Resolutions are made at lowest management level possible and additional parties are brought into discussions as needed.

a) Final interpretive authority is with A/E team.
b) Final acceptance authority is with Owner.

3) CA documents resolution process.

4) Once interpretation and resolution have been decided, appropriate party corrects deficiency and notifies CA that equipment is ready to be retested.

a) CA reschedules test and test is repeated until satisfactory performance is achieved.

C. Cost of Retesting:

1. Sub's:
   a. Responsible for costs to retest pre-functional or functional test, if they are responsible for deficiency.
   b. If not responsible for deficiency, cost recovery for retesting costs to be negotiated with C.

2. Time for CA and Owner to direct any retesting because pre-functional checklist or start-up test item, reported to have been successfully completed, but determined during functional testing to be faulty, will be back charged to C.

D. Approval:

1. CA makes formal approval of functional performance test after review.
2. CA recommends acceptance of each test to Owner.
3. Owner gives final approval on each test.

3.7 DEFERRED TESTING

A. Unforeseen Deferred Tests: Functional testing that cannot be completed due to building structure, required occupancy condition, or other deficiency may be delayed upon approval of Owner.

1. Tests are conducted in same manner as seasonal tests as soon as possible.

B. Seasonal Testing: Seasonal variation in operations or control strategies may require additional testing during opposite season to verify performance of HVAC system and controls.

1. During warranty period: Seasonal testing and other deferred testing is completed as required to fully test sequences of operation.
   a. CA coordinates these activities.
2. Tests are executed and documented, with deficiencies corrected by appropriate Subs.
3. Final adjustments to O&M manuals and Record Drawings due to testing are also completed.

3.8 COMMISSIONING PLAN

A. Commissioning Authority has prepared the Commissioning Plan:
1. Attend meetings called by the Commissioning Authority for purposes of completing the commissioning plan.

2. Required attendance and participation of relevant subcontractors, installers, suppliers, and manufacturer representatives.

B. General Contractor is responsible for compliance with the Commissioning Plan

C. Commissioning Plan: The commissioning schedule, procedures, and coordination requirements for all parties in the commissioning process.

D. Commissioning Schedule:
1. Submit anticipated dates of startup of each item of equipment and system to Commissioning Authority within 60 days after award of Contract.

a. Re-submit anticipated startup dates monthly, but not less than 4 weeks prior to startup.
b. Prefunctional Checklists and Functional Tests are to be preformed in sequence from components, to subsystem, to systems.
c. Provide sufficient notice to Commissioning Authority for delivery of relevant Checklists and Functional Test procedures, to avoid delay.

3.9 STARTUP PLANS AND REPORTS

A. Startup Plans: For each item of equipment and system for which the manufacturer provides a startup plan, submit the plan not less than 8 weeks prior to startup.

B. Startup Reports: For each item of equipment and system for which the manufacturer provides a startup checklist (or startup plan for field checkout sheet), document compliance by submitting the completed startup checklist prior to startup, signed and dated by responsible entry.

C. Submit directly to the Commissioning Authority.

3.10 PREFUNCTIONAL CHECKLISTS

A. A Prefunctional Checklist is required to be filled out for each item of equipment or other assembly specified to be commissioned:

1. No sampling of identical or near-identical items is allowed
2. These checklists do not replace manufacturer's recommended startup checklists, regardless of apparent redundancy.
3. Prefunctional Checklist form will not be completed until after award of the contract; the following types of information will be gathered via the completed Checklist forms:
a. Certification by installing contractor that the unit is properly installed, started up, and operating and ready for Functional Testing.

b. Confirmation of receipt of each shop drawing and commissioning submittal specified, itemized by unit.
c. Manufactured, model number, and relevant capacity information; list information; “as specified,” “as submitted,” and “as installed.”
d. Serial number of installed unit.
e. List of inspections to be conducted to document proper installation prior to startup and Functional Testing; these will be primarily static inspections and procedures; for equipment and systems may include normal manufacturer’s startup checklist items and minor testing.
f. Sensor and actuator calibration information.

B. General Contractor is ultimately responsible for filling out Prefunctinoal Checklists, after completion of installation and before startup; witnessing by the commissioning Authority is not required unless otherwise specified:

1. Each line-item without deficiency is to be witnessed, initialed, and dated by the actual witness; checklists are not completed until all line items are initialed and dated completed without deficiencies.
2. Checklists with incomplete items may be submitted for approval provided the General Contractor attests that incomplete items do not preclude the performance of safe and reliable Functional Testing; re-submission of the Checklist is required upon completion of remaining items.
3. Individual Checklists may contain line items that are the responsibility of more than one installer; General Contractor shall assign responsibility to appropriate installers or subcontractors,with identification recorded on the form.
4. If any Checklist line item is not relevant, record reasons on the form.
5. General Contractor may independently perform startup inspections and/or tests, at his option; see Section 017500 for additional general startup requirements.
6. Regardless of these reporting requirements, General Contractor is responsible for correct startup and operation.
7. Submit completed Checklists to Commissioning Authority within two days of completion.

C. Commissioning Authority is responsible for furnishing the Prefunctional Checklist to General Contractor:

1. Initial Drafts: General Contractor is responsible for initial draft of Prefunctional Checklists where so indicated in the Contract Documents.

2. Provide all additional information request by Commissioning Authority to ad in preparation of checklists, such as shop drawing submittal, manufacturers’ startup checklists, and O&M data.

3. Commissioning authority may add any relevant items deemed necessary regardless of whether they are explicitly mentioned in the Contract Documents or not.

4. When asked to review the proposed Checklist, do so in a timely manner.

D. Commissioning Authority Witnessing: Required for:

1. Each piece of primary equipment, unless sampling of multiple similar units is allowed by the commissioning plan.

2. A sampling of non-primary equipment, as allowed by the commissioning plan.

E. Deficiencies: Correct deficiencies and re-inspected or re-test, as applicable, at no extra cost to Owner:
1. If difficulty in correction would delay progress, report deficiency to the Commissioning Authority immediately.

3.11 FUNCTIONAL TESTS

A. A Functional Test is required for each item of equipment, system, or other assembly specified to be commissioned, unless sampling of multiple identical or near-identical units is allowed by the final test procedures.

B. General Contractor is ultimately responsible for execution of required Functional Tests, after completion of Prefunctional Checklist and before closeout.

C. Commissioning Authority is responsible for witnessing and reporting results of Functional Tests, including preparation and completion of forms for that purpose.

D. General Contractor is responsible for correction of deficiencies and re-testing at no extra cost to Owner; if a deficiency is not corrected and re-tested immediately, the Commissioning Authority will document the deficiency and the General Contractor's stated intentions regarding correction:

1. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents or does not perform properly.
2. When the deficiency has been corrected, the General Contractor completes the form certifying that the item is ready to be re-tested and returns the form to the Commissioning Authority; the Commissioning Authority will reschedule the test and the General Contractor re-test.
3. Identical or Near-Identical Items: If 10 percent, or three, whichever is greater, of identical or near-identical items fail to perform due to material

or manufacturing defect, all items will be considered defective; provide a proposal for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.

4. General contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing.
5. General Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing if the test failed due to failure to execute the relevant Prefunctional Checklist correctly; if the test failed for reasons that would not have been identified in the Prefunctional Checklist correctly; if the test failed for reasons that would not have been identified in the Prefunctional Checklist process, General Contractor shall bear the cost of the second and subsequent re-test.

E. Functional Test Procedures:

1. Some test procedures are included in the Contract Documents; where Functional Test procedures are not included in the Contract Documents, test procedures will be determined by the Commissioning Authority with input by and coordination with General Contractor.

2. Examples of Functional Testing:
   a. Test the dynamic function and operation of equipment and systems (rather than just components) using manual (Direct observation) or monitoring methods under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint).
   b. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc.

   c. Systems are run through all the HVAC control system's sequences of operation and components are verified to be responding as the sequence's state.

   d. Traditional air or water test and balancing (TAB) is not Functional Testing; spot checking of TAB by demonstration to the Commissioning Authority is Functional Testing.

F. Deferred Functional Tests: Some tests may need to be performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions; performance of these tests remains the General Contractor's responsibility regardless of timing.

3.12 TEST PROCEDURE - GENERAL

A. Provide skilled technicians to execute starting of equipment and to execute the functional Tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary test, adjustments and problem-solving.

B. Provide all necessary materials and system modifications required to produce the flows, pressures, temperatures, and condition as necessary to execute the test according to the specified conditions. At completion of the test, return all affected equipment and systems to their pre-test condition.

C. Sampling: Where Functional Testing of fewer than the total number of multiple identical or near-identical items is explicitly permitted, perform sampling as follows:
   1. Identical Units: Defined as units with same application and sequence of operation; only minor size of capacity difference.
   2. Sampling is not allowed for:
      a. Major equipment.
      b. Life-safety-critical equipment.
      c. Prefunctional Checklist execution.
   3. XX= the percent of the group of identical equipment to be included in each sample; defined for specific type of equipment.
   4. YY= the percent of the sample that if failed will require another sample to be tested; defined for specific type of equipment.
   5. Randomly test at least XX percent of each group of identical equipment, but not less than three units. This constitutes the “First Sample”.
   6. If YY percent of the units in the first sample fail, test another XX percent of the remaining identical units.
   7. If YY percent of the units in the second sample fail, test all remaining identical units.
   8. If frequent failures occur, resulting in more troubleshooting than testing, the Commissioning Authority may stop the testing and require General Contractor to perform and document a checkout of the remaining units prior to continuing testing.

D. Manual Testing: Use hand- held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the “observation”).

E. Simulating Conditions: Artificially create the necessary condition for the purpose of testing the response of a system; for example, apply hot air to a space sensor using a hair dryer to see the response in a VAV box.

F. Simulating Signals: Disconnect the sensor and use a signal generator to send an amperage, resistance or pressure to the transducer and control system to simulate the sensor value.

G. Over-Writing Values: Change the sensor value known to the control system in the control system to see the response of the system; for example, change the outside air temperature value from 50 degrees F to 75 degrees F to verify economizer operation.

H. Indirect Indicators: Remote indicators of a response of condition, such as a reading from a control system screen reporting a damper to be 100 percent closed, are considered indirect indicators.

I. Monitoring: Record parameters (flow, current, status, pressure, etc.) of equipment operating using dataloggers of the trending capabilities of the relevant control systems; where monitoring of specific points is called for in functional Test Procedures:

1. All points that are monitored by the relevant control system shall be trended by General Contractor; at the Commissioning Authority's request, General Contractor shall trend up to 20 percent more points than specified at no extra charge.
2. Other points will be monitored by the Commissioning Authority using dataloggers.
3. At the option of the commissioning authority, some control system monitoring may be replaced with datalogger monitoring.
4. Provide hard copies of monitored data in columnar format with time down left column and at least 5 columns of point values on same page.
5. Graphical output is desirable and is required for all output if the system can produce it.
6. Monitoring may be used to augment manual testing.

3.13 OPERATION AND MAINTENANCE MANUALS

A. See Section 01780 for additional requirements.

B. Add design intent documentation furnished by Architect to manuals prior to submission to Owner.

C. Submit manuals related to items that were commissioned to Commissioning authority for review; make changes recommended by Commissioning Authority.

D. Commissioning Authority will add commissioning records to manuals after submission to Owner.

3.14 SUMMARY TABLE OF RESPONSIBILITIES

Activity		Commissioning Authority (CA)	Contractor (C) (CxC) and Subcontractors, including Manufacturer Reps/Vendors	Owner (OTS) Owner's Technical Staff	Design Professionals (A/E) Architect/ Engineers	Sub-Contractor (Sub's)
1.	Commissioning Plan	Writes and manages the commissioning plan. Review and comment	Reviews plan for understanding and scope issues.	Reviews and accepts.	May review and comment.	Reviews and comments.
2.	Construction Submittals of commissioned equipment and assemblies	Reviews for information to inform functional testing	Reviews for compliance with specification and submits to A, OTS and CA for review.	Reviews CA and A comments, and reviews selected submittals.	Reviews CA comments, incorporates with their own comments and submits to (C).	Provides submittal material to (C).
3.	Controls Integration Meetings	Fully participates.	Works with A/E and Sub's with support from CA.	May participate	May participate in meeting that deal with design issues upon Owner Request via executed SSA.	Work with C and support from CA.
4.	Prefunctional Checklists, Tests and Startup forms	Develops based on information provided by A/E	Reviews for scope issues.	May review with CA.	None.	Reviews for scope issues.
5.	Construction Startup and Checkout Plan	Reviews and approves.	Develops by combining prefunctional checklists, tests and startup forms and manufacturer data.	May review with CA.	None.	Per scope of contract.
6.	Prefunctional Checklists Execution.	Spot checks selected items. Reviews completed forms.	Assists DBC with format and checkout. Reviews completed forms.	Spot checks selected items. Reviews completed forms.	None.	Works with C to execute the checklists.
7.	Startup	Witnesses major equipment or systems. Reviews completed forms.	Coordinates tasks and schedules with Subcontractors.	Observes selected systems.	May witness selected systems upon Owner request via executed SSA.	Works with C to coordinates tasks and schedules with Subcontractors.
8.	Construction Observation	Some observation of critical systems and issues.	Observes to ensure Sub-contractors are executing accepted installation and startup plans.	Periodic walk-through. Reports findings to CA and C.	Per scope of contract.	Works with C to observe and ensure Subcontractors are executing accepted installation and startup plans.
9.	Management and Keeper of Issues Log	Manages, develops and keeps updated	Uses log to address issues.	Reviews and provides input to CA.	None (but may add all open issues to their punch list near end of construction).	Uses log to address issues.

Activity		Commissioning Authority (CA)	Contractor (C) (CxC) and Subcontractors, including Manufacturer Reps/Vendors	Owner (OTS) Owner's Technical Staff	Design Professionals (A/E) Architect/ Engineers	Sub-Contractor (Sub's)
10.	Commissioning Meetings	Plans, conducts and takes and distributes minutes for regular commissioning meetings.	Attends commissioning meetings.	Attends commissioning meetings.	May attend selected commissioning meetings upon Owner request via executed SSA.	Attends selected commissioning meetings
11.	Functional Performance Test Procedure Development	Writes procedures for all tests, except regulated tests such as fire alarm, fire suppression, elevators and electrical tests.	Reviews for safety, warranty and scope.	May review.	None.	Reviews for safety, warranty and scope.
12.	Test Plan (process, schedule and sequencing)	Develops plan with input from C and Sub's.	Reviews and accepts.	May review.	None.	Reviews and accepts.
13.	Functional Performance Test Execution	Oversees and witnesses all tests and documents testing.	Helps execute testing.	May participate in selected tests.	May review design issues upon Owner request via executed SSA.	Executes testing with help of C.
14.	Test and Balance (TAB) of Air and Water Systems	Reviews and comments to C, A/E .	Assists TAB contractor in documenting per project contract, and will help resolve issues, if any. Approves final results.	May review.	May help resolve issues, if any, upon Owner request via executed SSA..	Executes and documents per project contract, and will help resolve issues, if any. Approves final results.
15.	O&M Manuals	Reviews for clarity, usability and completeness. Comments to Owner.	Works with Sub's to develop O&M Manual and submits to A.	Reviews and comments. Resolves issues on comments from reviewer. Provides final direction to C.	Submittal review per CO scope.	Works with C to develop O&M Manual and submits to A.
16.	Systems Manual	Receives some data from C, develops other required data and compiles into manual.	Provides specified data and information and submits to CA.	Provides Owner objectives / design intent. Assists in initial outline and reviews / comments on final.	Submittal review per CO scope.	Works with C to provide specified data and information.
17.	Training	Coordinates with Owner regarding functional testing as hands-on training for OTS	Assists in training agenda. Works with Sub's to implement training agendas.	Receives training.	None	Works with C to develop and fill in training agendas. Executes training.

Activity		Commissioning Authority (CA)	Contractor (C) (CxC) and Subcontractors, including Manufacturer Reps/Vendors	Owner (OTS) Owner's Technical Staff	Design Professionals (A/E) Architect/ Engineers	Sub-Contractor (Sub's)
18.	Scheduling	Reviews the Contractor's schedule for commissioning activities. Provides input. Notifies Owner of concerns.	Works with Sub's to control the schedule.	May review.	None	Works with C to control the schedule.
19.	As-Built / Redlines	May check to see that C / DBC are keeping redlines updated.	Develops and submits to A per their scope.	Reviews and accept redlines.	Submittal review per CO scope.	Develops and submits to C per their scope.
20.	Commissioning Report	Compiles and submits to Owner.	None.	Accepts Report.	Submittal review per CO scope.	None.
21.	Seasonal and Deferred Testing	Same as for functional testing.	Same as for functional testing. Schedules testing with OTS.	Same as for functional testing. Works with C to schedule.	None	Works with C to help perform functional testing.

* * *

SECTION 02 4113
SITE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Demolition and removal as indicated on Drawings and as required to accommodate new work, including, but not limited to:

1. Saw-cutting and removal of asphalt concrete, concrete paving and footings.
2. Removal and capping of existing underground utilities.
3. Existing selective vegetation removal
4. Fencing/Gating and associated footings removal and/or adjustments
5. Protection of existing elements and landscape to remain
6. Temporary partitions and barricades
7. Removal of items noted on plans

B. Salvage of existing materials, products, and equipment as indicated on Drawings.

C. Provide the County with an existing tree protection plan, and temporary tree irrigation plan for approval prior to the start of demolition.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Division 31 Section "Site Clearing".

B. Division 31 Section "Grading".

C. Division 31 Section "Excavation and Fill for Utilities".

D. Division 31 Section "Excavation and Fill for Structures".

E. Division 32 Section "Asphalt Concrete Paving".

F. Division 32 Section "Site Concrete Work".

G. Division 32 Section “Irrigation”

H. Division 32 Section “Planting”

1.4 PROJECT CONDITIONS

A. Dust control:

1. Use all means necessary to prevent spread of dust during performance of work. Thoroughly allay dust at all times.
2. Use of reclaimed water shall conform to requirements and guidelines of governing health authorities and be specifically approved by County Representative.

B. Burning on-site: Not permitted.

1.5 PROTECTION

A. A. Barricades: Furnish and install a minimum 6' high construction fence to protect public and workmen. Fence shall enclose entire construction area and shall be left in place until removed by contractor after completion of construction.

B. Warning Signs: Adequate warning signs, lanterns, lighting, etc. for vehicular and personnel protection shall be provided and maintained during the period of work as required by applicable safety ordinances.

C. Utilities: preserve in operating condition, unless otherwise noted, all active utilities traversing project site. Repair damage to such utilities caused by work under this contract to satisfaction of owning utility company or agency.

D. Existing work to remain: Provide such forms of protection as may be necessary to prevent damage to existing work and items to remain.

1.6 SITE UTILIZATION

A. Confining of activities: Confine operations to areas indicated within Limit of Work.

B. Traffic and site entry: Confine equipment and employee traffic pattern to designated entry or exit gates as directed by the County Representative.

C. Storage area: Equipment and materials shall be stored on the site or in a secured storage area as designated by the County Representative.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Provide materials, equipment, shoring, and appurtenances of every kind required for completion of demolition work, including barricades, handrails, and waste receptacles.

B. Explosives: Not permitted.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces for conditions that will adversely affect execution, permanence, and quality of work.

B. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Job site examination:

1. Prior to commencing work, examine entire job site for objects designated to be removed and protected, and limits of demolition.
2. Locate existing active utility lines and provide for their protection.

B. Clarification:

1. Drawings do not indicate all objects existing on job site.

2. Before commencing work, verify with Owner which objects are to be removed by Contractor, which objects are to be removed by Owner, and which objects are to be preserved.

C. Scheduling: Contractor to avoid interference with use of, and passage to and from, adjacent buildings and facilities. Contractor to avoid interference with use of the public sidewalk and street traveled way.

D. Protection of utilities:

1. Preserve and maintain in operating condition all active utilities traversing site. Reroute, or remove and cap those which interfere with work of this Project. Coordinate extent of work with County Representative.
2. Expeditiously repair damaged utilities at no cost to County.

E. Protection of flora:

1. Construct a physical barrier between existing flora to remain and area of new construction. See Tree Protection notes on planting plans and in specifications.
2. Protect existing trees, not otherwise indicated to be removed, against unnecessary cutting, or breaking, skinning, bruising of bark. All trees to remain are required to have a protective fence around the tree at the drip line. Smothering of trees with stockpiled building materials or excavated materials within the drip line is not allowed. Pedestrian or vehicular traffic and parking of vehicles within drip line is not allowed.
3. Refer to Tree Protection Notes on Planting Plans.

3.3 DEMOLITION AND REMOVAL

A. Demolition and removal of materials shall be by skilled and properly equipped workers. Materials and equipment to be salvaged shall be removed under the direction of or by crafts persons who would normally install such items.

B. Cut concrete and asphalt concrete slabs, walks, pavement, and curbs with a concrete saw to a 2-inch depth along all joint lines before breaking out the portion to be removed.

C. Demolish and remove all foundations, walls, concrete slabs, asphalt concrete pavement, footings and other items designated for removal, or which are necessary to be removed to make way for new construction work.

D. Tree Removal:

1. Within working limits of this contract remove all trees indicated by symbol or noted on plans to be removed. Remove trees, together with the bulk of roots, to a minimum depth of 4′ - 0″ below existing grade and within a radius of 7′-0″ beyond perimeter of trunk at ground line. Tree removal shall be the first work performed upon job start.

2. Holes resulting from tree removal shall be filled and compacted with clean earth to the required density as specified for filling under sections “Grading” and “Earthwork for Structures”. Filling shall not be done until holes have been approved by the County representative.

3.4 SALVAGE

A. All materials removed shall become the property of Contractor to dispose of or salvage, with the exception of items designated on Drawings to be subsequently reinstalled or

returned to County or items "tagged" as salvage for return to County and not previously removed by County.

B. Identify (tag or similarly mark indelibly in an inconspicuous location) each salvage item, including detached component parts, with an extensive description of salvage item or component part's use, installed location, date of removal, and similar pertinent information as may be required for reinstallation or future reference by County. For salvage items not reinstalled in the Work, box, package or otherwise protect, and transport to County-designated locations.

C. Dispose of all materials.

D. Do not sell salvage materials to the general public at job site. This shall not preclude sale to and removal from job site of salvage materials to duly licensed salvage companies.

E. Temporarily store removed materials for subsequent reinstallation at confined areas designated by County Representative. Carefully handle removed materials to prevent damage to areas outside immediate locations of the Work.

3.5 DISPOSAL

A. Except as specified otherwise, load debris resulting from demolition and removal as it accumulates, haul away from site promptly, and dispose of in a legal manner.

B. Prevent debris from migrating outside of construction areas. Use County-approved methods and materials to confine debris to construction areas. Failure to contain demolition debris is not permitted.

C. In lieu of disposal off-site, asphalt concrete paving debris, resulting from the work of this Project only, may be crushed for limited use as recycled fill and asphalt concrete paving base course materials as specified in Division 31 Section "Grading" and Division 32 Section "Asphalt Concrete Paving". Imported asphalt concrete debris may not be broken, crushed, or otherwise processed on-site nor added to on-site asphalt concrete paving debris. Asphalt concrete paving debris used as recycled fill and asphalt concrete paving base course materials shall conform to SSPWC Section 200-2.4, except as follows:

1. Gradation shall conform to Fine Gradation per Table 200-2.4.2 (A).
2. Permission for on-site crushing operations is at County discretion. Where on-site crushing is permitted, conform to County noise and dust control requirements, including scheduling of crushing operations.
3. Additionally, perform tests and submit records of test results for crushed asphalt concrete paving used as recycled fill materials in accord with SSPWC Section 203-7.2.2.

D. No soil is to be removed from site per US Army Corps of Engineers direction. Accommodate all soil on site under the direction of Project Manager.

- END OF SECTION-

SECTION 033000
CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Provide formwork, reinforcement, and cast-in-place concrete as indicated and specified, complete. Except as otherwise specified, cast all concrete in fabricated wood forms

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Geotechnical Report.

B. Division 31 Section “Site Clearing”.

C. Division 31 Section "Grading".

D. Division 32 Section "Asphalt Concrete Paving".

E. Division 32 Section "Site Concrete Work".

F. Precast concrete and other use concrete specified as part of Division 22, Division 23 and Division 26.

1.03 DEFINITIONS

A. Slip resistance: Slip index of not less than 0.5 when tested dry and wet (with an unbroken film of pure water) in accord with ASTM F 1677 or ASTM F 1679, using a Neolite test pad.

1.04 QUALITY ASSURANCE

A. Geotechnical data: Refer to Geotechnical Report.

B. Allowable tolerances: Except as specified hereinafter, flatwork in conformance with specified tolerances of ACI 302.1, for intended usages; other surfaces in accord with ACI 117.

C. Tests and inspections:

1. Testing laboratory services: Refer to Division 01 Sections.
2. Soil bearing and compaction:

a. Test methods:

1) Maximum dry density of backfill materials shall be determined by ASTM D 1557, Procedure A.
2) Field density tests shall be determined by ASTM D 1556, ASTM D 2922, or ASTM D 2937.

b. Required tests:

1) Backfill material: Determine suitability of backfill material not previously evaluated.
2) Maximum density tests: Determine optimum moisture content and maximum dry density of backfill materials placed and compacted.
3) Field density tests: Determine in-place density of backfill materials placed and compacted. one test for every 1000 cubic yard of material placed and one test for each 1 foot vertical lift.
4) Other tests as may be required by Owner.

c. Required inspections:

1) Excavation inspection: Detailed inspection of exposed excavations prior to placing backfill material.
2) Placement and compaction inspection: Continuous inspection and monitoring.

3. Concrete: In accord with SSPWC Section 201-1.1.4 and as specified herein.

a. Portland cement: Furnish cement mill test reports and manufacturer's certification that cement complies with specification requirements.
b. Required tests:

1) Aggregate:

a) Hardrock aggregate: Test in accord with ASTM C 33.
b) Do not deliver aggregates to site or ready-mix plant until pit source has been approved, and plant, capacity, and ability to produce a uniform and continuous product has been verified.
c) Take samples from aggregate stockpiles assigned to project.

2) Slump tests: Make one slump test in accord with ASTM C 143 for each set of test cylinders: Make additional tests as may be ordered by Owner.

a) Make and keep an accurate record of all tests.
b) Maximum slumps: As specified hereinafter.

3) Test cylinders: Take one sample of four cylinders from each day's placement of 100 cubic yards or fractional part thereof of each mix design in accord with ASTM C 172. Take samples at evenly spaced intervals as concrete is deposited in forms. Mark cylinders with date, sample number,

and location in structure from which sample was taken. Do not take more than one sample of four cylinders from any location or batch of concrete.

a) Make and store cylinders in accord with ASTM C 31.
b) Curing: At the end of 24 hours, take cylinders to laboratory and store under moist curing conditions at approximately 70°F until tested.
c) Testing: Test cylinders in accord with ASTM C 39. Test one cylinder at age of 7 days for information and two cylinders at 28 days for acceptance. Maintain one cylinder in reserve.
d) Seven-day strength: Not less than 60 percent of specified ultimate 28-day strength.
e) Mix adjustment: Should test results indicate concrete strength below specified 7-day or 28-day minimum requirements, decrease water/cement ratio and adjust mix proportions as necessary to achieve specified minimum strengths.
f) Concrete failures: Should test results indicate that concrete strength requirements for any portion of work does not conform to 28-day minimum requirements, secure core or prism specimens of hardened concrete and test in accord with ACI 301 and ASTM C 42.
g) Laboratory shall secure and test specimens under Owner's direction.

c. Ready-mix plant inspections:
1) Certification: Provide batch tickets signed by dispatcher and testing laboratory inspector at ready-mix plant. Each batch ticket shall state batch quantities of cement, water, fine aggregates, coarse aggregates, and admixture contained in each truck load.
2) Deliver to Owner's representative on job site a properly signed ticket with each load of ready-mix concrete.

4. Reinforcing steel:

a. Submit to laboratory copies of mill certificates for all types, sizes, and heats of reinforcing steel intended for use in the work. Include the following information:

a) Source of steel.
b) Description.
c) Heat number.
d) Yield point.
e) Ultimate tensile strength.
f) Elongation percentage in 8 in. length.
g) Bend test results.
h) Chemical analysis, including carbon equivalent (CE) of ASTM A 615 bars to be welded.

5. Payment:

a. Owner will pay all costs for all tests and inspections except retests and reinspections required because of failures.
b. All costs incurred for retests and reinspections required because of failure of original tests will be paid by Contractor.

D. Reference specifications and standards:

1. ACI: 301 Specifications for Structural Concrete for Buildings.
2. ACI: 305 Hot Weather Concreting.
3. ACI: 306 Cold Weather Concreting.
4. ASTM: A 370 Mechanical Testing of Steel Products.
5. ASTM: A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
6. ASTM: C 31 Making and Curing Concrete Test Specimens in the Field.
7. ASTM: C 33 Concrete Aggregates.
8. ASTM: C 39 Compressive Strength of Cylindrical Concrete Specimens.
9. ASTM: C 42 Drilled Cores and Sawed Beams of Concrete, Obtaining and Testing.
10. ASTM: C 143 Slump of Hydraulic Cement Concrete.
11. ASTM: C 172 Sampling Freshly Mixed Concrete.
12. ASTM: C 1107 Packaged Dry, Hydraulic-Cement Grout (Non-Shrink).
13. ASTM: D 1556 Density of Soil in Place by the Sand-Cone Method.
14. ASTM: D 1557 Moisture-Density Relations of Soils Using 10 lb. Rammer and 18 in. Drop.
15. ASTM: D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
16. ASTM: D 2937 Density of Soil In-Place by the Drive-Cylinder Method.
17. ASTM: E 1155 Determining Floor Flatness and Levelness Using the F-Number System
18. ASTM: F 609 Using a Horizontal Pull Slipmeter (HPS).
19. ASTM: F 1677 Using a Portable Inclineable Articulated Strut Slip Tester, (PIAST).
20. ASTM: F 1679 Using a Variable Incidence Tribometer, (VIT).
21. SSPWC: Standard Specifications for Public Works Construction ("Green Book").

1.05 SUBMITTALS

A. Procedure: In accordance with Division 01 Sections.

B. Shop drawings: Shop drawings - reinforcing steel: Detailed fabrication, bending, and placement drawings and schedules.
1. Comply with ACI 315 and CRSI MSP-1.
2. Include bar schedules, stirrup spacing, diagrams of bent bars, assemblies, and any other pertinent data required for fabrication and placement.

C. Manufacturer's detailed technical materials data, including technical bulletins, drawings, guides, and manuals, as applicable to the work of this Project, for the following:

1. Admixtures.
2. Curing materials.

3. Joint materials.
4. Waterstops.
5. Metallic aggregate topping.
6. Nonshrink grout, including test data.

D. Certifications:

1. Cement mill test reports and certification.
2. Admixture certification, including chloride ion content.
3. Ready-mix batch plant tickets.
4. Reinforcing steel mill certifications.
5. Reinforcing steel welder's certifications.

E. Concrete mix designs: Submit, for approval, certified concrete mix designs for initial and any subsequent changes in mix designs.

1.06 PROJECT CONDITIONS

A. Existing conditions:

1. Do not conceal or cover any work until required tests and inspections have been performed and accepted.
2. Do not fabricate items which require fitting to other building elements or into building spaces, until dimensions have been verified at the site.

B. Environmental requirements: Unless otherwise recommended by product or system manufacturer or reference specifications or standards, conform to the following:

1. Do not place concrete when the ambient temperature is 35°F or lower or is expected to go below that temperature within 24 hours.
2. Do not place concrete during rain that will cause surface damage to concrete.
3. Hot weather concreting procedures: In accord with ACI 305.
4. Cold weather concreting procedures: In accord with ACI 306.

C. Traffic control:

1. Maintain vehicular and pedestrian traffic control during concrete operations.
2. Provide flagmen, barricades, warning signs, and warning lights for movement of traffic and safety, and to cause the least interruption of work.

PART 2 - PRODUCTS

2.01 MATERIALS - FORMWORK

A. General: Conformance with ACI 347 and ACI SP-4.

B. Lumber:
   1. Softwood lumber: In accord with WCLIB, WWPA, or other grading rules agency listed in NIST PS 20. Moisture content of 19% or less.
   2. Light framing or studs for board or plywood forms: 2 in. to 4 in. and larger in nominal width and thickness. Construction grade.
   3. Boards for basic forms and form liners: Construction grade.
   4. Board pattern: Square edge.
   5. Board surface: Surfaced four sides (S4S).
   6. Select form lumber for freedom from cupping, warping, large or loose knots, and from any other imperfections which might produce objectionable (in opinion of Owner) defects in exposed finished concrete surfaces.

C. Plywood: In accord with NIST PS 1.
   1. For exposed concrete surfaces: High Density Overlay, Class I Exterior, APA stamped, 5/8 in. thick minimum.
   2. All other locations: B-B Plyform, Class I Exterior, APA stamped, 5/8 in. thick minimum.

D. Round column forms: Single-use fiber tubes.
   1. With integral plastic liner: SmoothTube by Burke Chemicals.
   2. With sprayed epoxy/sand finish: Sonotube Smooth by Sonoco.

E. Chamfer strips: 3/4 in. diagonal face, wood or PVC strips.

F. Ties: Carbon steel tie rods with a minimum breakback depth of 1 in., and a maximum cone dia. of 1-1/4 in. Provide stainless steel ties for exterior surfaces exposed to view.

G. Form coatings: Nonstaining clear coating which does not contain oil or wax and will not prevent proper adhesion of applied finishes. Provide equivalent water-based/VOC-compliant versions where required by governing air quality regulations.
   1. Aquaform by Tamms Industries (A.C. Horn).
   2. Spectrum Release WB by Burke.
   3. Magic Kote E by Symons.
   4. Cast-Off WB by Sonneborn Building Products.
   5. Duogard II by W.R. Meadows, Inc.

H. Joint filler for exposed concrete surfaces: Paste wood filler equivalent to Plastic Wood or Wood Dough, or one-part silicone rubber sealant as specified in Section 07920.

I. Pressure sensitive tape: 3M or equivalent, polyurethane- or mylar-faced, adhesive-backed paper tape, 1 in. wide. Use for formwork joints.

J. Styrofoam separation board: Standard expanded polystyrene.

2.02 MATERIALS – REINFORCMENT

A. Reinforcing steel: Deformed, new billet steel conforming to ASTM A615. Provide grades as noted on Drawings. Where not indicated, provide Grade 60.

B. Reinforcing mesh: ASTM A185. Welded steel wire fabric with fiber yield strength (Fy) of 60,000 psi. Provide mesh in flat sheets only. Mesh in rolls are not acceptable.

C. Wire: ASTM A82. Smooth for tying reinforcement.

D. Supports for reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.
   1. Use wire bar type supports complying with CRSI MSP 1, Chapter 3, unless otherwise indicated.
   2. Unexposed concrete: Bar supports and spacers of standard bright basic wire with upturned legs.
   3. For slabs on grade, use precast concrete "Dobies" with embedded wire ties.
   4. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with plastic protected legs, CRSI Class C.
   5. Over waterproof membrane and vapor barriers, use precast concrete chairs to prevent puncturing of membrane.
   6. Do not use wood, brick, or other non-specified materials.

2.03 MATERIALS - CONCRETE

A. Portland cement: ASTM C150, Type I or II, containing not more than 0.6% total alkali when calculated as sodium oxide as described in ASTM C114. Provide from one source.
   1. Do not change brand of cement during progress of work unless directed otherwise in writing by Owner.
   2. Store in suitable silos and protect from dampness and contamination.

B. Fine aggregate - hardrock: ASTM C33, consisting of washed sand having hard, strong, durable particles which do not contain more than 1% by weight of such deleterious substances as clay lumps, shale, schist, alkali, mica, coated grains, or soft and flaky particles.

C. Coarse aggregate (natural stone): ASTM C33, consisting of clean, hard, fine-grained, sound, washed gravel, with not to exceed 35% of crushed rock over 1/2 in. in size, and which does not contain in excess of 5% by weight of flat, chip-like, thin, elongated, friable or laminated pieces, or more than 1% by weight of shale or cherty material. Pieces having a major dimension in excess of 2-1/2 times the average thickness are considered flat or elongated.
   1. Provide gradation and maximum aggregate size consistent with 1) workability and uniformity of concrete necessary, 2) size and shape of concrete members, and 3) quantity, size, and spacing of reinforcement.
   2. Store and measure each size aggregate separately.

D. Expansion joint filler: Premolded type, conforming to ASTM D1751.

E. Water: Clean and potable; free from deleterious amounts of acids, alkalis, salts and organic matter. Conform to ASTM C94.

2.04 MATERIALS - FINISHING AND CURING:

A. Liquid bonding agent:
   1. For exterior and other locations subject to water immersion, moisture or high humidity: Nonrewettable, nonredispersible or nonreemulsifible styrene butadiene or acrylic latex emulsion bonding agent conforming to ASTM C1059, Type II.
      a. Flex-Con or SBR Latex by Euclid Chemical Co.
      b. Hornbond by Tamms Industries (A.C. Horn).
      c. Admix 101 by Larsen Products Corp.
      d. Sonocrete by Sonneborn Building Products.
      e. Intralock 1059 by W.R. Meadows, Inc.

B. Evaporation reducer/retardant and finishing aid:
   1. Euco-Bar by Euclid Chemical Co.
   2. Confilm by Master Builders, Inc.
   3. SikaFilm by Sika Corporation.
   4. Sealtight Evapre by W.R. Meadows, Inc.

C. Curing and protection paper:
   1. Concrete scheduled to receive subsequent coverings: Reinforced, laminated Kraft curing and protection paper, Orange Label Sisalkraft by Fortifiber Corporation or Owner-approved equivalent complying with ASTM C171.
   2. Exposed concrete: Non-staining, reinforced laminated kraft protection paper Seekure 892, by Fortifiber Corporation or other Owner-approved equivalent. Papers with polyethylene films are not acceptable.

D. Liquid curing, hardening, dustproofing, and sealing compounds:
   1. Membrane-forming curing compound: Clear (without fugitive dyes), 100% resin-based (without waxes), dissipating type conforming to ASTM C309, Type 1, Class B. Provide equivalent water-based VOC-compliant versions where required by governing air quality regulations.
      a. Kurez VOX by Euclid Chemical Co.
      b. Hydrocide Curing Compound by Sonneborn Building Products.
      c. Horncure 100 by Tamms Industries.
      d. 3100 Clear by W.R. Meadows, Inc.
   2. Membrane-forming curing, dustproofing, and sealing compound: Acrylic polymer based, nondissipating type with approximately 12% to 15% solids conforming to ASTM C309, Type 1, Class B. Provide equivalent water-based VOC-compliant versions where required by governing air quality regulations.
      a. Sikagard Cure/Hard by Sika Chemical Co.
      b. Kure-N-Seal by Sonneborn Building Products.
      c. Horn Clear Seal Gloss and Seal (W/B) by Tamms Industries.]
      d. VOCOMP-20 by W.R. Meadows, Inc.]
   3. Chemically-reactive curing and hardening compound: Silicate based penetrating type.
      a. Acuricon by AntiHydro International, Inc.
      b. Ashford Formula by Curecrete Chemical Co.

c. Eucosil by Euclid Chemical Co.
d. Sonosil by Sonneborn Building Products.
e. Horn W.B. 309 by Tamms Industries.
f. Liqui-Hard by W.R. Meadows, Inc.

2.05 FABRICATION - REINFORCEMENT

A. Bend and fabricate reinforcing bars to conform with required shapes and dimensions indicated on Drawings and in accord with ACI 315 and 318. Comply with fabrication tolerances of reference standards.
1. In case of fabricating errors, do not rebend or straighten reinforcement.
2. Make all bends cold. Exception: Heating of bars for field bending is permitted in accord with CRSI MSP 1.

2.06 MIXES - CONCRETE

A. Mix proportioning: Use only mix designs previously approved by Owner.
1. Provide concrete which will develop ultimate compressive strength at 28 days equal to that noted on Drawings.
2. Use 3000 psi concrete for any portion not otherwise noted on Drawings.

B. Entrained air: Design all concrete which will be exposed to water or air to contain 3% to 5% air.

C. Slump:
1. Footings: 3 in. ± 1 in.
2. Walls, curbs, and other members 8 in. and less in thickness: 4-1/2 in. ±1-1/2 in.
3. Walls, curbs, and other members greater than 8 in. thick: 4 in. ±1 in.

D. Water/cement ratio: Not to exceed 0.50.

2.07 MIXES - NONSTRUCTURAL GROUT AND DRYPACK

A. Non-structural grout: Mix 1 part Portland cement 2-1/2 to 3 parts fine aggregate, and enough water for required consistency. Depending on use, consistency may range from mortar consistency to a mixture that will flow under its own weight. Do not mix more than can be used in 30 min.. Retempering is not permitted. Use for leveling, preparing setting pads, beds, or construction joints, filling nonstructural voids, and similar uses. Do not use for grouting under bearing plates or structural members in place.

B. Drypack: Mix 1 part Portland cement, 2 parts fine aggregate, and enough water to hydrate cement and provide a mixture that can be molded with the hands into a stable ball (a stiff mix). Do not mix more than can be used in 30 min. Use for patching tie holes, honeycomb and large surface defects in concrete.

PART 3 - EXECUTION

3.01 FORMWORK

A. Design: Design formwork in such manner that it will safely support vertical, lateral, static, and dynamic loads which may be applied.
   1. Provide means by which forms settlement may be taken up during concrete placing operations.
   2. Provide support members of adequate strength to prevent deflection.
   3. Provide for inspection and clean-out.
   4. Provide for removal without damage to concrete surfaces.
   5. Design to prevent leakage during concrete placement.

B. Construction:
   1. General: Conform to formwork design recommendations contained in ACI 347 and APA V345. Construct formwork as required to obtain the exact size, shape, line level, alignment, location, elevation and grades, as indicated on Drawings for the finished structure.
      a. Provide for depressions, chases, openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features indicated on Drawings or required for the finished structure.
   2. Fabricate forms for easy removal without hammering or prying against concrete surfaces.
   3. Provide temporary openings where interior area of formwork is inaccessible for clean-out, for inspection before concrete placement, and for placement of concrete.
   4. Provide openings in forms to accommodate work of other trades. Accurately place and securely support items required to be built into the forms.
   5. Forms for exposed concrete: Drill holes in forms to fit ties used. Prevent leakage of concrete around tie holes. Do not drive through undersized or improperly prepared holes.
   6. Corner treatment:
      a. Unless detailed otherwise on Drawings, provide a chamfer on all exposed corners. Miter chamfer strips at all changes in direction.
      b. Corners which will be concealed in the finish work may be formed either square or chamfered, at Contractor's option.
   7. Provision for other trades:
      a. Coordinate formwork design, construction and placement with all trades and other contractors.
      b. Size and location of openings, recesses and chases are the responsibility of the trade requiring such items.
      c. Accurately place and securely support items which are built into forms.
   8. Cleaning and tightening:
      a. Thoroughly clean forms and remove chips, wood, sawdust, dirt or other debris just before concrete is to be placed.

b. Retighten forms immediately before, during or immediately after concrete placement as may be required to eliminate leaks.

C. Coatings: Coat form contact surfaces with form-coating compound before reinforcement is placed. Do not allow excess form coating material to accumulate in forms or to come into contact with surfaces which will be embedded in concrete. Apply in compliance with manufacturer's instructions.

D. Installation of embedded items:
1. General: Provide for setting into formwork all sleeves, inserts, conduit, piping, anchorage devices and other embedded items required for other work that is embedded in, attached to, or supported by, cast-in-place concrete.
   a. Use setting drawings, diagrams, instructions, and directions provided by suppliers of the items to be attached thereto.
   b. Conform to AISC Code of Standard Practice for Steel Buildings and Bridges and following for tolerances of anchor bolts and concrete surfaces supporting steel column bases.
      1) Elevation of concrete surfaces: 3/8 in.
      2) Elevation at top of anchor bolts: +1 in., -3/8 in.
      3) Out-of-position of anchor bolts: 1/8 in.
2. For securing carpentry, gypsum board, and similar items to concrete, provide permanent, embedded nailers of dressed, pressure preservative-treated (in accord with Section 06100), key-beveled lumber, not less than 2x thickness.
3. Edge forms and screed strips for slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in the finished slab surfaces. Provide and secure units to types of screed supports required.
4. Conduits not larger than 3/4 in. I.D. may be placed at the mid-depth of slabs on grade. Set larger conduits in slab such that minimum concrete coverage will be 2 in. all around. Provide scoop-outs below slab as required.

E. Do not install wood of any kind inside forms, either permanent or temporary, except as indicated on Drawings or specified.

F. Form all foundation walls and grade beams. Do not form bottom of grade beams. Loosen earth at bottom of grade beams to a depth of 6 in., and cover with one layer of 15 lb. asphalt saturated roofing felt or vinyl plastic before concrete is placed.

G. Removing forms:
1. Do not disturb or remove forms until concrete has hardened sufficiently to permit their removal with safety.
2. Exercise particular care in removing forms from exposed concrete surfaces to end that such surfaces are not marred or gouged, and that corners are true, sharp and unbroken.

3.02 VAPOR BARRIER

A. Prior to placing concrete in building floor slab areas on grade, cover finish earth subgrade areas with a polyethylene sheeting vapor barrier in accord with ASTM E1643. Lap joints in sheeting a minimum of 6 in. and seal edges with plastic pressure-sensitive tape. Cover sheeting with a 2 in. deep layer of sand.

3.03 STEEL REINFORCEMENT

A. Industry standards: Except as herein specified, or indicated on Drawings, place steel reinforcement in accord with the standard practices and specifications of the Concrete Reinforcing Steel Institute (CRSI) and ACI 318.

B. Slabs on grade:
   1. All slabs on grade shall be reinforced with "shrinkage and temperature reinforcement" in accord with ACI 318
   2. Construction joints: Provide doweled joints consisting of “greased” or otherwise coated, smooth steel bar reinforcement or pre-manufactured dowel sleeves, as specified in Section 03101, placed in formwork.

C. Cleaning: Remove loose rust and mill scale, earth, form oil, or any other foreign materials which could reduce or destroy bond with the cement. Wipe oil from forms before reinforcement is placed on or adjacent thereto so that oil will not be tracked over, or in any way come into contact with the reinforcement.

D. Placing reinforcement:
   1. Place reinforcement bars, wire, and wire fabric of sizes, gauges, lengths and shapes as indicated on Drawings.
   2. Position, support, and secure reinforcement against displacement by moving loads, vibration, or other concrete placement operations.
   3. Adjust locations and/or provide additional reinforcement where required to accommodate embedded items. Maintain minimum 1 in. clearance between reinforcement and embedded items.
   4. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required.
   5. Except where noted otherwise on Drawings, place reinforcement to obtain the following coverages for concrete protection.
      a. Concrete in contact with earth: 3 in.
      b. Concrete in contact with earth, but placed in forms: 2 in.
      c. Walls, weather face: 2 in.
      d. Walls, interior face: 1 in.
      e. Slabs on grade: Place top of reinforcing at 2 in. below top surface of slab.
      f. Exercise care to avoid puncturing the vapor barrier sheeting when placing reinforcing for slabs on grade.

g. Standard reinforcement splices: Lap ends, placing bars in contact, and tightly wire tie. Unless indicated otherwise on Drawings, comply with requirements of ACI 318 for minimum lap for Class B splice.

E. Welded wire fabric: Install welded wire fabric in as long lengths as practical. Edge lap and end lap adjoining pieces at least two full mesh and tie with 16 gauge wire. Offset end laps in adjacent widths by at least six full mesh. Maintain welded wire fabric slab reinforcement in proper position during all concreting operations. Place fabric on top of reinforcement or on chairs or spacers as indicated. Arrange ramps over slabs to avoid traffic directly on fabric during concrete placement.

3.04 CONCRETE

A. Inspection:
1. Ensure that excavations and formwork are completed, and that excess water has been removed from excavations.
2. Verify that steel reinforcements, conduits, outlet boxes, anchors, hangers, sleeves, bolts, expansion joint materials, and other embedded items are in their proper locations, and adequately secured against shifting during placement and consolidation of concrete.

B. Placing concrete:
1. Place concrete immediately after it has been mixed. Concrete which has not been placed in final position in formwork within 1-1/2 hr. after water was first added to batch shall be rejected and removed from site.
2. Before placing any concrete in formwork, thoroughly clean and wash-out forms with water.
3. If earth at bottom of forms has dried-out, re-wet so that soil is moist, but free of standing water and mud.
4. Convey concrete from mixer to final position by methods which will prevent separation or loss of materials.
5. Concrete shall not be dropped freely where reinforcing steel or other obstructions may cause segregation. Maximum height of concrete free fall is 4 ft.
6. Regulate rate of placement so concrete surface is kept level throughout; a minimum being permitted to flow from one area to another. Control rate of placement consistent with form design.
7. Deposit concrete in continuous operation until section being placed has been completed.
8. Do not retemper any concrete, or use any concrete which has stood more than 15 minutes after leaving mixer.

C. Consolidating concrete: Conform to ACI 309.
1. Use mechanical vibrating equipment for consolidation capable of at least 5000 impulses per minute. Be sure an adequate number of operating vibrator units are on-hand to properly consolidate the quantity of concrete to be placed, including spares for emergency use.

2. Vertically insert and remove hand-held vibrators at constant intervals 18 in. apart. Vibrate concrete the minimum amount and time required for complete consolidation (without segregation) and release of entrapped air bubbles, but in no instance exceed 15 sec. per sq. ft. of exposed surface.
3. Do not use vibrators to transport concrete in forms.
4. Use of supplemental hand rodding and tamping is limited to where use of mechanical vibrators is not practical.

D. Construction joints:
1. Upon completion of a formed pour, strike concrete smooth at top of formwork and prepare construction joints to receive next pour, by removing entire surface paste to expose aggregate.
2. Upon completion of a slab pour which will receive subsequent topping or additional concrete, expose aggregate in top surface by brooming in two directions at right angle to each other.
3. Before fresh concrete is deposited against or upon hardened concrete, sand-blast surfaces to remove all encrustations or laitance, exposing clean coarse aggregate firmly embedded in mortar matrix.
4. Dampen hardened concrete surfaces, which will receive fresh concrete, with liquid bonding agent or grout mixture containing liquid bonding admixture.
5. Make construction joints in exposed surfaces only at predetermined locations approved by Owner.

E. Remove and replace defective concrete at discretion of Owner, or adequately strengthen and resurface in a manner acceptable to Owner.

3.05 CURING

A. Curing formed surfaces:
1. Commence curing formed concrete surfaces with water as quickly as formwork is loosened or removed.
2. Thoroughly saturate concrete surfaces and maintain them uniformly wet for a period of not less than 14 days after concrete has been placed.
a. During the curing period, soak the surfaces as often as is necessary to maintain the thoroughly saturated condition.
b. It is mandatory that water curing be continued as a case of emergency during holidays and weekends.

B. Finishing formed surfaces:
1. Finish surfaces of formed concrete which will remain exposed in the finish work, both interior and exterior, including surfaces which will be painted. Provide surfaces uniform for the intended texture; free from imperfect joints, fins, "honeycombing," air pockets or "bug" holes, or similar imperfections.
2. Remove rough spots, stains and hardened mortar or grout from intended smooth surfaces by rubbing such surfaces lightly with fine abrasive stone. Use liberal amounts of water and rub sufficiently to remove defects without changing texture of concrete.

3. If intended smooth surfaces are not of uniform texture, immediately after removal of forms, treat as follows:
    a. Prepare a grout mix consisting of Portland cement, sand, liquid bonding admixture and water in proportions as recommended by liquid bonding admixture manufacturer and required to match exposed concrete surfaces.
    b. Wet surface to be treated and apply liquid bonding agent as recommended by manufacturer then apply grout mix uniformly with a brush, completely filling air holes. Immediately float, scouring the surface vigorously. Allow cement grout to partially set for an hour or two, depending on weather.
    c. When grout has sufficiently hardened so it can be scraped from surface with the edge of a steel trowel without removing grout from small air holes, cut-off all that can be removed with a trowel, allow surface to dry thoroughly, then rub vigorously with burlap to completely remove surplus.
    d. Further finish exposed intended smooth surfaces, if necessary, by means of honing with a Carborundum stone to uniform surfaces as directed by Owner.
    e. Complete entire operation for any area the day it is started.
    f. Do not use dry cement sacking.

C. Filling snap-tie cone holes:
1. Break off tie-rods at bottom of cone holes.
2. Flush hole with water, and allow to dry. Coat entire inner surface of cone hole with liquid bonding agent, then grout holes solid with cement grout.
    a. For exposed concrete which will not be painted, prepare several test samples with slight mix variations in order to achieve a close color match with the concrete to be patched.
3. Finish patches as specified herein.

D. Finishing flat work:
1. Tamp freshly placed concrete with approved metal grid tampers not less than 12 in. x 12 in. in size so as to bring fines to top, then rod to uniform surfaces at required levels.
    a. Float and trowel finish as soon as surface becomes workable.
    b. Provide slopes as indicated on Drawings, or as directed by Owner.
2. Provide fog-spray equipment or use evaporation retarder/finishing aid during finishing to maintain adequate surface moisture and reduce plastic shrinkage.
    a. Immediately after fresh concrete has been brought to a flat surface, the shiny film of moisture that appears on the top surface must not be permitted to evaporate. Use evaporation retarder/finishing aid or as soon as the shiny surface disappears, restore and maintain until troweling, by providing a light film of moisture with an atomizing type fog-sprayer.
    b. Use light applications of evaporation retarder/finishing aid or frequent light applications of moisture rather than excessive wetting. Temperature, humidity, and wind conditions will dictate the amount of spray required for proper control.
3. Work concrete flatwork to achieve the following tolerances when measured in accord with ASTM E1155.
    a. Trowel finished surfaces: FF25/FL20.
    b. Float and broom finished surfaces: FF20/FL17.

E. Surface finish textures:
   1. Fine float finish: Use for interior floor surfaces which will be covered by resilient floor covering, resinous flooring, or carpet.
   2. Smooth float finish: Use for roof deck surfaces, and for subfloor surfaces which will receive waterproofing membrane.
   3. Steel trowel finish: Use for interior floor surfaces, and cement bases, which will not be covered by other applied flooring,and depressed floor surfaces of cold room areas.
   4. Sponge float finish: Use for exterior concrete flatwork not otherwise specified.
      a. Draw a sponge across the still-plastic surface to create a uniform texture.
   5. Brush or broom finish: Use for inclined ramps, and other exterior locations as may be directed by Owner.
      a. Draw a push broom or brush across the still plastic surface to create uniform striations.
      b. If directed by Owner, striations shall be zigzag type.
      c. If directed by Owner, create texture striations by use of a stiff fiber bristle broom.
   6. Scratch finish (at Contractor's option, in lieu of surface preparation specified):
      a. Use for rough/sub-slab surfaces to receive directly applied concrete toppings (i.e., without cleavage/waterproof membrane).
      b. Brush, broom, or lightly rake the still plastic surface to create uniform striations.
   7. "Sweat" trowel finish: Use for floor and paving surface which will remain exposed, with an appearance similar to a steel trowel finish, but slip-resistant.
   8. Brush blast finish: Abrasive- or sand-blast to sufficiently remove surface sheen without any reveal (i.e., projection of aggregate from cement-sand matrix). Non-uniformity of color is acceptable.
   9. Abrasive- or sand-blast finish:
      a. Abrasive- or sand-blast to remove cement-sand matrix to expose aggregate face until aggregate is in uniform relief.
         1) Light: Maximum reveal of 1/16 in. and uniform in color.
         2) Medium: Maximum reveal of 1/4 in.
         3) Heavy: Rugged and uneven appearance. Maximum reveal of 1/3 diameter of coarse aggregate; 1/4 to 1/2 in. reveal.
      b. Perform abrasive- and sand-blasting on concrete surfaces at the same time intervals after concrete placement used to produce sample panels.
   10. Surface textures shall match Owner approved sample panels as applicable.
   11. Ensure that slip resistance of exposed concrete flatwork surface finishes is maintained.

F. Control joints:
   1. Place control joints in all exterior flat concrete work, and other locations as indicated on Drawings.
   2. If control joints are not indicated on Drawings, verify specific types and layouts with Owner prior to placing concrete. Size and shape of layouts depends on specific area, but do not space control joints farther apart than 10 ft. o.c. in a square pattern.
      a. Example: If a concrete walk is 4 ft. wide, control joint should occur at equal spacing of approximately 4 ft. o.c. along length.
   3. Control joints may be one of two types, as indicated on Drawings: Saw-cut or hand-tooled.

a. Saw-cut : Use at slabs on grade only. Make saw-cuts 1/8 in. wide. Do not cut through steel bar reinforcing. Depth of all saw cuts must not be less than 1/4 of slab thickness.
    1) Carefully check hardness condition of concrete before commencing saw-cutting to ensure that saw will not fret, ravel or spall edges of cuts nor dislodge aggregate. Use saw-cutting equipment appropriate for the hardness condition of concrete.
b. Hand tooled: Make control joints with a "V" shaped tool with rounded edges and a 3/4 in. deep keel.
c. Whether saw-cut or hand-tooled, accurately lay out areas and make control joints straight and true, with clearly defined angles.

G. Curing flat work: Commence immediately after finishing.
1. Cure standard gray flat slabs inside building by covering with curing and protection paper. Lap joints in paper a minimum of 4 in. and seal with pressure-sensitive (masking) tape. Seal perimeter edges and penetrations of paper to structure to prevent escape of moisture.
    a. Maintain thoroughly and continuously wet moisture condition between slab and curing paper for 14 days.
    b. Leave curing and protection in place until removal is authorized by Owner.
    c. Apply membrane-forming curing, dustproofing, and sealing compound (acrylic polymer based, nondissipating type) or combination curing, hardening, and sealing compound (silicate-based) to all slabs which are not scheduled to receive an applied flooring material in accord with manufacturer's recommendations immediately after curing and protection paper has been removed. Exception: Apply combination curing, hardening, and sealing compound (silicate-based) to concrete floors scheduled to receive carpet.
2. Cure standard gray flat slabs outside building by either curing and protection paper or water-curing methods as follows:
    a. Curing and protection paper method:
        1) Cover with curing and protection paper. Lap joints in paper a minimum of 4 in. and seal with pressure-sensitive (masking) tape. Seal perimeter edges and penetrations of paper to slab to prevent escape of moisture.
        2) Maintain thoroughly and continuously wet moisture condition between slab and curing paper for 14 days. Where superplasticizer admixtures and/or high early strength concrete mixes are utilized, revise curing procedure and reduce curing period as approved by Owner.
        3) Leave curing and protection paper in place until removal is authorized by Owner.
        4) Apply membrane-forming curing, dustproofing, and sealing compound (acrylic polymer based, nondissipating type) or combination curing, hardening, and sealing compound (silicate-based) to all slabs which are not scheduled to receive subsequent treatment in accord with manufacturer's recommendations immediately after curing and protection paper has been removed.
    b. Water-curing method:
        1) Maintain concrete surfaces continuously wet for 14 days as follows:
            a) Ponding with water using a dam around the perimeter.

b) Timed on-off sprinklers.
c) Continuous fine spray soaker hose.

2) Alternating wet and dry surface conditions is not permitted.
3) Apply chemically-reactive curing and hardening compound (silicate-based) in accord with manufacturer's recommendations immediately following final water-curing operations.

c. Do not permit traffic or debris on surface during curing.

3. Cure all concrete not otherwise specified, with liquid membrane-forming curing compound (resin-based, dissipating type).
4. Ensure compatibility of curing compounds before curing concrete slabs which will receive direct applied roofing or waterproofing, subsequently applied coatings, or adhesives for subsequently applied materials.
5. Application of all liquid curing compounds must be performed in two separate applications at right angles to each other.

3.06 GROUT AND DRYPACK

A. Non-structural grout: Thoroughly mix sufficient quantities to avoid combining different batches of grout mix. Ensure that grout completely fills all spaces and voids. Level, screed or cut flush excess grout to produce smooth, neat, even exposed surfaces.

B. Drypack: Thoroughly blend dry ingredients prior to mixing with water. Forcibly pack mixture to completely fill voids and spaces.

C. Structural grout: Mix and apply in accord with manufacturer's instructions.

3.07 PROTECTION OF COMPLETED WORK

A. During curing period, protect concrete from damaging mechanical disturbances, water flow, loading shock, and vibration.

END OF SECTION 321313

SECTION 12 93 00
SITE ELEMENTS

PART 1- GENERAL

1.1 SCOPE

A. Furnish and install all site elements as shown on the drawings and as specified herein including but not limited to the following:

1. 8' Concrete Bench
2. 5' Concrete Bench
3. Bicycle Loop Rack
4. Granite Boulders
5. River Rock Gravels
6. Trash Receptacles with Dome Lids
7. Custom Metal Towel Rack
8. Shower Tower
9. Bi-lingual Caution Sign

1.2 GENERAL REQUIREMENTS

A. This work shall be coordinated with all associated work that will insure that all items are located properly per drawings, complete in the proper sequence, and accomplished efficiently so that no work will be delayed because of associated items or parts of items.

B. If more than one subcontractor is to perform various items or parts of items detailed by this section, specific responsibility shall be defined by the General Contractor.

D. Signage including but not limited to type, content, color, quantities to be per State, various Agencies, County of Los Angeles requirements accordingly. County Representative to provide camera ready artwork for all custom signage.

F. **Site Furnishing Schedule of items below is NOT inclusive of all site elements to be installed.** The schedule is intended to provide assistance in quantities and contact information for select custom furnishings.

1.3 SHOP DRAWINGS SUBMITTALS

A. Section 01000 – General Requirements and Submittal List

1. Product Data: Product Data: Indicate materials, construction, configuration, dimensions, and finishes.
2. Assurance/Control Submittals:
   Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.

1.4 DELIVERY, STORAGE AND HANDLING

A. Section 01600 – Product Requirements: Transport, handle, store and protect Products

PART 2- PRODUCTS

2.1 SITE ELEMENTS SCHEDULE

A. See plans for quantities.

BASIS OF DESIGN SITE ELEMENTS DESCRIPTION/MANUFACTURER
8′ SHEAR CONCRETE BENCH: by QCP, model no. Q2-SHR-96B-L, or equal. Contact: Jessica Strootman, (866) 703-3434 Total: 5 benches on Splash Pad, Color: Latte, Finish: Strata.
5′ SLAB CONCRETE BENCH: by QCP, model no. Q2-SLAB-60B, or equal. Contact: Jessica Strootman, (866) 703-3434 Total: 1 bench in Shower Area, Color: Latte, Finish: Strata.
LOOP BICYCLE RACK: by DuMor Inc., or equal. Available through RecWest Outdoor Products, (818) 735-3838**,** contact: Derrick Shima. Model No. 290 embedment mount. Color: Bronze, Total: 4.
GRANITE BOULDERS: Grey granite boulders. Total: 8 large boulders, 60" X 48", no sharp edges. Available from Southwest Boulder & Stone, (714) 882-1010, or equal. Provide photos for approval.
RIVER ROCK GRAVELS: 1.5-3″ river rocks and pea gravel. Available from Southwest Boulder & Stone, (714) 882-1010, or equal. Provide samples for approval.
55-GAL STEEL DRUM WITH DOME TOP TRASH RECEPTABLES: by Cary Company, (630) 629-6600, or equal. Drum Part #: 26WR67, Color: Green, Total: 2. Dome Part #: 56BZ. Color: Green.
CUSTOM METAL TOWEL RACK: Provide shop drawings, including description of all metal components and welded connections.
DUAL HEAD SHOWER TOWER: Most Dependable Fountain, Inc. model no. 575, or with foot shower, or equal. Color: Green. Available through manufacturer, (901) 867-0039 or www.mostdependable.com
ACCESSIBLE HEAD SHOWER TOWER: Most Dependable Fountain, Inc. model no. 546, or equal. Tower modified to include standard shower head (model no. 575) on opposite side. Color: Green. Available through manufacturer, (901) 867-0039 or www.mostdependable.com
BI-LINGUAL ALUMINUM CAUTION SIGNS: Aluminum sign mounted on ACX plywood base. Available from Squaresigns.com, or approved equal. Provide shop drawings, including proof of sign artwork for approval and description of all metal components and connections.

PART 3 – EXECUTION

3.01 GENERAL

A. Assembly, construction, and installation of all items shall be of the highest craftsmanship and in accordance with manufacturer's recommendations and details on the drawings. All construction shall be accurately fitted, set plumb and level, free from surface blemishes.

B. Contractor shall review manufacturer’s shop drawings and complete any additional shop drawings necessary for approval prior to installation.

C. Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.

D. Installation of all site elements shall be coordinated with the County Project Manager as necessary to meet the logistics of temporary horse housing on-site during construction process.

3.20 CONCRETE BENCHES

A. Benches shall be installed per manufacturer's specifications.

B. Contractor shall review manufacturer's installation instructions and install accordingly.

C. Contractor shall protect benches from discoloration and damage during the construction period until approved and accepted. Any damage occurring shall be the contractor's responsibility and shall be repaired or replaced as directed by the Landscape Architect.

3.21 GRANITE BOULDERS

A. Contractor shall install Granite Boulders per detail.

B. Contractor shall coordinate location and buried depth as part of the installation of all granite boulders with landscape architect, concrete subcontractor and landscape subcontractors, as necessary.

C. Submit photos of boulder stone for approval by Landscape Architect.

3.22 RIVER ROCK & PEA GRAVEL

A. Contractor shall install gravels per detail.

B. Contractor shall combine rock and gravels in 50-50 mix.

C. Submit samples of gravels for approval by Landscape Architect.

3.23 DUMOR LOOP BICYCLE RACK

A. Bicycle Rack shall be installed per manufacturer's specifications.

B. Contractor shall review manufacturer's shop drawings and complete any additional shop drawings necessary for approval prior to installation.

C. Contractor shall protect Bicycle Rack from discoloration and damage during the construction period until approved and accepted. Any damage occurring shall be the contractor's responsibility and shall be repaired or replaced as directed by the Landscape Architect.

3.24 TRASH RECEPTACLES

A. 55-Gal Drums shall be located per Construction Plan and installed on concrete pad.

B. Contractor shall protect Drums and Dome Lids from discoloration and damage during the construction period until approved and accepted. Any damage occurring shall be the contractor's responsibility and shall be repaired or replaced as directed by the Landscape Architect.

3.25 CUSTOM METAL TOWEL RACK

A. Contractor shall provide complete shop drawings for review and approval by Owner and Landscape Architect.

3.26 SHOWER TOWERS

B. Shower Towers shall be installed per manufacturer's specifications.

C. Contractor shall review manufacturer's shop drawings and complete any additional shop drawings necessary for approval prior to installation.

D. Contractor shall protect Shower Towers from discoloration and damage during the construction period until approved and accepted. Any damage occurring shall be the contractor's responsibility and shall be repaired or replaced as directed by the Landscape Architect.

3.27 BI-LINGUAL ALUMINUM CAUTION SIGNS

A. Contractor shall provide complete shop drawings for review and approval by Owner and Landscape Architect.

B. Contractor shall provide proof of final artwork for review and approval by Owner. Proof to be in color.

C. Sign to meet all Public Health requirements. Final Spanish translation to be approved by Owner's Representative.

D. Signs to be mounted on steel posts at entries to Splash Pad with clear visual lines to visitors. Install signs in landscape area adjacent to walkway on plumb steel post.

- END OF SECTION -

SECTION 13 1100
SPRAYGROUND GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The scope of the work included under this Section of the Specifications shall include sprayground(s) as illustrated on the Drawings and specified herein. The General and Supplementary Conditions of the Specifications shall form a part and be included under this Section of the Specifications. The Sprayground Subcontractor shall provide all supervision, labor, material, equipment, machinery, plant and any and all other items necessary to complete the work. ALL OF THE WORK IN SECTIONS 13 11 00 - 13 11 08 IS TO BE THE RESPONSIBILITY OF ONE EXPERIENCED SPRAY GROUND SUBCONTRACTOR PRIMARILY ENGAGED IN THE CONSTRUCTION OF COMMERCIAL PUBLIC-USE SPRAY GROUNDS. THE SUBCONTRACTOR (CONTRACTOR LICENSEE, RME/RMO) MUST HAVE, IN THE LAST FOUR YEARS CONSTRUCTED AT LEAST THREE (3) COMMERCIALLY DESIGNED MUNICIPAL AND PUBLIC-USE SPRAY GROUNDS, EACH OF WHICH SHALL HAVE INCORPORATED A MINIMUM SIZE OF 1,000 SQUARE FEET OF SURFACE AREA WITH A SELF-MODULATING BALANCE TANK. The Sprayground Subcontractor shall furnish and install the sprayground structures, finishes, forming, sprayground mechanical and electrical systems, and all accessories necessary for a complete, functional sprayground system, as herein described. Work shall include start-up, instruction of Owner's personnel, as-built drawings and warranties as required.

1.2 CODES, RULES, PERMITS, FEES

A. The sprayground shall be constructed in strict accordance with the applicable provisions set forth by authorities having jurisdiction over swimming pool construction and operation in the State of California.

B. The Sprayground Subcontractor shall give all necessary notices, obtain all permits, and pay all government sales taxes, fees, and other costs in connection with their work; file all necessary plans, prepare all documents and obtain all necessary approvals of governmental departments having jurisdiction; obtain all required certificates of inspection for their work and deliver same to the Designated Representative before request for acceptance and final payment for the work.

C. The Sprayground Subcontractor shall include in the work any labor, materials, services, apparatus, or drawings in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on Drawings and/or specified.

D. The Contractor shall submit all required documents and materials to all Governmental Departments having jurisdiction for any deferred approval items or substituted materials or products to obtain final approval to installation.

1.3 DESCRIPTION OF WORK

A. Furnish and perform supervision, coordination, all layout, formwork, excavation, hand trim, disposing off-site of all unused material or debris to complete the sprayground excavation to the dimensions shown on the plans.

B. Furnish and install complete splash pad structures, including reinforcing steel and cast-in-place concrete floors.

C. Furnish and install sprayground finishes as shown on the plans.

D. Furnish and install complete sprayground mechanical system(s), including, but not limited to, circulation systems, filtration systems, water chemistry control systems, domestic water fill line systems, booster pump and special effects systems, and all pumps, piping, valves, and connections between system(s) and sprayground(s).

E. Furnish and install complete sprayground electrical system(s) from P.O.C. in Mechanical Room, including, but not limited to, lighting systems, water level control systems, special effects systems, control circuitry, motor starters, time clocks, bonding, and all conduits, conductors, contactors, and switches between the system(s) and sprayground(s).

F. Furnish and install all sprayground deck equipment and required anchors and inserts for the specified equipment as required by code, shown on the Drawings and specified herein.

G. After the initial filling of the sprayground balance tank(s), should any repairs, continuing work, or other Subcontractor responsibility require drainage or partial drainage of the sprayground systems, the Sprayground Subcontractor shall be responsible for any subsequent refilling and shall complete the project with the sprayground balance tank(s) full of water, water in chemical balance, complete in every way, and in full operation.

H. Complete commissioning activities as specified in section 01 91 00.

1.4 ASSIGNED RESPONSIBILITIES AND RELATED WORK

A. It is the intent of this section of the Specifications to clarify Work responsibilities of the trades directly and indirectly involved in construction of the sprayground systems. All labor, equipment, materials and supplies furnished by the Sprayground Subcontractor and other Subcontractors shall be as directed by the Owner through their Designated Representative.

B. THE SPRAYGROUND SUBCONTRACTOR SHALL NOT SUBCONTRACT ANY PORTION OF THE SPRAYGROUND CONSTRUCTION OR SPRAYGROUND EQUIPMENT INSTALLATION TO ANYONE OTHER THAN A SUBCONTRACTOR THAT SATISFIES THE REQUIREMENTS OF SECTION 13 1100.

C. References to “sprayground systems” shall include the spraygrounds, equipment, and accessories.

D. The Owner will provide one complete water filling of the sprayground balance tank(s) when they have been proved fully operational, complete in every way and accepted by the Designated Representative.

1.5 RESPONSIBILITIES OF THE CONTRACTOR

A. The Contractor shall grade the sprayground site(s), establish benchmarks, cut and fill as necessary to provide as level an area as possible at sprayground deck elevation before sprayground layout.

B. The Contractor shall be responsible for horizontal dimensions and grade elevations accurately from established lines and benchmarks (as indicated on the Drawings) and be responsible for those grades.

C. The Contractor shall provide adequate temporary light, electric power, heat and ventilation per Federal and State OSHA requirements to construct the sprayground system(s).

D. The Contractor shall not permit any heavy equipment activity over any area or within five (5) feet of any area under which sprayground piping is buried. There shall be no exceptions to this requirement.

E. The Contractor shall keep the sprayground excavation(s) and structure(s) free of construction residue and waste materials of their workmen or Subcontractors, removing said material from the sprayground as required.

F. The Contractor shall protect the sprayground(s) from damage caused by their construction equipment and /or workmen and Subcontractors.

G. The Contractor shall provide a representative at time of sprayground start-up to coordinate all trades related to sprayground system(s).

1.6 RESPONSIBILITIES OF THE MECHANICAL SUBCONTRACTOR

A. The Mechanical Subcontractor shall be licensed in the State of California and provide written notifications to Sprayground Subcontractor and contractor when necessary to excavate and backfill within the sprayground construction site.

B. The Mechanical Subcontractor shall not utilize any sprayground piping trench for installation of any sanitary sewer, storm sewer, domestic water, hot water, chilled water or natural gas line.

C. The Mechanical Subcontractor shall furnish and install all sanitary sewer piping, including vent stacks (if necessary), for backwash pits, floor drains and floor sinks as required by code, shown on Drawings, and herein specified.

D. The Mechanical Subcontractor shall furnish and install all storm sewer piping and site drainage systems as required by code, shown on the Drawings, and herein specified.

E. The Mechanical Subcontractor shall provide a minimum 75 psi water supply for sprayground construction work within fifty (50) feet of the sprayground construction site(s).

F. The Mechanical Subcontractor shall furnish and install reduced pressure backflow protected domestic water lines to P.O.C. within sprayground Mechanical Room as required by code, shown on the Drawings, and herein specified.

G. The Mechanical Subcontractor shall furnish and install all ductwork, louvers, and all HVAC equipment within sprayground Mechanical Room as required by code, shown on the Drawings, and herein specified.

H. The Mechanical Subcontractor shall provide a representative at time of sprayground start-up to coordinate work related to sprayground system(s).

1.7 RESPONSIBILITIES OF THE ELECTRICAL SUBCONTRACTOR

A. The Electrical Subcontractor shall be licensed in the State of California and shall furnish and install electrical service to sprayground Mechanical Room sized to accommodate all necessary sprayground equipment as shown on the Drawings and herein specified.

B. The Electrical Subcontractor shall furnish any temporary power needed by the Sprayground Subcontractor within fifty (50) feet of the sprayground construction site(s).

C. The Electrical Subcontractor shall furnish and install all conduits, conductors, starters/disconnects, panels, circuits, switches and equipment as required for lighting, ventilation and HVAC equipment within sprayground Mechanical Room as required by code, shown on the Drawings, and herein specified.

D. The Electrical Subcontractor shall furnish and install all conduits, conductors, panels, circuits, switches and equipment for area lighting as required by code, shown on the Drawings, and herein specified.

E. All equipment, material and installation shall be as required under Division 16 of the Specifications and shall conform to NEC Article 680 (latest revision), State and Local Codes, and as may be required by all authorities having jurisdiction over sprayground construction within the State of California.

F. The Electrical Subcontractor shall provide a representative at time of sprayground start-up to coordinate work related to sprayground system(s).

1.8 INTENT

A. It is the intention of these specifications and Drawings to call for finished work, tested and ready for operation. Wherever the work "provide" is used, it shall mean "furnish and install complete and ready for use."

B. Minor details not usually shown or specified, but necessary for proper installation and operation, shall be included in the work, the same as if herein specified or shown.

1.10 SUBMITTAL PROCEDURES

A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Subcontractor's use in preparing submittals.

B. Refer to specification section 01 33 00 Submittals, for submittal procedures.

1.11 SUBSTITUTIONS

A. To obtain approval to use unspecified products, bidders shall submit requests for substitution at least ten (10) days prior to bid date. Requests shall only be considered if they clearly describe the product for which approval is asked, including all data necessary to demonstrate acceptability. All unspecified products and equipment will be considered on an “or equal” basis at the discretion of the Designated Representative. Requests for substitution received after the specified deadline will not be considered. Where a conflict exists between the requirements of the General Conditions / Special Conditions / Division 1 concerning substitutions and the requirements of this Article, this Article (Section 13 11 00, Article 1.10) shall govern.

B. Where the Sprayground Subcontractor proposes to use an item of equipment other than that specified or detailed on the Drawings which requires any redesign of the structure, partitions, foundations, piping, wiring, or any other part of the architectural, mechanical,

or electrical layout, all such redesign and all new drawings (stamped by California Licensed Engineer) and detailing required shall be prepared by the Sprayground Subcontractor, at their own expense, submitted for review and approval by the Designated Representative prior to bid.

C. Where such approved deviation requires a different quantity and arrangement of piping, supports and anchors, wiring, conduit, and equipment from that specified or indicated on the Drawings, the Sprayground Subcontractor shall furnish and install any such piping, structural supports, controllers, motors, starters, electrical wiring and conduit, and any other additional equipment required by the system, at no additional cost to the Owner.

1.12 SURVEYS AND MEASUREMENTS

A. The Sprayground Subcontractor shall base all measurements, both horizontal and vertical, from benchmarks established by the Contractor. All work shall agree with these established lines and levels. The mechanical Drawings do not give exact details as to elevations of piping, exact locations, etc. and do not show all offsets, control lines, pilot lines and other installation details. Verify all measurements at site and check the correctness of same as related to the work.

1.13 DRAWINGS

A. Drawings are diagrammatic and indicate the general arrangement of the systems and work included in the Subcontractor. Drawings are not to be scaled. The architectural drawings and details shall be examined for exact dimensions. Where they are not definitely shown, this information shall be obtained from the Designated Representative.

1.14 SPRAYGROUND SUBSUBCONTRACTOR

A. The sprayground construction work as herein described and specified in Division 13 of the Project Manual shall be the complete responsibility of a qualified Sprayground Subcontractor with extensive experience in commercial public use sprayground installations.

B. The Contractor shall require the Sprayground Subcontractor to furnish to the Contractor performance and payment bonds in the amount of 100% of the Sprayground Subcontractor's bid written by a surety Company properly registered in the State of California and listed by the U.S. Treasury. The expense of the bond(s) is to be borne by the Subcontractor. The Contractor shall clearly specify the amount and requirements of the bond(s) in the Contractor's written or published request for subbids. The Contractor's written or published request for subbids shall also specify that the bond(s) expense is to be borne by the Subcontractor.

C. Subcontractor certifies that it meets the qualifications and experience requirements established in 00 04 00 Attestation of Contractors Qualifications.

1.15 OPERATING INSTRUCTIONS

A. The Sprayground Subcontractor shall determine from actual samples of sprayground water supplied by the Owner, the proper water management program necessary for maximum operating efficiency and comfort. The Sprayground Subcontractor shall provide the services of experienced personnel familiar with this type of sprayground system operation, in conformance with Section 13 1105 of the Specifications.

1.16 MAINTENANCE MANUALS

A. The Sprayground Subcontractor shall provide six (6) bound sets for delivery to the Designated Representative of instructions for operating and maintaining all systems and equipment included in this Contract. Manufacturer's advertising literature or catalog pictures will not be acceptable for operating and maintenance instructions.

B. Bound in ring binders shall be all parts lists, periodic maintenance instructions and troubleshooting guidelines for all sprayground equipment, including but not limited to filters, pumps, controllers, water chemistry control equipment, etc.

1.17 SECURE FROM THE OWNER

A. A complete Owner-furnished filling of the spraygrounds.

B. The Owner's assistance, as specified herein, from the time of start-up until final written acceptance of the sprayground system(s).

C. Chemicals as required for sprayground operation after Sprayground Subcontractor completes initial water chemistry balance and water treatment during the maintenance period described in Section 13 1105 of the Specifications.

1.18 WARRANTY

A. The Sprayground Subcontractor shall warrant all sprayground structures, finishes and systems against defects in material and workmanship for a period of one year after the date of acceptance by the Owner. Any repair or replacement required due to defective material or workmanship will be promptly corrected by the Sprayground Subcontractor.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

-END OF SECTION-

SECTION 13 1101
SPRAYGROUND EXCAVATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Finish and fine grading to bring the surface of the ground to the required grades and elevations as indicated on the Drawings.

B. Subgrade improvements and placing of compacted fills.

C. Excavation and backfill for all sprayground structural requirements, including footings, foundations, slabs and balance tank.

1.2 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Conform with requirements of the General Conditions, and more specifically the following:
   1. Comply with California Building Code, 2022 edition.
   2. Comply with applicable construction safety orders, latest edition, Federal and State OSHA.
   3. Comply with applicable trench safety provisions, latest edition, Federal and State OSHA.

B. Qualifications of Workers:
   1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past five (5) years immediately prior to the commencement of the work. The Qualified contractor Shall submit documentation of a minimum of two (2) interactive spray ground play equipment and climb-on structure installations completed in the last five (5) years.
   2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.
   3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.
   4. General Contractor who wishes to self-perform the Sprayground Excavation work requiring a C-53 license, must possess an active and valid C-53 license. A General Contractor self-performing Sprayground Excavation work, may subcontract any portion(s) of the work to any subcontractor possessing the C-53 license. However, a subcontractor may not subcontract any portion of the work to another subcontractor.

C. Project/Site Conditions:
   1. Be familiar with site and subsurface conditions.
   2. Excavation is unclassified and includes excavation to sub-grade elevations indicated or necessary, regardless of character of materials and obstructions encountered.

4. Provisions for mitigation of wet soils due to seepage or rain shall be made during excavation and throughout construction. If wet soils are encountered within the sprapyground excavations, de-watering shall be provided and the Geotechnical Engineer shall make recommendations for moist soil mitigation.
5. Where slope instability is encountered, all excavations within those areas shall be 1:1 or flatter. Forming of vertical walls may be necessary, and all soil conditions shall be field verified by the Geotechnical Engineer.
6. Contractor shall review the Geotechnical Investigation Report as furnished by the Owner's Representative to determine the suitability of the soils.

D. Adverse Weather Conditions:
1. During the periods when site soil moisture content is substantially in excess of moisture content required for optimum compaction, do not perform fill compaction.
2. When unfavorable weather conditions necessitate interrupting filling and grading operations, prepare areas by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion.

1.3 SUBMITTALS AND SUBSTITUTIONS

A. Provide submittals in conformance with requirements of Section 01 3300.

B. Required submittals include:
1. Offsite fill material, if applicable.

C. Submit proof of qualifications as specified in Article 1.2.A of this Section.

1.4 EXCAVATING & TRENCHING, GENERAL REQUIREMENTS

A. Refer to Section 01 5013, Temporary Construction Facilities and Utilities.

B. All trenches, holes, etc. are to be completely protected using solid barricades, steel plates, and plywood both during construction and during off hours, including night time.

C. Flashing warning light barricades are required on sidewalks, roads, and any other critical areas that require night time protection.

D. Roads, paths and sidewalks shall not be blocked at any time or in any way. Trenching across roads, paths or sidewalks involves special instructions and review of the construction procedure by the Owner's Representative at least three (3) days prior to the Work actually being started.

E. Construction equipment, including all trucks, cars, etc. shall not be parked or driven on roads, paths or sidewalks. Items not allowed on roads, paths or sidewalks include hoses, power cords, ropes, construction materials, dirt and debris, etc.

F. All roads, paths and sidewalks must remain clear and the Contractor shall maintain temporary safe and effective pedestrian access at all times.

G. Drawings show existing major underground utilities using the best information available. The Contractor shall also fully check public works reference drawings prior to excavation. Call local Dig Alert to locate utilities to ensure safety.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fill Material, General: All material shall be subject to the review and approval of the Geotechnical Engineer.

B. Undocumented fills were reported to depths of up to 4 feet below existing grade at the site. The fill soils are not considered to be suitable for direct support of foundations or floor slabs without remedial earthwork. For the proposed improvements, remove and recompact the fill and a portion of the upper low-density natural soils to provide uniform support for the planned foundations and floor slab.

C. Current moisture contents of the upper soils vary widely from under to well over optimum moisture content. Earthwork will likely require drying/mixing of the on-site soils prior to placing as properly compacted fill and localized deeper removals or subgrade stabilization shall be anticipated.

D. The site is located within a zone identified as having a potential for liquefaction by the State. Soil liquefaction is likely to occur at this site during a design earthquake event. The estimated magnitude of induced existing ground surface settlement is on the order of 1¼ inch with differential settlement across 40 feet on the order of ½ inch.

E. The anticipated remedial earthwork, the soils within about 8 to 15 feet exhibit a potential for liquefaction if the groundwater rises to historic levels. Should liquefaction of these upper layers occur, the estimated magnitude of induced settlement would be approximately 1¼ inch or less. Differential settlement across 40 feet could be on the order of ½-inch or less.

F. The upper on-site sandy soils are considered to be susceptible to caving in open cuts and excavations. Care shall be taken to maintain support of the soils and structures left in-place adjacent to planned excavations.

G. Moisture conditioning will likely be required prior to placing some of the in-place soils as compacted fill. While not anticipated at the site, clayey soils shall not be used as retaining wall backfill, or within 12-inches below exterior hardscape and flatwork. Retaining wall backfill shall consist of on-site or imported granular soils (containing no more than 40 percent fines – portion passing No. 200 sieve) and be relatively non-expansive (E.I. of 20 or less). These granular soils shall be readily available in the near-surface soils at the site.

H. Imported fill material shall be predominately granular (contain no more than 40 percent fines - portion passing No. 200 sieve) and non-expansive (E.I. less than 20). GPI shall be provided with a sample (at least 50 pounds) and notified of the location of soils proposed for import at least 72 hours prior to importing. Each proposed import source shall be sampled, tested and accepted for use prior to delivery of the soils to the site. Soils imported prior to acceptance by GPI may be rejected if not suitable.

I. Both imported and existing on-site soils to be used as fill shall be free of debris and any pieces larger than 6 inches in greatest dimension. Fill materials placed within the depths of planned foundations shall not contain particles larger than 3 inches in greatest dimension. If open-graded gravel (such as pea gravel or ¾-inch crushed rock) is placed as backfill for the project, it shall be separated from the on-site soils with a suitable filter fabric (Mirafi 140 N or equivalent) to mitigate the potential for migration of soil into the voids of the gravel. Open-graded gravel shall be placed in lifts of 2 feet or less and densified with vibratory equipment prior to placing subsequent lifts.

J. On-site inert demolition debris, such as concrete and asphalt, may be reused in the compacted fills provided approval is obtained from the reviewing regulatory agency and the owner. The material shall be crushed to the consistency of aggregate base and blended with the on-site or imported soils.

K. Fill Placement: Fill soils shall be placed in horizontal lifts, moisture-conditioned, and mechanically compacted to densities equal to at least 90 percent of the maximum dry density, determined in accordance with ASTM D1557. The optimum lift thickness will depend on the compaction equipment used and can best be determined in the field. The following uncompacted lift thickness can be used as preliminary guidelines.

Plate compactors: 4-6 inches

Small vibratory or static rollers (5-ton±), or track equipment: 6-8 inches

Heavy loaders or heavy vibratory rollers: 8-12 inches

The maximum lift thickness shall not be greater than 8 inches and each lift shall be thoroughly compacted and accepted prior to placement of subsequent lifts.

L. Fills consisting of on-site or imported granular soils shall be placed at a moisture content of 0 to 2 percent over the optimum moisture content in order to achieve the required compaction and reduce the potential for future swelling. Fills consisting of silts and clays shall be placed at a moisture content of 1 to 3 percent over the optimum moisture content.

M. Once moisture conditioned and properly compacted, the exposed soils shall not be allowed to dry out prior to covering. If exposed soils are allowed to dry out, additional processing and moisture conditioning will be required. The Geotechnical Engineer shall confirm the moisture content of the subgrade soils immediately prior to placement of concrete or additional fill.

N. During backfill of excavations, the fill shall be properly benched into the construction slopes as it is placed in lifts.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify drawing dimensions and elevations with actual field conditions. Inspect related Work and adjacent surfaces and report discrepancies and conditions which prevent proper execution of the Work to the Owner.

3.2 EXCAVATION

A. Checking Layout: Contractor shall, before commencing the excavation work, check all lines, stakes and levels for dimensions, angles, elevations and grades with the survey.

B. Dimensions: Excavate to proper dimensions as shown, cut square and smooth with firm level bottoms. Prepared excavations shall be approved by Geotechnical Engineer. Excavations shall be free of loose or disturbed materials.

C. Excess Water Control: Depending on time of year, ground water levels may reach 0-5 feet. Keep all excavations free from standing water by pumping, draining or providing proper protection against water intrusion. If soil becomes soft, soggy or saturated, perform additional excavation to firm soil not affected by water.

D. Form Removal: Make all excavations of sufficient size to permit installation and removal of forms and all other required work.

E. Alternate Forming: Sides of structures may be formed by neat excavations where banks will stand without caving. If banks cave, provide forming as required and widen excavation to permit forming, bracing and inspection. Provide forming in conformance with Section 131102, "Sprayground Concrete" and all recognized safety standards.

F. Prior to grading, all areas to receive structural fill, engineered structures, or hardscape shall be stripped of vegetation and cleared of surface and subsurface obstructions, including any existing debris and undocumented, loose, compressible, or unsuitable soils. Removed vegetation and debris shall be properly disposed off site. All areas to receive fill and/or other surface improvements shall be scarified to a minimum depth of 8 inches, brought to optimum or above-optimum moisture conditions, and recompacted to at least 90 percent relative compaction based on ASTM Test Method D1557.

G. Potentially compressible undocumented fill and alluvial soils at the site may settle as a result of wetting or settle under the surcharge of engineered fill and/or structural loads supported on conventional foundations. These soils shall be removed to within 2 feet of groundwater and replaced as moisture conditioned engineered fill. In general, removal depths may range from 5 to 10 feet below the existing ground surface across the site. Where possible, removal depths shall extend to a minimum of 3 feet below bottom of foundation footings and pavement subgrade. The lateral limits of the removal bottom shall extend a length equal to the removal depth where possible. If the recommended lateral removal limits cannot be accommodated, temporary shoring or slot removals may be necessary. The bottom of all removals shall be evaluated by a Certified Engineering Geologist to confirm conditions are as anticipated.

3.3 BACKFILLING

A. Method: After concrete has been placed, forms removed and concrete work approved, backfill the excavations with earth to indicated or required grades. Carry on backfilling simultaneously on each side of walls or grade beams. Remove all rubbish and wood from the excavations before placing backfill.

B. Concrete Protection: Prior to placing any backfill, adequately cure all concrete and provide any bracing required to ensure the stability of the structure. Protect waterproofing and dampproofing against damage in a manner acceptable to the Owner. Remove bracing as backfill operations progress.

C. Material, Lifts and Moisture:
   1. Structural fill shall be free of organic matter and consist of granular material containing less than 12 percent passing by dry weight the U.S. Standard No. 200 mesh sieve. The fill material shall be based on the Geotechnical Report.
   2. Structural fill shall be placed in level lifts not exceeding 12 inches in loose thickness. Each lift shall be compacted to at least 95 percent of the Modified Proctor maximum dry density near the optimum moisture content as determined by ASTM D-1557. Fill to be compacted with a vibratory plate tamper or a small walk behind vibratory roller shall be placed in lifts not exceeding six inches in loose thickness. In place density tests shall be performed by a qualified soils technician working under the supervision of a geotechnical engineer in accordance with appropriate ASTM procedures. Any fill indicating less than the recommended relative compaction shall be recompacted until the required density is obtained prior to the placement of subsequent fill lifts or pouring concrete for substructures.
   3. Structural fill or backfill placed below the water table shall be in accordance with Geotechnical Report and observed by the Geotechnical Engineer.

3.4 GRADING

A. Slopes: Grade to finish grades indicated on Drawings, with uniform slopes between all points.

B. Subgrades: Blade to required grade and roll or tamp subgrades for exterior slabs, decks and paving.

3.5 CLEAN-UP

A. Disposal: Haul away rubbish, debris, and rocks from site promptly and dispose of legally. Burning rubbish on site is prohibited.

B. Dust and Noise Abatement: During entire period of construction keep area and material being loaded sprinkled to reduce dust in air and annoyance to premises and surrounding property.

--END OF SECTION-

SECTION 13 1102
SPRAYGROUND CONCRETE

PART 1 – GENERAL

1.1 WORK INCLUDED

A. Forming for cast-in-place concrete associated with sprayground areas and sprayground area decks.
B. Reinforcement for cast-in-place concrete associated sprayground areas and sprayground area decks.
C. Cast-in-place concrete for sprayground area structures. Do not use waterproofing admixture of any kind.
D. Cast-in-place concrete for sprayground area decks with Xypex C-500 crystalline waterproofing admixture. Water proofing admixture is for sprayground area decks only.
E. Provide labor, materials and equipment as required to install sealant for all sprayground area deck expansion joints, or any other caulking, as indicated on the aquatic Drawings and herein specified.

1.2 QUALITY ASSURANCE

A. Qualifications of Workers:

1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past five (5) years immediately prior to the commencement of the work. The Qualified contractor Shall submit documentation of a minimum of two (2) interactive spray ground play equipment and climb-on structure installations completed in the last five (5) years.
2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.
3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.
4. General Contractor who wishes to self-perform the Sprayground Concrete work requiring a C-53 license, must possess an active and valid C-53 license. A General Contractor self-performing Sprayground Concrete work, may subcontract any portion(s) of the work to any subcontractor possessing the C-53 license. However, a subcontractor may not subcontract any portion of the work to another subcontractor.

B. Standards:

1. In addition to complying with the California Building Code (2022 edition), 1908 comply with all pertinent recommendations contained in “Guide to Formwork for Concrete" Publication ACI 347R-14 of the American Concrete Institute.
2. In addition to complying with California Building Code (2022 edition), comply with all pertinent recommendations contained in “Guide to Presenting Reinforcing Steel Design Details,” Publication ACI 315R-18 of the American Concrete Institute.

3. In addition to comply with all local codes and regulations, comply with all pertinent recommendations contained in American Society for Testing and Materials (ASTM); ASTM C 920 “Standard Specification for Elastomeric Joint Sealants.”
4. Where provisions of applicable codes and standards conflict with the requirements of this Section, the more stringent provisions shall govern.

C. Tolerances: Construct all sprayground concrete straight, true, plumb and square within a tolerance horizontally of one in 200 and vertically of one in 2000.

1.3 SUBMITTAL AND SUBSTITUTIONS

A. Provide submittals in conformance with the requirements of Section 01 3300.

B. Samples and Certificates, Concrete Reinforcement:

1. Provide all data and access required for testing as described in Division 1 of the Specifications.
2. All material shall bear mill tags with heat number identification. Mill analysis and report shall be made available upon request.
3. Material not so labeled and identifiable may be required by the Owner’s Representative to be tested by the testing laboratory selected by the Owner’s Representative and at no additional cost to the Owner, in which case random samples will be taken for one series of tests from each 2-1/2 tons or fraction thereof of each size and kind of reinforcing steel.
4. Design mix from batch plant demonstrating previous use history and associated strengths at 28 days.
5. The Contractor shall submit a mix design stamped and signed by a licensed engineer for approval by the Owner’s representative prior to any placement of concrete.
6. The Contractor shall submit a mix design stamped and signed by a licensed engineer for the sprayground area decks which contains the specified Xypex C-500 crystalline waterproofing admixture for approval by the Owner’s Representative prior to any placement of concrete.

C. Submit proof of qualifications as specified in Article 1.2.A of this Section.

D. Submit reinforcing shop drawings of gutters, floors, dike walls and balance tanks, etc. as shown on the construction drawings.

1.4 PRODUCT HANDLING

A. Delivery: Deliver materials to the Project Site in the manufacturer's original unopened containers with all labels intact and legible.

B. Storage: Store materials under cover in a manner to prevent damage and contamination, and store only the specified materials at the Project Site.

C. Protection: Use all means necessary to protect the sprayground concrete before, during, and after installation and to protect the installed Work specified in other Sections.

D. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative.

PART 2 – PRODUCTS

2.1 CONCRETE FORMWORK

A. Form Materials:

1. Form Lumber: All form lumber in contact with exposed concrete shall be new except as allowed for reuse of forms in Part 3 of this Section, and all form lumber shall be one of the following, a combination thereof, or an equal approved in advance by the Owner.
   a. "Plyform," Class I or II, bearing the label of the Douglas Fir Plywood Association; "Inner-Seal" Form as manufactured by Louisiana-Pacific, or equal.
   b. Douglas Fir-Larch, number two grade, seasoned, surfaced four sides.
2. Form Release Agent: Colorless, non-staining, free from oils; chemically reactive agent that shall not impair bonding of paint or other coatings intended for use.

B. Ties and Spreaders:

1. Type: All form ties shall be a type which do not leave an open hole through the concrete and which permits neat and solid patching at every hole.
2. Design: When forms are removed, all metal reinforcement shall be not less than two (2) inches from the finished concrete surface.
3. Wire Ties and Wood Spreaders: Do not use wire ties or wood spreaders.

C. Alternate Forming Systems: Alternate forming systems may be used subject to the advance approval of the Owner.

2.2 CONCRETE REINFORCEMENT

A. Bars: Bars for reinforcement shall conform to "Specifications for Deformed Carbon-Steel Bars for Concrete Reinforcement," ASTM A-615, Grade 60.

B. Wire Fabric: Wire fabric shall conform to "Specifications for Carbon Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete," ASTM A1064.

C. Tie Wire: Tie wire for reinforcement shall conform to "Specifications for Carbon Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete," ASTM A1064 black annealed 16-gauge tie wire.

2.3 CAST-IN-PLACE CONCRETE

A. Concrete:

1. All concrete, unless otherwise specifically permitted by the Owner, shall be transit-mixed in accordance with ASTM C94. Concrete for water retaining structures that do not receive a waterproofing finish (such as ceramic tile or sprayground plaster) shall receive a topical waterproofing finish.

2. The control of concrete production shall be under the supervision of a recognized testing agency, selected by the Owner.
3. Quality: All concrete shall have the following minimum compressive strengths at twenty-eight (28) days and shall be proportioned within the following limits:
   a. 4,000 psi minimum compressive strength.
   b. 1” maximum size aggregate.
   c. 6.0 minimum sacks of cement per cubic yard.*
   d. Maximum water to cement ratio of 0.40 minimum - 0.45 maximum.
   e. 4” maximum slump.
   f. Fiber Reinforcement Additive (to be used in gutter hand hold only): See Article 2.3 of this section.
   g. Xypex Admix C-500 2%-2.5% by weight of cement content. Contact Xypex Technical Services to confirm dosage. (To be used for sprayground decks only.)

   * For estimate only: to be determined by mix design.
4. Cement: All cement shall be Portland Cement conforming to ASTM C-150,Type II or V, and shall be the product of one manufacturer.
5. Aggregates:
   a. Shall conform to “Standard Specifications for Concrete Aggregates,” ASTM C33, except as modified herein.
   b. Coarse Aggregate: Clean sound washed gravel or crushed rock. Crushing may constitute not more than 30% of the total coarse aggregate volume. Not more than 5% flat, thin, elongated or laminated material nor more than 1% deleterious material shall be present. 1" aggregate graded from 1/4” to 1”, fineness modulus 6.90 to 7.40. 1-1/2” graded from ½” to 1-1/2”, fineness modulus 7.80 to 8.20.
   c. Fine Aggregate: Washed natural sand of hard, strong particles and shall contain not more than 1% of deleterious material, fineness modulus 2.65 to 3.05.
   d. Aggregate must be certified, non-expansive from a “known” good source.
6. Water: ASTM C1602; Clean, fresh, free from acid, alkali, organic matter or other impurities liable to be detrimental to the concrete (potable).
7. Admixtures: Admixtures shall be used upon approval of the Owner.
   a. Air-entraining admixture: Conform to ASTM C260.
   b. Water-reducing admixture: Conform to ASTM C494.
   c. Waterproofing admixture for decks only: Xypex Admix C-500, no substitutions permitted. Conform to ASTM C494.
8. Xypex Admix C-500 Dosage: To be used for sprayground decks only.
   a. General: Xypex Admix must be added to concrete mix at time of batching. It is important to obtain a homogeneous mixture of Xypex Admix with the concrete. Do not add dry Admix powder directly to wet mixed concrete as this could cause clumping and thorough dispersion may not occur.
   b. Dosage Rate: Under normal conditions, the crystalline waterproofing powder shall be added to the concrete mix at the following rates:

      i. Xypex Admix C-500 2% – 2.5% by weight of cement content

c. Weather Conditions: For mixing, transporting and placing concrete under conditions of high temperature or low temperature, follow concrete practices such as those referred to in ACI 305R (Hot Weather Concreting) and ACI 306R (Cold Weather Concreting) or other applicable standards.

d. Concrete Batching & Mixing Procedures: Procedures for the addition of Xypex admixture will vary according to type of batch plant operation and equipment. Prior to the placement of any concrete, the concrete batch plant and the contractor shall be responsible to consult with the local Xypex representative concerning additional procedures for the addition, mixing and to confirm dosage.

Note: For enhanced chemical protection or for meeting specific project requirements or where the concrete mix design contains higher than 25% type F fly ash content or includes a Portland cement/slag cement/type C fly ash blend, consult with manufacturer or its authorized representative to determine appropriate dosage rates

9. Fiber Reinforcing Additive (sprayground decks only): Fiber additives shall meet the requirements of ASTM C-116 as a Type II synthetic fiber complying with applicable portions of the ICC-ES AC32 acceptance criteria for synthetic fibers.
   a. “Euclid Chemical’ PSI fiberstrand F, 100% homopolymer fibrillated polypropylene microfiber. Mix rate 1.5 lbs. per cubic foot of concrete

B. Construction Joints: Use keyform for slab pour joints. Either preformed galvanized or PVC construction joint forms of a standard manufacturer may be used. Install per manufacturer's recommendations and tool edges of slabs.

C. Waterstops: PVC bulb-type for use between concrete pours / lifts, conforming with ASTM D 570, D 624, and D 638. Provide in configuration(s) as recommended by manufacturer for specific application. Greenstreak, W.R. Meadows, or equal.

D. Curing Materials:

1. Liquid Membrane (covered slab): Chlorinated rubber membrane forming, curing sealing compound conforming to ASTM C309.
2. Liquid Membrane (exposed slab): Clear methyl and butyl methacrylate non-staining, membrane forming, curing-sealing compound conforming to ASTM C309.

E. Cement Grout and Drypack:

1. Cement Grout: Mix 1 part by volume of Portland Cement, 1/2 part by volume of water and fine aggregate enough to make mixture flow under its' own weight.
2. Drypack: Mix 1 part by volume of Portland Cement, 1/2 part by volume of water and fine aggregate enough to make a stiff mix that will mold into a ball. Mix no more than can be used in 30 minutes.

F. Concrete Pool Deck Penetrating Sealer:

1. Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com
2. Typical Technical Data:

a. FORM: Clear liquid
b. SPECIFIC GRAVITY: 1.04
c. pH: not applicable
d. WEIGHT/GALLON.: 8.69 pounds
e. ACTIVE CONTENT: 11.47 percent
f. TOTAL SOLIDS: 9.21 percent ASTM D2369
g. FLASH POINT: 63 degrees Fahrenheit (53 degrees Celsius) ASTM D3278
h. FREEZE POINT: 38 degrees Fahrenheit (3 degrees Celsius)
i. SHELF LIFE: 2 years in tightly sealed, unopened container
j. VOC CONTENT: less than 100 grams per Liter

3. Limitations
   a. Not appropriate for use on limestone, marble, travertine or other calcareous stones. Always test other natural stone to ensure desired results.
   b. Not suitable for application to synthetic resin paints, gypsum, plaster or other non-masonry surfaces.
   c. May not be suitable for surfaces receiving paints or coatings. Always test.
   d. May cause slight darkening on some surfaces.
   e. May adhere to glass. Contact PROSOCO for removal recommendations.
   f. Not suitable for protecting surfaces subject to constant water spray.
   g. Will not compensate for structural or material defects.
   h. Not recommended for below grade application.
4. Application: Provide two coats per manufacturer's requirements. Before applying, read “Preparation” in the Manufacturer’s Product Data Sheet and all safety information in the Manufacturer’s Safety Data Sheet for Saltguard® VOC (for projects in California use Saltguard WB). Refer to the Product Data Sheet for additional information about application of Saltguard® VOC. Do not dilute or alter

2.4 JOINT SEALANT MATERIALS

A. Caulking: Multipart, non-sag gun grade polyurethane-based sealant meeting the requirements of ASTM C920-02, Type S or M, Mamemco International, Pecora, Sika Corp., Sonneborn Building Products, Tremco or approved equal. Self-leveling caulking materials are not allowed.

B. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

C. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

D. Sealant Backer Rod: Provide compressible polyethylene or polyurethane backer rod as recommended by the sealant manufacturer.

E. Bond Breaker Tape: Provide polyethylene tape or other plastic tape as recommended by sealant manufacturer, to be applied to sealant-contact surfaces where bond to substrate or joint filler must be avoided for proper performance of sealant.

2.5 OTHER MATERIALS

A. All other materials, not specifically described but required for proper completion of the work of this Section, shall be as selected by the Contractor subject to the advance review by the Owner.

2.6 BALANCE TANK / SPRAYGROUND DRAINS WATERPROOFING

A. Provide waterproofing in accordance with Section 13 11 05 of the specifications.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:

1. Prior to all Work of this Section, carefully inspect the installed Work of other trades and verify that all such Work is complete to the point where this installation may properly commence.
2. Verify that all Work may be constructed in accordance with all applicable codes and regulations, the referenced standards, the original design, and in accordance with site specific Geotechnical Report.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Owner.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.
3. Failure to notify the Owner and give written notice of discrepancies shall constitute acceptance by the Contractor of existing conditions as fit and proper to receive work.

3.2 CONCRETE FORMWORK

A. Construction of Forms:

1. General: Construct all required forms to be substantial, sufficiently tight to prevent leakage of concrete paste, and able to withstand excessive deflection when filled with wet concrete.
2. Layout:
   a. Form for all required cast-in-place concrete to the shapes, sizes, lines and dimensions indicated on the Drawings.
   b. Exercise particular care in the layout of forms to avoid necessity for cutting concrete after placement.
   c. Make proper provisions for all openings, offsets, recesses, anchorages, blocking and other features of the Work as shown or required.
   d. Perform all forming required for Work of other trades and do all cutting and repairing of forms required to permit such installation.
   e. Carefully examine the Drawings and Specifications and consult with other trades as required relative to providing for pipe and conduit penetrations, reglets, chases and other items in the forms.

3. Imbedded Items: Set all required steel frames, angles, bolts, inserts and other such items required to be anchored in the concrete prior to concrete being placed.
4. Bracings:
    a. Properly brace and tie the forms together so as to maintain position and shape and to ensure safety to workmen.
    b. Construct all bracing, supporting members and centering of ample size and strength to safely carry, without excessive deflection, all dead and live loads to which they may be subjected.
    c. Properly space the forms apart and securely tie them together, using metal spreader ties that give positive tying and accurate spreading.
5. Wetting: Keep forms sufficiently wetted to prevent joints from opening up before concrete is placed.

B. Plywood Forms:

1. Design: Nail the plywood panels directly to studs and apply in a manner to minimize the number of joints.
2. Joints: Make all panel joints tight butt joints with all edges true and square.

C. Footing Forms:

1. Wood Forms: All footing forms shall be wood unless otherwise specifically approved by the Owner, or as specified in paragraph 3.2(C)(2).
2. Earth Forms:
    a. Side walls for footings may be of earth provided the soil will stand without caving and the sides of the bank are made with a neat cut to the minimum dimensions indicated on the Drawings.
    b. For excavation and backfill of earth forms, conform with applicable provisions of Section 13 1101, “Sprayground Excavation”.

D. Reuse of Forms:

1. Reuse of forms shall be subject to advance approval of the Owner.
2. Except as specifically approved in advance by the Owner, reuse of forms shall in no way delay or change the schedule for placement of concrete from the schedule obtainable if all forms were new.
3. Except as specifically approved in advance by the Owner, reuse of forms shall in no way impart less structural stability to the forms nor less acceptable appearance to finished concrete.

E. Removal of Forms:

1. General:
    a. In general, side forms of footings may be removed seven (7) days after placement of concrete, but time may be extended if deemed necessary by the Owner.
    b. Forms for footings, foundations, grade beams, slabs, walls, and other formed concrete may be removed fourteen (14) days after placement of concrete.

2. Removal:
    a. Use all means necessary to protect workers, passersby, the installed Work of other trades and the complete safety of the structure.
    b. Cut nails and tie wires or form ties off flush, and leave all surfaces smooth and clean.
    c. Remove metal spreader ties on exposed concrete by removing or snapping off inside the wall surface and pointing up and rubbing the resulting pockets to match the surrounding areas.
    d. Flush all holes resulting from the use of spreader ties and sleeve nuts using water, and then solidly pack throughout the wall thickness with cement grout applied under pressure by means of a grouting gun; grout shall be one part Portland Cement to 2-1/2 parts sand; apply grout immediately after removing forms.

3.3 CONCRETE REINFORCEMENT

A. Bending:

1. General:
    a. Fabricate all reinforcement in strict accordance with the Drawings.
    b. Do not use bars with kinks or bends not shown on the Drawings.
    c. Do not bend or straighten steel in a manner that will injure the material. (When opposite end is already encased in concrete.)
2. Design:
    a. Bend all bars cold.
    b. Make bends for stirrups and ties around a pin having a diameter of not less than two (2) times the minimum thickness of the bar.
    c. Make bends for other bars, including hooks, around a pin having a diameter of not less than six (6) times the minimum thickness of the bar.

B. Placing:

1. General: Before the start of concrete placement, accurately place all concrete reinforcement, positively securing and supporting by concrete blocks, metal chairs or spacers, or by metal hangers.
2. Clearance:
    a. Preserve clear space between bars of not less than one and one-half (1-1/2) times the nominal diameter of the round bars.
    b. In no case let the clear space be less than one and one-half (1-1/2) inches nor less than one and one-third (1-1/3) times the maximum size of the aggregate.
    c. Provide the following minimum concrete covering of reinforcement:
        i. Concrete deposited against earth: three (3) inches minimum.
        ii. Concrete below grade deposited against forms: two (2) inches minimum.
        iii. Concrete elsewhere: As indicated on Drawings or otherwise approved by the Owner.
3. Splicing:
    a. Horizontal Bars:

i. Place bars in horizontal members with minimum lap at splices sufficient to develop the strength of the bars.
ii. Bars may be wired together at laps except at points of support of the member, at which points preserve clear space described above.
iii. Whenever possible, stagger the splices of adjacent bars.
iv. Splice sixty (60) bar diameters minimum.

b. Wire Fabric: Make all splices in wire fabric at least one and one-half (1-1/2) meshes wide.
c. Other Splices: Make only those other splices that are indicated on the Drawings or specifically approved by the Owner.

4. Dowels: Place all required steel dowels and securely anchor them into position before concrete is placed.
5. Obstructions: In the event conduits, piping, inserts, sleeves and other items interfere with placing reinforcement as indicated on the Drawings or otherwise required, immediately consult with the Owner and obtain approval of a new procedure prior to placing concrete.

C. Cleaning Reinforcement: Steel reinforcement, at the time concrete is placed around it, shall be free from rust scale, loose mill scale, oil, paint and all other coatings which will destroy or reduce the bond between steel and concrete. Bend down all the tie wire away from the top of the sprayground deck. Maintain a 2" clear from top of concrete to the tie wire.

3.4 CAST-IN-PLACE CONCRETE

A. Conveying and Placing Concrete:

1. Before placing concrete, mixing and conveying equipment shall be well cleaned, and the forms and space to be occupied by concrete shall be thoroughly cleaned and wetted. Ground water shall be removed until the completion of the work.
2. No concrete shall be placed in any unit of work until all formwork has been completely constructed, all reinforcement has been secured in place, all items to be built into concrete are in place, and form ties at construction joints tightened.
3. Concrete shall be conveyed from mixer to place of final deposit in such a way to prevent the separation or loss of ingredients. It shall be placed as nearly as practicable in its' final position to avoid rehandling or flowing. Concrete shall not be dropped freely where reinforcing bars will cause segregation, nor shall it be dropped freely more than six (6) feet. Use tremies, spouts and dump boxes in deep sections. Vibrators are not acceptable for facilitating concrete transport.
4. Concrete shall be tamped and spaded to insure proper compaction into all parts of forms and around reinforcement. A mechanical vibrator shall be used to thoroughly compact the concrete. Vibration must be by direct action in the concrete and not against forms or reinforcement.

5. Mixing and transport time as indicated in ASTM C94 is required. If air temperatures are between 85° and 90° F the delivery time is to be reduced to 75 minutes. When air temperatures are in excess of 90° F the delivery time should be reduced to 60 minutes.
6. Truck mixes without batch certificates will be rejected.

B. Construction Joints / Expansion Joints: Construction joints and expansion joints shall be provided at locations and in the manner shown on the Drawings. With exception of existing concrete / new shotcrete joints, use PVC bulb-type waterstops appropriate for design condition between all concrete pours / lifts to avoid cold joints. Waterstops shall be placed in such a way to protect reinforcing steel from rust and oxidation. All expansion joints must be the full depth of the concrete section in which they are located.

C. Slab Finishes: Concrete slabs shall be compacted and screeded uniformly to grades shown. Push large aggregates below the surface with a screen tamper, screed and bull float. As soon as the surface becomes workable, it shall be wood floated, then finished as indicated on the Drawings to a uniform smooth, true surface in a neat and workmanlike manner. Carefully coordinate slab finish requirements with other trades (ceramic tile) to insure concrete finish is appropriate substrate for final finish material.

1. Contractor shall provide three mock-up deck samples, minimum 3’ x3’, with a wedge anchor installed in one sample. These three (3) samples shall be constructed; one (1) with a light broom finish, one (1) with a medium broom finish and one (1) with a heavy broom finish for determination and selection of an appropriate deck finish. Each sample shall be edged on all four sides to demonstrate a ¾” radius edge. Anchor installation shall demonstrate acceptable interface between anchor and the top of deck. Deck samples shall remain on job site through final inspection for reference.
2. Sprayground Decks: Medium Broom Finish.

D. Protection and Curing:

1. Concrete shall be protected from injurious action of the elements and defacement of any nature during construction.
2. All forms must be kept wet to prevent drying out of the concrete.
3. All concrete surfaces including footings must be kept wet for at least seven (7) days after concrete is placed.
4. Apply the appropriate curing materials, as specified in 2.3D of this Section, immediately after finishing slabs. Application shall be as specified by the manufacturer.

E. Form Removal:

1. Take care in removing forms so that surfaces are not marred or gouged and that corners are true, sharp and unbroken.
2. No steel spreaders, ties or other metal shall project from or be visible on any concrete surfaces.

F. Defective Work:

1. Should the strength of any concrete for any portion of the work indicated by tests of molded cylinders and core tests fall below minimum 28 days strength specified or indicated, concrete will be deemed defective work and shall be replaced.
2. Concrete work that is not formed as indicated, is not true to intended alignment, not plumb or level where so intended, not true to intended grades or elevations, not true to specified or selected finish, contains sawdust shavings, wood, or embedded debris, which exhibits cracks or contains fine or coarse sulfide particles, or expansive aggregates detrimental to performance or appearance of the concrete shall be deemed defective.
3. Promptly perform work required to replace and properly clean (by sandblasting if necessary) any defective concrete panels (control joint or expansion joint to control joint or expansion joint), at Contractor's expense, including all expense of additional inspection, tests, or supervision made necessary as a result of defective concrete.

3.5 EXPANSION JOINTS

A. Temperatures: Do not install sealants when air temperature is less than 40°F.

B. Tooling: Tool exposed joints to a slightly concave surface using slicking materials recommended by the manufacturer. The tooling procedure shall press sealant against the sides of the joint. No materials shall be left “feathered” out or smeared on the abutting materials. Completed joints shall have a uniform professional appearance.

C. Joint Construction: Sealant joint width, thickness and cross-sectional profile to be constructed in strict accordance with the sealant manufacturer’s recommendations.

3.6 CLEAN-UP

A. Upon completion of the Work of this Section, immediately remove all sprayground concrete materials, debris and rubbish occasioned by this Work to the approval of the Owner.

- END OF SECTION -

SECTION 13 1105
SPRAYGROUND WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Furnish all labor, materials, tools and equipment as necessary to perform Cement Waterproofing on new and existing structures as shown on drawings and as specified in this section.

B. Related Sections:
1. Division 13, Section 13 1102 “Sprayground Concrete.”

1.2 QUALITY ASSURANCE

A. Qualifications of Workers:
1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past five (5) years immediately prior to the commencement of the work. The Qualified contractor Shall submit documentation of a minimum of two (2) interactive spray ground play equipment and climb-on structure installations completed in the last five (2) years.
2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.
3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.
4. General Contractor who wishes to self-perform the Sprayground Waterproofing work requiring a C-3 license, must possess an active and valid C-3 license. A General Contractor self-performing Sprayground Waterproofing work, may subcontract any portion(s) of the work to any subcontractor possessing the C-53 license. However, a subcontractor may not subcontract any portion of the to another subcontractor.

B. Standards:
1. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 1999.
2. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
3. ASTM C 267 - Standard Test Methods for Chemical Resistance of Mortars, Grouts, and Monolithic Surfacings and Polymer Concretes; 1997.
4. ASTM C 321 - Standard Test Method for Bond Strength of Chemical-Resistant Mortars.
5. ASTM C 348 - Standard Test Method for Flexural Strength of Hydraulic Cement Mortars.
6. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials.
7. ASTM E 329 - Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction; 1998a.
8. COE CRD-C 48 - Standard Test Method for Water Permeability of Concrete; 1992.
9. NSF 61 - Drinking Water System Components - Health Effects; 2000a.

1.3 SUBMITTALS

A. Submit under provisions of Section 01 3300.

B. Product Data: Manufacturer’s printed data sheet, for specified products.

C. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

1. Testing Agency: Independent laboratory meeting the requirements of ASTM E 329 and certified by the United States Bureau of Standards.

D. Certificates: Product certificates signed by manufacturer certifying that:

1. Materials comply with specified performance characteristics and physical requirements.
2. Installer is qualified and approved by manufacturer.

E. Manufacturer’s installation instructions.

F. Manufacturer's report on field inspection of substrates, prior to installation.

G. Executed warranties.

1.4 PRODUCT HANDLING

A. Deliver and store in a dry area between 40ºF (5ºC) and 90ºF (32ºC). Handle and protect from freezing and direct sun light in accordance with manufacturer's instructions.

B. Deliver materials in manufacturer's unopened containers, fully identified with brand, type, grade, class and all other qualifying information. Provide Material Safety Data Sheets for each product.

C. Take necessary precautions to keep products clean, dry and free of damage.

1.5 SYSTEM REQUIREMENTS

A. Coordinate waterproofing installation with other trades.

B. Provide materials and accessories in timely manner so as not to delay Work.

1.6 PROJECT CONDITIONS

A. Maintain surfaces to be waterproofed and surrounding air temperature at not less than 40ºF (5ºC). Apply only when temperatures are steady or rising.

B. Do not apply materials to frozen or frost-filled surfaces.

C. Exercise caution when temperatures exceed 90ºF (32ºC).

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Approved Manufacturers:

1. Xypex Chemical Corporation; 13731 Mayfield Place, Richmond, BC V6V 2G9. ASD. Tel: (800) 961-4477 or (604) 273-5265. Fax: (604) 270-0451. E-mail: info@xypex.com. www.xypex.com.
2. Miracote Miraflex Membrane C 3000 E. Harcourt St., Rancho Dominguez, CA 90221 Phone: (310) 631-6594, Fax: (310) 886-9119
3. Hycrete, Inc.; 462 Barrell Ave, Carlstadt, NJ, 07072. Phone: (201) 386-8110. Fax: (201) 386-8155. www.hycrete.com

B. Requests for substitutions will be considered only if submitted to the architect/engineer in writing and must include substantiation of product performance, 10 days prior to the original bid date.

2.2 MATERIALS

A. Waterproofing Material - Acrylic Modified Cement Waterproofing: Cementitious, two-component, acrylic emulsion based, highly flexible, crack bridging waterproof membrane barrier against positive water pressure, with the following characteristics:

1. Product: Xypex or Miracote Miraflex two coat crystalline waterproofing or Hycrete W500
2. Color: Gray
3. Dry Component-A: Precise blend of cementitious material
4. Liquid Component-B: White acrylic emulsion and admixtures
5. Working Time: Approximately 45 minutes
6. Shore A Hardness: > 90
7. Bond/Adhesion: (ASTM C-321) 215 psi (1.5 MPa) @ 28 days
8. Tear Resistance: 190 psi (1.3 MPa) at 68oF (20oC)
9. Elongation: (%) 60 (gray); 40 (white) at 68oF (20oC)
10. Elongation: (mils) 40 (gray); 25 (white)
11. Crack bridging capacity: (inch) 1/16 (gray) (1.5 mm)
12. Vapor Permeability: (US Perms) 1.2 (ASTM E-96)
13. Waterproofing: (CRD C 48-92) Withstands 200 psi = 460 feet (14 bar = 140 m) hydrostatic pressure (positive side) at 3/32 (2.4 mm) thickness.
14. Penetration: At least 2 inches (50 mm) penetration of crystal-forming material, evidenced by scanning electron microscope photographs.

15. Chemical Resistance: No detrimental effects when tested using 4000 psi (27.6 MPa) compressive strength concrete in accordance with ASTM C 267 using hydrochloric acid (pH of 3.5), brake fluid, transformer oil, ethylene glycol, toluene, and caustic soda as test mediums for duration of 84 days each; minimum of 14 percent increase in concrete compressive strength when tested in accordance with ASTM C 39/C 39M.
16. Potable Water Contact Approval: NSF certification for use on structures holding potable water, based on testing in accordance with NSF 61.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine all construction substrates and conditions under which waterproofing materials are to be installed. Do not proceed with the waterproofing application until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Protect adjacent surfaces not designated to receive waterproofing.

B. Substrate preparation:
1. Remove oil, grease, dirt, loose particles, remains of form oils, water repellents, rust or other coatings by high-pressure water blasting (>3000 psi), wet or dry sand blasting, or other mechanical means to produce surfaces suitable for application of waterproofing.
2. Follow manufacturer's instructions to clean and prepare surfaces and seal cracks and joints.
3. Voids in concrete substrates: 1/4-inch (6 mm) diameter and larger, pre-treat with a cementitious mortar. Less than 1/4-inch (6 mm) diameter can be filled with a scratch coat of two-component waterproofing material.

C. Rinse surfaces to be waterproofed (excluding drywall or similar) with clean water to saturated surface dry (SSD) condition, with no standing water on horizontal surfaces.

3.3 INSTALLATION

A. Mix two-component waterproofing material in proportions recommended by manufacturer.

B. Taping:

1. Apply two-component waterproofing material by brush in a six to seven inch (15 – 18 cm) wide strip coat centered over all joints, cracks, penetrations and changes of plane to be taped.

2. While this coat is still wet, unroll joint sealing tape into the coating and apply a coat of two-component waterproofing material over the tape, smoothing out wrinkles and fish mouths.

C. Positive Side Waterproofing:

1. Apply two-component waterproofing material in quantities as per manufacturer's specifications and recommendations:
2. Apply at 60 mils or 1/16” (1.5 mm) total thickness for water levels up to 2-feet (0.60 m).
3. Apply at 90 mils (2.4 mm) total thickness for water depth greater than 2-feet (>0.60 m).

D. Application considerations:

1. Apply, using stainless steel trowel, tampico brush, short nap roller, or appropriate compressed-air spray equipment.
2. If needed, such as in zones posed to movement or cracking, plaza decks, the waterproofing material can be additionally reinforced with a reinforcing mesh (supplied by waterproofing manufacturer), embedded between two waterproofing layers.
3. Apply only when surface and ambient temperatures are 40°F (5°C) and rising. At high temperatures i.e., 86°F (30°C) and above) protect application from direct sun and wind to prevent premature surface drying and shrinkage cracks. Apply material in two coats minimum.
4. Application thickness should not exceed 1/8-inch (120 mils (3 mm)).
5. Do not bridge cracks greater than 1/16-inch (1.5 mm).
6. Bridge dynamic cracks or joints with elastomeric joint sealing tape, as supplied by waterproofing manufacturer.
7. Do not overcoat waterproofing material with solvent-based materials.
8. Prime and protect alkali sensitive metals such as copper, aluminum, galvanized or zinc treated metal before over-coating with waterproofing material. Follow manufacturer’s recommendations for primer material.

3.4 CURING

A. Follow manufacturer's general instructions for curing and hardening of waterproofing material. Do not use water for curing. Waterproofing material is self-curing.

B. Protect surfaces from rain, frost, and premature dehydration.

3.5 ACCEPTANCE

A. Remove left over materials and any foreign material resulting from the work from the site.

B. Clean adjacent surfaces and materials occasioned by this Work to the approval of the Owner.

- END OF SECTION -

SECTION 13 1106
SPRAYGROUND EQUIPMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Sprayground equipment items required for this Work as indicated on the Drawings and specified herein.

B. Provide start up and operation instructions to the Owner for both the sprayground and mechanical equipment. Properly balance sprayground water chemistry until such time that the Owner takes occupancy of the project.

1.2 QUALITY ASSURANCE

A. Qualifications of Workers:
   1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past five (5) years immediately prior to the commencement of the work. The Qualified contractor Shall submit documentation of a minimum of two (2) interactive spray ground play equipment and climb-on structure installations completed in the last five (5) years.
   2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.
   3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.
   4. General Contractor who wishes to self-perform the Sprayground Equipment work requiring a C-53 license, must possess an active and valid C-53 license. A General Contractor self-performing Sprayground Equipment work, may subcontract any portion(s) of the work to any subcontractor possessing the C-53 license. However, a subcontractor may not subcontract any portion of the work to another subcontractor.

B. All equipment supplied or work performed shall comply with regulations governing public sprayground areas as contained within State and Local Codes.

1.3 SUBMITTALS AND SUBSTITUTIONS

A. Provide submittals in conformance with the requirements of Section 01 33 00.

B. Required submittals include:

   1. Sprayground Deck and Mechanical Equipment as specified in Article 2.1-2.11 of this Section.

C. Submit proof of qualifications as specified in Article 1.2.A of this Section.

D. The equipment shown on the plans represents the first listed items in the technical specifications. The Contractor shall be responsible for all required field coordination and installation of any approved equal product to provide a fully working and warranted system. The Contractor shall submit detailed shop drawings for any products used other than the first listed specified items. Contractor provided shop drawings shall include details and quality equal to the original plans and construction documents. The Contractor shall provide any and all required engineering including but not limited to structural and anchorage requirements for any proposed equipment other than the first listed specified equipment. The Contractor is responsible to provide a factory certified representative(s) to start-up and provide on-site training for all sprayground mechanical equipment provided.

1.4 PRODUCT HANDLING

A. Protection: Use all means necessary to protect sprayground equipment items before, during and after installation and to protect the installed work specified in other Sections.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative.

PART 2 - PRODUCTS

2.1 DECK EQUIPMENT

A. Sprayground Safety Signs: As required by the Department of Health. Submittal required. Placement at the sprayground site shall be in conformance with Health Department Inspector. One (1) set minimum per site.

B. Sprayground Elements: The basis of design for the spray ground elements is Waterplay and Crystal Fountains (or equal).

Waterplay Contact: Melinda Pearson, Melinda.Pearson@makrgroup.com

Crystal Fountains Contact: Asmaa Elkorazati, aelkorazati@crystalfountains.com

	Elements	Qty	Total Flow
1.	Geyser Waterplay 0010-7478	4	24 GPM
2.	Monster 5 Waterplay 0010-7480	11	60 GPM
3.	Spray Ring Crystal Fountain NSS800	1	25 GPM

4.	Solo Spurt Waterplay 0010-7481	5	3 GPM
5.	GS Tulip Waterplay 0010-7489	9	42 GPM
6.	Tower Spray Waterplay 0010-7488	2	18 GPM
7.	Starlet Spray Waterplay 0010-7483	2	10 GPM
8.	Misty Mountain Waterplay 0010-7480	1	2 GPM
9.	Spray Tunnel 8 (The Wave) Waterplay 0010-7497	2	48 GPM
10.	Team Effect Waterplay 0010-9816	1	8 GPM
11.	Ground Jet Crystal Fountains NLG	2	50 GPM
12.	Crown Jet Crystal Fountains WMF076	2	20 GPM
13.	Column Jet Crystal Fountains NLC075	2	20 GPM
14.	2 Ft Diameter Custom Half Circle w/ ten (10) stream jets. Crystal Fountains WMD100	2	100 GPM
15.	Play Phase Post Activator Waterplay 0010-1854	2	
16.	Circulator Drain Waterplay 0010-4133	6	
17.	2 t. diameter custom quarter circle w/ five (5) stream jets Crystal Fountains WMD100	1	25 GPM
Note: Sprayground decks shall have non-slip finish and shall slope 2% max. in			

2.2 SPRAYGROUND CIRCULATION PUMP

A. ‘Pentair’ Whisperflo XFVS #022035 5HP, 1PH pump; 240V, 5HP with integral variable frequency drive and strainer; self-priming pump, 3450 RPM rated at 200 GPM at 60 ft. TDH. One (1) total. (95 lbs.) Interlock booster pump will circulation pump to only allow booster pumps to operate if circulation pump is on. Provide pump with two (2) strainer baskets.

2.3 SPRAYGROUND BOOSTER PUMP – ZONE 1 & 2

A. ‘Pentair’ Whisperflo XFVS #022035 5HP, 1PH pump; 240V, 5HP with integral variable frequency drive and strainer; self-priming pump, 3450 RPM rated at 200 GPM at 60 ft. TDH. One (1) total. (95 lbs.) Interlock booster pump will circulation pump to only

allow booster pumps to operate if circulation pump is on. Provide pump with two (2) strainer baskets.

2.4 SPRAYGROUND BOOSTER PUMP – ZONE 3

A. 'Pentair' EQ #340032 1PH pump; 230V, 7.5HP with Pentair Accudrive AD075X-2303-N4X 7.5HP variable frequency drive; self-priming pump, 3520 RPM rated at 450 GPM at 50 ft. TDH with integral strainer. One (1) total. (201 lbs.) Interlock booster pump will circulation pump to only allow booster pumps to operate if circulation pump is on. Provide pump with two (2) strainer baskets.

2.5 SPRAYGROUND FILTER

A. 'Pentair' Triton TR-140C3 hi rate permanent media filters with 14.04 sq. ft. of filter area rated at 210 GPM at 15 GPM/sq. ft. Complete with 3" flanges and tandem filter piping manifold kit, 4" backwash, seismic anchorage. Provide all utilities, piping, valving, etc. Two (2) tanks total. (1007 lbs. each)

2.6 SPRAYGROUND ULTRAVIOLET SYSTEM

A. 'Evoqua' #WF-115-3-N, 1x1.5 kw with 20A breaker, rated at 242 GPM @ 40mJ/cm^2, 208V 1PH, complete with strainer, valving and control panel. One (1) system complete.

2.7 SPRAYGROUND ULTRAVIOLET SYSTEM

B. 'Evoqua' #WF-125-6-N, 1x1.5 kw with 20A breaker, rated at 660 GPM @ 40mJ/cm^2, 208V 1PH, complete with strainer, valving and control panel. One (1) system complete.

2.8 ACID STORAGE/FEED SYSTEM

A. Provide Chemtainer 60 gallon TC2331IC vertical bulk storage tank with lid seismically retrained; operating weight = 550 lbs. Complies with Fed. Reg. 40CFR-264-193. Feed pump shall be Blue/White AIN20X-4T 8 GPM @ 15 PSI with FRP brackets. Hard Pipe to point of injection. One (1) total.

2.9 CHLORINE STORAGE/FEED SYSTEM

A. Provide Chem-Tainer 150-gallon TC43498DC dual storage containment tank with lid seismically restrained; operating weight = 1250 lbs. Complies with Fed. Reg. #40CFR-264-193. Feed pump shall be Blue and White AIN20X-4T 8 GPD at 15 PSI with FRP shelf brackets. Hard pipe to point of injection. One (1) pump total.

2.10 WATER CHEMISTRY CONTROLLER

A. Provide one (1) BecSys communication module and dedicated ethernet line for one (1) 'BecSys 5' Installed per manufacturer's recommendation. One (1) total. Contractor to connect controller to new network connection and coordinate IP signature with City Representative.

2.11 EYEWASH/SHOWER

A. ‘Haws’ model #8300-8309CRP barrier free combination shower and eye/face wash with
corrosion resistant protection. See MEP Sheets for supply piping. Two (2) total.

2.12 6” SPRAYGROUND MANIFOLD

A. ‘Water Play’ 6” manifold including automation controller, wall mounted water distribution manifolds with thirty (30) 1” and 1 $^{1}/_{2}$” outlets, solenoid valves, true union ball valves, proportional valves, one (1) 3” pressure sustaining bypass valve, time clock operated activation, complete for a fully functioning system. Provide winter drain points adjacent to manifold equipment area for all manifolds lines. One (1) manifold total.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:

1. Prior to installing the items of this Section, carefully inspect the installed Work of other trades and verify that all such Work is complete to the point where this installation may properly commence.
2. Verify that the sprayground equipment items may be installed in strict accordance with original design, pertinent codes and regulations, and the manufacturers’ recommendations.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Owner.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies are fully resolved.
3. Failure to notify the Owner and give written notice of discrepancies shall constitute acceptance by the Installer of existing conditions as fit and proper to receive its Work.

3.2 INSTALLATION

A. Supply and install items of sprayground equipment in strict accordance with applicable codes and regulations, the original design, and the manufacturer’s published recommendations, anchoring firmly and securely for long life under hard use.

B. Coordinate with other trades to insure all imbedded items are set plumb and flush. Railing ends must have anchor sockets and escutcheon plates. Be certain that deck equipment and railings are properly bonded prior to imbedding.

C. All mechanical equipment shall be braced and/or anchored to resist horizontal force acting in any direction using the criteria shown on the Drawings.

3.3 EQUIPMENT ACTIVATION

A. Start Up:

1. Retain a qualified chemistry consultant, familiar with the operation and maintenance of aquatic facilities, to supervise and properly balance the sprayground water chemistry.
2. Demonstrate to the Owner's Representative and to all appropriate officials (including State of California) that all systems are fully operational and that calcium hardness, total alkalinity, chlorine residual and pH levels are within the specified limits.
3. Standards: Contractor shall furnish labor and chemicals as required to condition the water properly to the following specifications:
   a. Calcium Hardness: 150-300 ppm
   b. Total Alkalinity: 100-125 ppm
   c. Chlorine residual: 2.0-5.0 ppm
   d. pH 7.4-7.6

B. All water chemistry and filtration mechanical equipment shall be operational upon filling of the balance tank. Chemicals and other related support items as supplied by the Contractor, shall be in supply at start-up.

C. Start up and provide qualified personnel to operate the sprayground mechanical equipment for a period not less than fourteen (14) days after the sprayground systems are placed in operation, or until the Owner takes occupancy of the facility or letter of substantial completion. During this time, Contractor shall instruct and supervise the Owner's personnel in the various operating and maintenance techniques involved. Contractor shall insure that the sprayground filtration equipment is continuously running during the initial fourteen (14) day period. Contractor shall be responsible for supply of chemicals during this not less than fourteen (14) day period and at the time of turnover to Owner, chemical storage tanks shall be full. Owner's personnel shall be fully trained and capable of assuming sprayground maintenance tasks; training may begin prior to Owner taking occupancy.

3.4 CLEAN-UP

A. Upon completion of sprayground equipment, remove all debris, materials and equipment occasioned by this Work to the approval of the Owner.

- END OF SECTION -

SECTION 13 1107
SPRAYGROUND MECHANICAL

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Sprayground mechanical piping as indicated on the Drawings for circulation and filtration systems, chemical control systems, booster pump systems and appurtenances.

B. Domestic water system from points of connection within sprayground mechanical equipment room to make-up water system.

C. Filter backwash piping to point of connection with backwash receptor as required.

1.2 QUALITY ASSURANCE

A. Qualifications of Workers:

1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past five (5) years immediately prior to the commencement of the work. The Qualified contractor Shall submit documentation of a minimum of two (2) interactive spray ground play equipment and climb-on structure installations completed in the last five (5) years.
2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.
3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.
4. General Contractor who wishes to self-perform the Sprayground Mechanical work requiring a C-53 license, must possess an active and valid C-53 license. A General Contractor self-performing Sprayground Mechanical work, may subcontract any portion(s) of the work to any subcontractor possessing the C-53 license. However, a subcontractor may not subcontract any portion of the work to another subcontractor.

B. Standards:

1. All equipment supplied or work performed shall comply with California Building Code, 2022 edition.
2. Work shall be performed in accordance with the applicable editions of all National, State and local codes, laws, regulations and ordinances, including the following:
   a. American National Standards Institute (ANSI).
   b. American Society for Testing Materials (ASTM).
   c. American Waterworks Association (AWWA).
   d. American Welding Society (AWS).
3. Do not construe anything in the Drawings or Specifications to permit Work not conforming to these requirements.

1.3 SUBMITTALS AND SUBSTITUTIONS

A. Provide submittals in conformance with the requirements of Section 01 3300.

B. Required submittals include:
   1. Pipe and Fittings as specified in Article 2.2 of this Section.
   2. Valves as specified in Article 2.3 of this Section.
   3. Pressure / Vacuum Gauges as specified in Article 2.4 of this Section.
   4. Pipe Hangers and Supports as specified in Article 2.5 of this Section.
   5. Sleeves and Waterstops as specified in Article 2.6 of this Section.
   6. Submit proof of qualifications as specified in Article 1.2.A of this Section.

1.4 PRODUCT HANDLING

A. Delivery: Deliver all materials to the Project Site in the manufacturer's original unopened containers with all labels intact and legible.

B. Storage: Store all materials under cover in a manner to prevent damage and contamination, and store only the specified materials at the Project site.

C. Protection: Use all means necessary to protect sprayground mechanical items before, during and after installation and to protect the installed Work specified in other Sections.

D. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative and at no additional cost to the Owner.

1.5 JOB CONDITIONS

A. Cooperate with entities performing Work specified in other Sections to so that no conflict of new construction or occupied space may occur. Should any installation Work be done without such craft coordination, that Work so installed shall be removed and re-installed.

PART 2 - PRODUCTS

2.1 PRODUCT QUALITY

A. Materials and equipment shall be new, of the best quality for the purpose intended, and shall be clearly marked with the manufacturer's name and nameplate data or stamp and rating. As far as practicable, materials and equipment shall be of one manufacturer.

2.2 PIPE AND FITTINGS

A. PVC Schedule 40: Type 1, normal impact, NSF approved for solvent welding applications, ASTM Specification D-1785, color shall be white. Dura, Lasco, or equal.

B. PVC Schedule 80: Type 1, normal impact, NSF approved for solvent welding applications, ASTM Specification D-1785, color shall be gray. Dura, Lasco, or equal.

C. PVC SDR35: Conforming to ATSM D-1784, use with epoxy coated bell and spigot-type fittings or epoxy coated mechanical joint by flange adapters with epoxy coated cast iron fittings as specified in Article 2.2 (F), below. Johns-Manville "Big Blue", Diamond Plastics, or equal.

D. CPVC Schedule 80 Influent/Effluent Heater Piping: Type 1, normal impact, NSF approved for solvent welding applications, ASTM Specification D-1785, color shall be gray. Dura or Lasco.

E. Copper Tubing: ASTM Specification B-88, hard drawn, with ANSI Standard B16.22 wrot copper fittings.

F. Steel: ASTM Specification A-120, Schedule 40 black or galvanized pipe with ASTM A-47 150 lb. banded malleable iron threaded fittings.

G. Cast Iron: ASTM Specification B16.1, cast iron flanged fittings, provide epoxy coating as required for use with chlorinated water.

2.3 VALVES

A. Ball Valves:

1. For sprayground system: True-Union design, PTFE seat material with FPM or FKM Double O-ring stem seals, locking handle, NSF certified. PVC schedule 80 body for below grade installation. CPVC Schedule 80 body for above grade installation. Furnish ball valves on all pip diameters 2 ½" or less with a rating of at least 200psi at 73° F, Asahi Pool-Pro, Nibco, or Ipex.
2. For copper pipe system: 3-piece full-port Bronze body valve with Teflon seat, 'Apollo', 'Nibco' or equal.

B. Butterfly Valves:

1. Epoxy coated cast or ductile iron body, 316 stainless steel disc and stem, viton seat material, furnish hand wheel/gear operators on all valves 8" and larger. DeZurick, Keystone, or Asahi Pool Pro, or Ipex.
2. PVC body, PVC disc and EPDM construction suitable for chlorinated water applications. Stem shall be of 316 stainless steel and non-wetted. Valves shall be self-gasketed design with a convex sealing arrangement. Valves 1-1/2" – 10" shall be rated to 150 psi and 12" valves shall be rated to 100 psi at 70°F. Asahi Pool-Pro, no known equal.

C. Check Valves: Wafer-type, epoxy coated cast or ductile iron body, 316 stainless steel plates and shaft, viton seat material. Centerline, Metraflex, or equal.

D. RP Backflow Preventer: Febco #835-B for 2" and smaller; #825 for 2-1/2" and larger. Febco, Watts, or equal.

1. Discharge port must be kept clear of obstructions at all times.
2. Backflow assembly must be “Y” pattern for devices 2” or smaller.
3. 2” or smaller shall use brass C x MIP 90.
4. All bolts connecting to water line shall be 304 stainless steel.

E. Make-up Water Control: Provide 1½” ‘Cla-val’ fill system including ‘Cla-val’ solenoid control valve #136-01BY, 1½” ductile iron epoxy coated body with cast iron disc retainer and diaphragm washer with bronze trim, flanged globe pattern, 120V at 60 HZ. Solenoid wiring shall be wired to water chemistry controller. Provide 3” air gap at fill point. One (1) system total.

2.4 PRESSURE / VACUUM GAUGES

A. Furnish and install pressure and vacuum gauges on the discharge and suction sides of all pumps. 2” or 2-½” dial, bottom connection, chrome ring and shut-off cock and snubber. Ranges shall be selected to indicate between mid-point and two-thirds of maximum range under design conditions. Marsh, Trerice, or equal.

2.5 PIPE HANGERS AND SUPPORTS

A. General:

1. The requirements of this Section relates to various requirements of the Agreement, General and Supplementary Conditions, Specifications, Drawings, and modifying documents which are part of the Construction Contract. Responsibility for coordination of all such applicable requirements will be that of the Contractor.

B. Description:

1. This section provides guidelines and limitations for the support of all mechanical, electrical, plumbing or architectural items from the building structure, and for the seismic bracing of such items.
2. Design and install all support and bracing systems as required for the sprayground systems. Provide for attachment to portions of the building structure capable of bearing the loads imposed. Design these systems to not overstress the building structure.

C. Quality Assurance:

1. Design and install all support systems to comply with the requirements of the California Building Code, 2022 edition.
2. Seismic bracing is to be designed by a professional engineer licensed in the State of California.
3. For the seismic bracing of mechanical, electrical and plumbing system, refer to “Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems” by Sheet Metal and Air conditioning Contractors National Association, Inc., (SMACNA) for guidelines.

D. Submittals:

1. Submit shop drawings for all substructures and attachment methods.
2. Submit proposed alternative methods of attachment for review and approval by the Architects, prior to deviating from the requirements given below.
3. For all pipe hangers and support systems, submit structural calculations and details which include all resultant forces applied to the building structure and are prepared and signed by the Contractor’s licensed California professional engineer. Calculations will be reviewed for compliance with design criteria, not for arithmetic.

E. Materials:

1. Use Kin-Line, Grinnel, or approved equal.
2. Support all pipelines individually with hangers, each branch having at least one hanger. Lateral brace as noted and required.
3. Support piping near floor with steel stanchions welded to end plates secured to pipe and floor.
4. Support vertical piping at each floor level. Install coupling in piping at each support. Coupling shall rest on and transmit load to support. Isolate copper from steel supports with vinyl electrician's tape around pipe and coupling.
5. Use Stoneman "Trisolator," Unistrut, or approved equal, isolators at each hanger and other support points on bare copper tubing system.
6. For PVC pipe, space hangers four (4) feet apart for pipe sizes 1" and under, five (5) feet apart for pipe sizes 1-1/4" to 2", and six (6) feet apart for pipe sizes over 2". Space hangers for horizontal pipes at a maximum of six (6) feet for copper 2" and smaller and for steel 1-1/4" and smaller; ten (10) feet for copper 2-1/2" and larger and for steel 1-1/2" and larger.
7. Size hanger rods, screws, bolts, nuts, etc., according to manufacturer's sizing charts.
8. Trapeze hangers may be used for parallel lines.
9. Use galvanized or cadmium plated hangers, attachments, rods, nuts, bolts, and other accessories in sprayground mechanical room, high humidity areas, or where exposed to weather. Hot dip galvanize all items which are not factory furnished. Plating for hinged movements must be done at the factory.

10. Lateral Bracing: To prevent swaying of the piping systems, provide angle iron bracing and anchor into wall or overhead framing. Piping shall be braced or anchored in such a way as to resist a horizontal force of 50% of its operating weight in any direction.
11. Do not use wire or other makeshift devices for hangers.
12. Furnish all substructures and fasteners required to comply with the limitations given below. Use material as specified in the various sections and as appropriate to their use.

F. Guidelines & Limitations:

1. Each Contractor will coordinate the load requirements from all subcontractors so that no combination of loads overstresses the building structure or exceed the limitations given below.
2. Concrete Structure:
    a. Support all loads hung from concrete structure with cast-in-place inserts, unless drilled-in anchors are specifically approved in writing prior to placing the concrete.
    b. Concrete anchors must not penetrate into reinforcing bars. Where the anchors boring indicates the presence of reinforcing bar, patch hole with an epoxy type grout and relocate anchor 12 diameters away.
    c. Individual expansion anchors cannot support any loads greater than 300 pounds or manufacturer's specified load capacity without approval.
3. Steel Structure:
    a. Hang no more than 20 pounds per metal deck rib in any span.
    b. At beams, hang all beam loads greater than 40 pounds concentric to beam, not off the flanges.
    c. Attached no loads to the beams or girders greater than the following without specific approval from the architect.
        1) Roof beams and girders: 300-pound point load or 600-pound total load for a single span.

G. Seismic Bracing:

1. Design and install seismic bracing to not ground out vibration and sound isolation systems.
2. All items of mechanical and electrical equipment 60" or more in height are to be seismically braced whether such bracing is shown or not.

2.6 SLEEVES AND WATERSTOPS

A. Provide sleeves where work of this Section passes through fire rated partitions, floors and ceilings, concrete slabs or exterior of structure. Caulk clearance space using sealant appropriate for application in conformance with manufacturer's recommendations and

California Code of Regulations. 3m, Dow Corning, or equal. In lieu of sleeves and caulking, "Link Seal" products may be used.

B. Provide prefabricated waterstops as indicated on the Drawings at all pipe penetrations through structures containing stored water (i.e., sprayground, balance tanks, etc.) to insure leak-proof seals.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:

1. Prior to Work of this Section, carefully inspect the installed Work of other trades and verify that such work is complete to the point where this installation may properly commence.
2. Verify that items of this Section may be installed in accordance with the original design and referenced standards.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Owner.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.
3. Failure to notify the Owner and give written notice of discrepancies shall constitute acceptance by the Contractor of existing conditions as fit and proper to receive his work.

3.2 ABBREVIATIONS AND SYMBOLS

A. Abbreviations and symbols on the Drawings are those most commonly used. Obtain clarification from the Owner on any questionable items before bid.

3.3 GENERAL PIPING REQUIREMENTS

A. Size any section of pipe for which size is not indicated or any intermediate section erroneously shown undersized the same size as the largest pipe connecting to it. Sizes listed are nominal.

B. Cut pipe accurately to job measurements and install without springing or forcing, true to line and grade, generally square with building and/or structures and adequately supported to prevent undue stress on pipe, fittings and accessories.

C. Make changes of direction with manufactured fittings. Street ells, bushings, reducing flanges, close nipples or bending of pipe is not allowed.

D. Use great care to install piping in accordance with best practice. Plastic pipe shall be “snaked” in trenches to allow for thermal expansion.

E. All above grade, below grade and buried or imbedded PVC shall be installed using solvent weld fittings. Also, each and every fitting and pipe end shall be prepared with solvent primer. Fittings shall be joined individually and with enough time between assembly of adjacent joints to allow them to seal solidly. After joining, an even ring of primer must be visible around the entire fitting. If any fittings are installed without visible primer, the fitting shall be removed and discarded and piping recut, rechamfered, and joint made up again using a new fitting. All procedures, methods and techniques used to make up solvent weld joints shall be in strict accordance with manufacturer's recommendations.

F. Arrange pipe and hangers to allow for expansion, contraction and structural settlement. No pipe shall contact structure except penetrations as shown on the Drawings.

G. Provide dielectric connections between copper and dissimilar metals. In copper systems, threaded piping including connections to equipment shall be brass pipe and fittings. Install dielectric connections in vertical sections of piping only.

H. Run pipe full size through shut-off valves, balancing valves, etc. Change pipe size within three (3) pipe diameters of final connection to control valves, fixtures and other equipment.

I. Provide unions or flanges at connections to equipment, on service side of valves and elsewhere as required to facilitate ease of maintenance.

J. Locate equipment shut-off valves as close to equipment as possible maintaining easy valve access.

K. Make all connections between domestic water systems and equipment or face piping with approved backflow prevention devices as required.

L. All PVC pipe exposed to direct sunlight shall be painted with two coats of Exterior Acrylic Semi-Gloss Paint, Sherwin Williams or equal. Color to be selected by the Architect. Prior to painting the PVC pipes, the exterior of all PVC pipes shall be wiped with Methyl Ethyl Ketone, or an approved equal, to remove the glaze from the pipes.

3.4 TRENCH EXCAVATION AND BACKFILL

A. Excavate and backfill trenches as required for the Work of this Section. Conform with all applicable codes.

B. The Contractor shall perform all excavation of every description and of whatever materials encountered, to the depths indicated on the Drawings or as necessary. The Contractor shall dispose of the excavated materials not required or suitable for backfill as directed and shall perform such grading as may be necessary to prevent surface water from flowing into

the trenches. The Contractor shall provide adequate equipment for the removal of storm or subsurface waters which may accumulate in the excavated areas.

C. Trenching:

1. Excavate trenches to lines and grades as indicated on the Drawings and with banks as nearly vertical as practicable.
2. Bottoms of trenches shall be accurately graded to provide uniform bearing on undisturbed soil for the entire length of each section of pipe.
3. The width of the trench at and below the top of the pipe shall be such that the clear space between the barrel of the pipe and the trench wall shall not exceed 8” on either side of the pipe. The width of trench above the top of pipe may be wider if necessary.
4. Over-depth excavations shall be filled with tamped sand to required grades.
5. Excavations of five (5) feet or more in depth shall be shored or supported in conformance with rules, and regulations of State and Federal Governments. Shoring shall be constructed, maintained and removed in a manner to prevent caving of the excavation walls or other load on the pipe.

D. Backfilling:

1. Material for backfilling of pipes shall be approved granular material less than two (2) inches in diameter obtained from the excavation, sand or an approved import fill. No material of a perishable, spongy or otherwise unsuitable nature shall be used as backfill.
2. Backfilling of pipe trenches shall commence immediately after installation and testing to preclude damage to the installed pipe. Backfill around pipe shall be carefully placed so as not to displace or damage the pipe and shall be carried up symmetrically on each side of the pipe to one foot above the top of the pipe. The material shall be carefully compacted or consolidated before additional backfill is placed.
3. Backfill above an elevation of one foot above the top of pipe in conformance with requirements of Section 13 1101, “Sprayground Excavation”. Material for balance of backfill shall be approved granular material less than six (6) inches in diameter taken from the excavation.
4. Unless otherwise indicated on the Drawings, all pipe shall have a minimum of eighteen (18) inches of cover.

3.5 GENERAL EQUIPMENT REQUIREMENTS

A. Position equipment to result in good appearance and easy access to all components for maintenance and repairs.

B. Install piping, flues, breeching and ducts so that they do not interfere with equipment access.

C. Install level, secure and out of moisture. Provide shims, anchors, support straps, angles, grouted bases, or other items as required to accomplish proper installation.

D. All screws, nuts, bolts and washers shall be galvanized, cadmium plated or stainless steel. After fabrication, hot-dip galvanize unfinished ferrous items for outdoor, below grade or other use subject to moisture.

E. Extend 1/2” Schedule 40 black steel pipe lubrication tubes from all hard-to-reach locations to front of equipment or to access points. Terminate with proper type of lubrication fitting.

3.6 VALVES AND STRAINERS

A. If no shut-off is indicated, provide ball valves at inlet connections and balance valves at outlet connections to fixtures and equipment. Provide proper valve trim for service intended.

B. Use no solder end valves unless noted otherwise; provide adapters in copper tubing systems.

C. Locate valves with stems above horizontal plane of pipe. In general, locate valves within six (6) feet of floor, out from under equipment, in accessible locations with adequate clearance around hand wheels or levers for easy operation.

D. Provide all valves, cocks and strainers, full pipe size unless indicated otherwise.

E. Provide hand wheel operators on all valves 6” and larger, under 6” lever operators may be used.

F. Provide tool operated valve with stainless steel shaft extension and 'on deck' tool operation for surge chamber butterfly isolation valve.

3.7 IDENTIFICATION OF PIPING

A. Identify each valve by a numbered brass tag with hole and brass chain mounted on valve stem or handle. Tag to be a minimum of 1” in diameter and numbers at least 1/4” high stamped into tag. Valves and plumbing lines shall be labeled clearly with the source or destination descriptions.

B. Install an identification chart in a plastic or glass framed enclosure which schematically illustrates the proper operation of all piping systems and indicates number and location of all valves and control devices within the system.

C. The direction of flow for the recirculation equipment shall be labeled clearly with directional symbols such as arrows on all piping in the equipment area.

3.8 TESTS

A. Perform tests in presence of Owner with no pressure loss or noticeable leaks.

B. Do not include valves and equipment in tests. Include connection to previously tested sections if systems are tested in sections.

C. Perform tests as follows:

System	Test Pressure	Test Medium	Duration
Skimmer Lines and Lawson Main Drains Sump Lines	20 psig	Water*	4 hours
Sprayground Piping	50 psig	Water*	4 hours
Sprayground Piping	50 psig	Water*	4 hours
Sprayground Main Drains	30 psig	Water*	4 hours
Domestic Water	150 psig	Water*	4 hours

*Never test PVC pipe or fittings with air or other gases, always use water.

3.9 PIPE MATERIAL APPLICATION

A. PVC Schedule 40: Below grade sprayground piping and domestic water piping up to 12" line size; use standard solvent weld fittings.

B. PVC Schedule 80: Above grade sprayground piping up to 12" line size; use solvent weld Schedule 80 or epoxy coated cast iron fittings.

C. Type L Hard Copper: Above grade domestic water piping.

3.10 CUTTING AND DRILLING

A. Cutting or drilling necessary for installation of Work of this Section shall be done only with approval of the Owner.

3.11 CLOSING-IN OF UNINSPECTED WORK

A. Do not cover or enclose Work before testing and inspection. Re-open Work prematurely closed and restore all Work damaged.

3.12 QUIETNESS

A. Quietness is a requirement. Eliminate noise, other than that caused by specified equipment operating at optimum conditions, as directed by the Owner.

3.13 FLUSHING OF LINES

A. Flush or blow out pipes free from foreign substances before installing valves, stops or making final connections. Clean piping systems of dirt and dust prior to initial start-up.

B. The sprayground mechanical system shall be flushed using the sprayground circulation pump. Circulate water through the mechanical system until the effluent water from the sprayground heads runs clean.

3.14 CLEAN-UP

A. After all Work has been tested and approved, the Sprayground Contractor shall thoroughly clean all parts of the equipment installations, including all sprayground pipe and fittings in the sprayground mechanical room. Exposed parts shall be cleaned of cement, plaster and other materials and all grease and oil spots removed with solvent.

B. The Sprayground Contractor shall remove debris from the Project site. Cartons, boxes, packing crates and excess materials not used, occasioned by this work shall be disposed of to the satisfaction of the Owner.

C. If the above requirements of clean-up are not performed to the satisfaction of the Owner, the Owner reserves the right to order the work done, the cost of which shall be borne by the Sprayground Contractor.

- END OF SECTION -

SECTION 13 1108
SPRAYGROUND ELECTRICAL

PART 1 – GENERAL

1.1 WORK INCLUDED

A. Provide labor, materials and equipment as required to install the sprayground electrical system including but not limited to:

1. A complete and operable system of service equipment, switchboards, panelboards, conduits, switches, time clocks and wiring for power and lighting, motor control centers.

2. Complete grounding system as required and shown on the Drawings.

3. Complete equipotential bonding system as required and shown on the Drawings and in accordance with National Electrical Code Article 680.

4. Adjusting and preliminary operation of the completed electrical system as described in Article 3.6, A of this Section.

5. Cleaning of all completed Work and installation adjustment of all trim and decorative items.

1.2 QUALITY ASSURANCE

A. Qualifications of Workers:

1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past five (5) years immediately prior to the commencement of the work. The Qualified contractor Shall submit documentation of a minimum of two (2) interactive spray ground play equipment and climb-on structure installations completed in the last five (5) years..

2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.

3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.

4. General Contractor who wishes to self-perform the Sprayground Electrical work requiring a C-53 license, must possess an active and valid C-53 license. A General Contractor self-performing Sprayground Electrical work, may subcontract any portion(s) of the work to any subcontractor possessing the C-53 license. However, a subcontractor may not subcontract any portion of the work to another subcontractor.

B. Ordinances and Codes: Materials and construction shall conform with all applicable code requirements, including:

1. National Electrical Code, latest edition; Electrical Safety Orders of the State of California; Department of Industrial Relations; regulations of the State Fire Marshal; rules and regulations of the Board of Underwriters of the Pacific, UL 50, 50E and NEMA 250 rating.

2. California Building Code, 2022 edition.

C. Verification of Conditions:

1. The locations shown on the Drawings are diagrammatic only and the exact finish location of equipment and materials cannot be indicated. Therefore, locations of all Work and equipment shall be verified to avoid interferences, preserve head room and keep openings and passageways clear. Changes shall be made in locations of equipment and materials which may be necessary to accomplish these purposes.

D. Preliminary Operations and Testing:

1. Motor driven equipment shall be tested for correct rotation and completion of all connections.

1.3 SUBMITTALS AND SUBSTITUTIONS

A. Provide submittals in conformance with the requirements of Section 01 3300. Requests for substitutions shall conform with requirements of Article 1.10.A of Section 13 1100.

B. Required submittals include:

1. Conduit and Fittings as specified in Article 2.2 of this Section.

2. Panelboards as specified in Article 2.6 of this Section.

3. Circuit Breakers as specified in Article 2.7 of this Section.

4. Motor Starters as specified in Article 2.10 and 2.11 of this Section.

5. Fuses as specified in Article 2.13 of this Section.

6. Ground Fault Circuit Interrupters as specified in Article 2.15 of this Section.

7. NEC required corrosion resistant enclosures, cabinets and boxes as specified in Article 2.8, 2.11, 2.16 & 2.18 of this Section.

C. Submit proof of qualifications as specified in Article 1.2.A of this Section.

1.4 PRODUCT HANDLING

A. Delivery: Deliver all materials to the Project Site in the manufacturer's original unopened containers with all labels intact and legible.

B. Storage: Store all materials under cover in a manner to prevent damage and contamination, and store only the specified materials at the Project site.

C. Protection: Use all means necessary to protect Sprayground electrical materials before, during, and after installation and to protect the installed Work specified in other Sections.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials shall be new, in unbroken packages and bear the U.L. label of approval.

B. Equipment of one type shall be by same manufacturer. One type of equipment for classifications such as:

1. Switchboards, panels, buss duct, disconnect switches and allied items.

2. Conduit.

3. Wire.

4. Conduit fittings.

5. Fixtures of the same general type.

6. Wiring devices.

2.2 CONDUIT AND FITTINGS

A. Conduit within or under buildings or where exposed outdoors shall be rigid U.L. approved plastic except where noted otherwise on the Drawings. Metallic conduit shall be of the same metal between outlets or terminals.

B. Use flexible metallic conduit only for short connections of motors and where specifically called for on Drawings. Maximum length shall be 40". Use only liquid tight flexible metal conduit. Install an unbroken #12 AWG insulated copper grounding conductor in each liquid tight flexible conduit with permanent connection at motor junction box and service panel ground.

C. Encase conduits 2-1/2" or larger run underground, outside, or under buildings, in concrete envelopes a minimum of 3" thick, except as indicated otherwise on Drawings or stubouts. Conduits 2 and smaller laid 18" below finish surface in soil.

D. Low voltage runs underground outside buildings, 1-1/4" or smaller, may be G.I. or sherardized steel conduit, with machine applied wrapping equal to double wrap or Scotch-Wrap #50 tape, half lapped and quadrupled at joints in lieu of concrete encasement.

E. Service conduits through foundations or concrete members shall run through metal sleeves with adequate clearances for full movement of the conduit. Do not run conduits through footings.

F. Secure conduits run exposed on surfaces with one-hole heavy-duty straps or fasten with matching fittings to inserts or trapezes, parallel to building walls and ceilings.

G. Cap all conduit or duct stub-outs with standard factory caps; except cap threaded steel conduit with B.I. water pipe caps in outdoor locations.

H. Use conduit fittings as manufactured by Crouse-Hinds Company, Appleton Electric Co., or approved equal.

I. Employ U.L. liquid tight fittings for use with liquid tight flexible metal conduit.

J. Use unions as manufactured by Appleton, O-Z/Gedney, or approved equal. The use of running threads will not be permitted.

K. Exposed conduit and fittings in chemical rooms shall be nonmetallic rigid polyvinyl chloride, corrosion resistant rated suitable for installation in corrosive environments and in accordance with the latest NEC requirements.

2.3 EQUIPMENT BONDING/GROUNDING

A. Bond together and ground to a common ground at a single point all metallic conduit, piping systems, sprayground reinforcing steel, metal parts of ladders, lifeguard stands, handrails and their supports and the like. The solid copper bonding conductor shall not be smaller than #8 copper. Provide equipotential bonding per Article 680 of the National Electrical Code. In instances where no deck reinforcement is present, Contractor shall provide a minimum of three feet of equipotential bonding material in conformance with Code. All bonding items shall be inspected prior to concrete pour. See sheets SE1.02 and 1.03 for grounding buss details.

2.4 WIRING CONNECTIONS

A. Make connections without strain on conductors, allowing the conductors to take a natural position after connections or taps are made. Include all strand of wire in making the connection.

B. Make connections for wiring by one of the following means:

1. Make all taps or connections to conductors with compression type connectors except those smaller than #8 B&S gauge may have soldered connections. Solderless connections for #10 AWG or smaller may be used and shall be "Scotchlok", Buchanan, or approved equal. For #8 AWG or larger, they shall be T&B "LockTite", Burndy "Versitaps", or approved equal.

2. All cable or conductor terminal lugs shall be Burndy "Quicklug", Ilsco, or approved equal. Two piece stamped lugs and solder lugs will not be approved.

3. Paint taped splices in damp or outdoor locations with two (2) coats of insulating paint.

4. Tag all branch circuit wires with circuit number at the panelboard and at each point of use with linen or plastic tags.

2.5 CONDUCTORS

A. Copper RHW or THW. Do not make splices between boxes.

2.6 COLOR CODING

A. 277/480V colors: Brown (A Phase), Orange (B Phase), Yellow (C Phase).

B. Neutrals (identified conductors shall be white).

C. Phase conductors shall be red for phase B; 120/240V only.

D. Green shall be used for mechanical equipment and receptacle grounds only.

2.7 MOTOR WIRING

A. Make final connections to motors with the required AWG (Minimum #12), Flamenol machine tool wire, 19 strand. Control wiring for equipment shall be Flamenol machine tool wire, 19 strand of required AWG. Provide corrosion resistant junction boxes at each item of equipment to change from standard building wiring to machine tool wire.

B. Phase motors as proper in direction of rotation.

2.8 PANELBOARDS

A. Panelboards shall be flush or surface mounting as indicated with circuit breakers as shown on panel schedule, hinged lockable doors, index card holders and proper bussing.

B. Where indicated on the drawings, panelboards shall be furnished with subfeed breakers and/or lugs, split bussing, contractors, time switches, relays, etc., as required.

C. All panelboards shall be keyed alike.

D. All panelboard enclosures shall be corrosion resistant rated NEMA 4X in accordance with the latest NEC requirements.

E. Furnish corrosion resistant panelboard enclosures and terminal cabinets with Yale 46515 flush locks and LL806 keys except where indicated otherwise herein. Fasten the trim to panel boards and terminal cabinet by means of concealed, bolted or screwed fasteners accessible only when the door is open.

F. Panelboards 208/120 volt, three phase, 4 wire, S/N or 120/240 volt, single phase, 3 wire, S/N.

Panelboard types as manufactured by:	
Westinghouse	Type B10B
General Electric	Type NLAB
Square D	Type NQOB

G. Panelboards for 480/277 volt, three panes, 4 wire, S/N.

Panelboard types as manufactured by:	
Westinghouse	Type Pow-R-Line 2
General Electric	Type AE
Square D	Type NEHB
Sylvania	Type NH1B
I.T.E.	Type Approved Equal

H. Panelboard for bussing sizes thru 400 amp shall be 20" wide surface mounted type. Recess mounted type shall have a 20" wide (maximum) recess metal enclosure with trim plate cover extending 1" on all sides of enclosure. Depth shall be 5-3/4" nominal. Height of panel as required for devices.

I. Provide 6" additional gutter space in all panels where double lugs are required, or where cable size exceeds bus size. Minimum bottom gutter space shall be 6" high. 12" additional gutter space may be required for aluminum feeders where used.

J. Panelboards shown on the drawings with relays, time clocks or other control devices shall have a separate metal barriered compartment mounted above panel with separate hinged locking door to match panelboard. Provide mounting sub-base in cabinet for control devices and wiring terminal strips.

K. Panelboard shall have a circuit index card holder removable type, with clear plastic cover. Index card shall have numbers imprinted to match circuit breaker numbers.

2.9 CIRCUIT BREAKERS

A. Breakers shall have a minimum short circuit interrupting rating of 10,000A symmetrical for panelboard voltage thru 240 volt and 14000A for panelboards thru 600 volts or as specified on the drawings. In no case shall the interrupting rating be less than the bus withstand rating unless noted otherwise on the drawings.

B. Circuit breakers as manufactured by the following companies only are acceptable:

1. General Electric Company

2. Square D Company

3. Westinghouse Company

4. I.T.E. Company

C. Circuit breakers shall be arranged in the panels so that the breakers of the proper trip settings and numbers correspond to the numbering in the panel schedules on the drawings. Circuit numbers of breakers shall be black-on-white micarta tabs or other previously approved method. Circuit number tabs which can readily be changed from front of panel will not be accepted. Circuit number tabs shall not be attached to or be a part of the breaker.

D. Where two or three pole breakers occur in the panels, they shall be common trip units. Single pole breakers with tie-bar between handles will not be accepted.

E. All circuit breakers shall be padlockable in the "off" position. Locking facilities shall be riveted or mechanically attached to the circuit breaker (submit sample for approval). Other means of attachment shall not be accepted without prior written approval of Architect.

F. Where branch circuit breakers supply the power to motors and signal systems, the breakers shall be furnished with lockout clips, mounted in the "on" position. The breakers shall be able to trip automatically with lockout clips in place.

G. Panelboard circuit breakers shall be bolt-on type.

2.10 BUSSING

A. Bussing shall be rectangular cross section copper, or full-length silver or tin-plated aluminum.

B. Bussing shall be braces to withstand symmetrical short circuit ratings as follows or as noted on drawings. In no case shall bus short circuit bracing be less than specified circuit breakers.

C. Each panelboard shall be equipped with a ground bus secured to the interior of the enclosure. The bus shall have a separate lug for each ground conductor. No more than one conductor shall be installed per lug.

2.11 SPRAYGROUND MECHANICAL EQUIPMENT ENCLOSURES, TERMINAL CABINETS & MISC CABINETS

A. All sprayground mechanical equipment enclosures, terminal cabinets and miscellaneous cabinets in the sprayground mechanical room or chemical storage rooms shall be corrosion resistant rated in accordance with the latest NEC requirements. Enclosures and all cabinets shall be flush mounted (except where noted a surface) of the size indicated on the drawings, and complete with hinged lockable doors and the number of 2-way screw terminals required for termination of all conductors. Terminal cabinet locks to operated form same key used for panelboards. The trim to terminal cabinets shall be fastened by means of concealed bolted or screwed fasteners accessible behind door to terminal cabinets. Terminal cabinets shall have 5/8" plywood backing.

B. Provide engraved nameplate on each enclosure and cabinet indicating its designation and system (i.e., Sprayground - Panel 'WP').

2.12 MOTOR CONTROL INDIVIDUAL STARTERS

A. Manual Motor Starters:

1. Provide flush or surface mounting manual motor starters with number of poles and size of thermal overload heaters as required for the motor being controlled (equipped with overload heaters, one for each motor lead). Back boxes shall be supplied with all flush mounting starters whether they are toggle type requiring only a 4" square outlet box or the larger type requiring a special box and cover designed to accept the particular unit. All box types shall be corrosion resistant rated in accordance with the latest NEC requirements.

2. Unless otherwise noted on the drawings, all manual starters for single phase motors, smaller than 1 h.p., shall be the compact toggle type. Manual starters for all single-phase motors, 1 to 5 h.p., and all three phase motors up to 5 h.p. shall be the heavy duty type.

3. Where manual motor starter is shown with pilot light, the pilot light shall be installed in a separate outlet box adjacent to the starter outlet, and engraved nameplate in indicate function of pilot light.

4. The following motor starters as manufactured by:

Manufacturer	Single Phase 1HP and Below	Others
Arrow Hart	Type RL	Type LL
General Electric	CR 101	Class CR 1062
I.T.E.	Class C10, C11 or C12	Class C20
Square D Company	Class 2510, Type A	Class 2510, Type B & C
Westinghouse	Type MS	Type A100
Allen Bradley	Approved Equal	Approved Equal.

B. Individual Magnetic Motor Starters:

1. Magnetic motor starters shall be A.C. line voltage, across-the-line units in a corrosion resistant rated enclosure in accordance with the latest NEC requirements.

2. All starters located outside of a building whether or not indicated shall be W.P. (weatherproof), and all starters noted W.P. shall be furnished in a corrosion resistant rated stainless-steel enclosure in accordance with the latest NEC requirements.

3. Starter shall be horsepower rated for the motor controlled and shall be equipped with properly sized overload elements. Every pole shall be with overload element.

4. Verify the exact motor current and voltage characteristics with the Contractor supplying the motor before installation of a starter.

5. Each starter shall be equipped with "Hand-Off-Auto" switch or stop-start pushbutton as required.

6. Coils shall be designed to operate on voltage indicated on control diagrams and have built-in-under the voltage release for coil circuit to drop motor starter off the line when the line voltage drops below normal operating voltage.

7. The coil control circuit shall be independently fused, sized to protect coil.

8. Starters to be equipped with running pilot light indication with a "Push-to-Test" feature.

9. Magnetic starters shall have a minimum of two auxiliary contacts. Additional auxiliary contacts shall be provided as required to comply with the requirements of the wiring diagrams on the electrical and mechanical drawings and the description of the function in the Mechanical Section of the Specifications.

10. Starters shall comply with NEMA standards, size and horsepower ratings as indicated on drawings.

11. The following types of magnetic motor starters as manufactured by:

Manufacture	Type
General Electric	Class CR 106
I.T.E.	Class A20
Square D Company	Class 8536
Westinghouse	Type A200 (Size 4 Max.) or Class II-200 (Sizes 5-8)

2.13 INDIVIDUAL COMBINATION MOTOR STARTERS

A. Combination starter shall incorporate fused disconnect switch and individual magnetic motor starter. Combination starters shall be mounted in a corrosion resistant rated enclosure in accordance with the latest NEC requirements.

B. Starters shall comply with NEMA standards, size and horsepower ratings as indicated on drawings General Electric, Square D, Westinghouse or I.T.E.

C. The disconnect handle used on combination starters shall control the disconnect device with the door opened or closed. The disconnect handle shall be clearly marked as to whether the disconnect device is "ON" or "OFF", and shall include a two-color handle grip, the black side visible in the "OFF" position indicating a safe condition, and the red side visible in the "ON" position indicating an unsafe or danger condition.

D. All starters used in combination starters shall be manufactured in accordance with the latest published NEMA standards, sizes, and horsepower ratings. These starters shall be furnished with three melting alloy type thermal overload relays.

E. Thermal units shall be of one-piece construction and interchangeable. The starter shall be inoperative if a thermal unit is removed.

2.14 MOTOR CONTROL CENTER, INTERLOCKS AND CONTROL DEVICES

A. Refer to mechanical and plumbing drawings and specifications and provide all control devices including timeswitches, relays and interconnection of starters as required.

B. Mount all relays and timeswitches in a separate compartment in motor control center unless otherwise indicated.

C. Whether shown on mechanical and plumbing drawings or control center schedules or not, where motors are controlled by external devices (i.e., thermostats, relays, float or pressure switches, etc.) or interlocked with other motors, each motor starter to be equipped with a "Hand-Off-Auto" selector switch in starter cover. Other starters equipped with a "Start' Stop" pushbutton station in starter cover. The Contractor shall be responsible to submit a complete and detailed set of shop drawings, electrical schematic design along with electrical component cut sheets from the MCC panel or the interlock control device manufacturer. RSD Total Control: Allan Pearson 949-380-7878, South Coast Controls: Anthony Ellis 714-998-5656, H2O Integration Controls, Mike Macri 253-244-1576 or approved equal.

2.15 FUSES

A. Fuses shall be dual element, current limiting type, U.L. Class RK5 unless otherwise indicated on the drawings. Provide one spare set of fuses of each size and type in each motor control center.

2.16 GROUND FAULT CIRCUIT INTERRUPTERS

A. Minimum rating shall be 20 amperes, 125V, 5 milliampere trip setting, Class A per UL943.

B. Manufacturer to be Crouse-Hinds, Leviton, or approved equal.

2.17 BOXES

A. Boxes shall be of the size required by ordinances or larger, must be corrosion resistant in accordance with the latest NEC requirements where concealed or exposed on ceilings or walls.

B. Outlets to be surface where wiring is exposed and flush in areas where conduit is concealed.

C. Provide surface outlets with proper corrosion resistant surface covers. Box and cover shall be deep enough to provide at least 1/4" clearance between back of device and back of box. Where box contains more than one device, use a corrosion resistant rated gang box with proper cover in accordance with the latest NEC requirements. Surface outlet boxes shall be of the threaded hub type wherever below 8'0".

D. If necessary for cable installation, additional pull boxes or junction boxes may be installed in accessible locations. Exposed pull boxes and junction boxes shall be corrosion resistant rated in accordance with the latest NEC requirements.

E. Where exposed to weather pull boxes larger than outlet boxes are required, galvanized code gauge sheet steel boxes may be used with covers attached by brass machine screws may be used. Boxes exposed to the weather shall be approved for the purpose, and conduit entrances shall be on the bottom made by means of an interchangeable hub with gasket and adapter nut. Pull boxes not shown on Drawings may be added only after approval of size and location is obtained.

F. For outlets exposed to weather or where noted, cast outlet boxes shall be Crouse-Hinds, Appleton, or approved equal. Boxes shall have proper number and size hubs. Device plates, covers, adapters and boxes shall be as manufactured by Crouse-Hinds, Appleton, or approved equal.

G. Exposed junction boxes, outlet boxes and pull boxes for sprayground chemical rooms shall be non -metallic suitable for a corrosive environment and in accordance with the latest NEC requirements.

2.18 IDENTIFICATION MARKINGS

A. Plainly mark all motor and electrical appliance control equipment indicating the equipment controlled with engraved metal tags.

B. Provide laminated plastic nameplates on panelboards on the outside of the door at the top indicating panel designation and feeder source.

C. Provide laminated plastic nameplates on distribution switchboards and motor control centers at the top center indicating panel designation and feeder source.

D. Identify each distribution switchboard and motor control center circuit breaker with a laminated plastic nameplate indicating its' use.

E. Type panelboard directories on the forms provided with the equipment, indicating the use of each branch circuit breaker.

F. Fasten all laminated plastic nameplates to surfaces with two (2) or more screws.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify conditions at the Project site before submitting bid. Be responsible for providing all necessary wiring for the new electrical systems. Wherever wiring is being disrupted due to remodeling or changes, reconnect existing and provide new wiring circuits to accomplish a fully operable system at no additional cost to the Owner.

3.2 COORDINATION

A. The Drawings are essentially diagrammatic and indicate the desired location, size, routes, connection points, etc., and are to be followed as closely as possible. Proper judgment must be exercised in executing the Work so as to provide the best possible installation in the available space and to overcome difficulties, limitations or interference wherever encountered. Be responsible for the correct placement of this Work, the proper location and connection in relation to Work of other trades, for determining the exact location of all conduits, outlets and equipment, and for installing the conduits in such a manner as to conform to the structure, avoid obstruction, preserve headroom and keep openings and passageways clear. Particular attention is directed to the close coordination required on exposed Work. Locations shown on Architectural or Mechanical Drawings if different than those shown on Electrical Drawings should be communicated to the Owner’s Representative in writing for clarification.

3.3 INSTALLATION

A. Trenching and Backfill: Conform with requirements of Section 13 1101. Provide minimum cover as required by Code.

B. Conduit Installation:

1. Conduit and metallic raceway systems shall be mechanically and electrically continuous from sources of current to all outlets in a manner to provide a continuous

grounding path. Close ends of conduit during construction to prevent entrance of dirt or moisture.

2. Securely fasten conduit to the building construction within three feet of each outlet and within every ten feet thereafter. Secure it to boxes, cabinets, pull boxes, terminals with two locknuts and ends equipped with bushings or a terminal fitting. Cut square with ends carefully reamed.

3. Make bends or elbows so that the conduit will not be injured or flattened.

4. Use insulated metallic bushings in all places where bushings are required.

5. Run exposed conduits level or plumb and parallel to the construction members of the building. No cutting across or diagonal runs will be permitted. Neatly surmount structural obstructions encountered on conduit runs by the use of fittings or pull boxes.

6. Identify feeder conduits by stamped metal tags secured to exposed section of conduit in main or sub-panels.

7. Make up all threaded conduit joints gas and watertight with conductive sealer except conduit above ground in dry indoor locations.

8. Rigidly support all boxes independently of the conduit system.

C. Connections to Equipment:

1. Fully connect, in an approved manner, all electrical outlets, apparatus, motors, equipment, fixtures, wiring devices and appliances whether they are installed under the Electrical Contract or not, which require electrical connections, to the corresponding electrical system outlet.

2. Where the Work of this Section requires connections to be made to equipment that is furnished and set-in-place under other Sections, obtain such roughing-in dimensions from the manufacturer or supplier of each item as required and assume full responsibility for the installation of the connections thereto.

3.4 ADJUSTMENT AND CLEAN-UP

A. Preliminary Operation: Should the Owner's Representative deem it necessary to operate the electrical installation or any part thereof prior to Substantial Completion of the Work, consent to such preliminary operation and supervise conduction of same. Subcontractor shall pay all costs occasioned by such operation. Preliminary operation shall not be construed as an acceptance of any Work installed under this Contract.

B. Clean-up: Upon completion of the Work of this Section, immediately remove all sprayground electrical materials, debris and rubbish occasioned by this Work to the approval of the Owner's Representative.

- END OF SECTION -

SECTION 13 3133
FRAMED FABRIC STRUCTURES

PART 1 - GENERAL

1.1 SUMMARY

A. The basis of design is Shade Systems, Inc. sail shade structure.

B. Each of the pre-engineered framed fabric structure packages shall be shipped as a pre-fabricated package that shall include the structural frame members, shade sails, fasteners, and installation instructions. The structures shall be shipped knocked down for minimum shipping charges. No on-site welding will be required or shall be allowed.

C. Under this item, the Contractor shall furnish all labor, materials, equipment and perform all operations necessary for the completion of the work as shown on the drawings. This includes all excavation, concrete footings, backfill, hardware, fittings, and accessories, in accordance with the drawings, specifications and directions of the Owner's Representative.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. RELATED SECTIONS
1. Section 31 22 00, Grading
2. Section 31 23 02, Excavating and Fill for Utilities
3. Section 32 13 13, Site Concrete Work

1.3 SUBMITTALS

A. The Contractor is responsible for submitting a complete set of engineered drawings and structural calculations for review and approval by Los Angeles County Building and Safety under a separate permit.

B. Shade Systems Representative Contact: Miracle Playground, Rob Fryhoff, (800) 264-7225, ext: 307. 1101 California Ave, Suite 209, Corona, CA 92881.
email: rfryhoff@miracleplayground.com

C. Or equal.

1.4 QUALITY CONTROL

A. Manufacturer Experience: Bidder must show evidence of at least one (1) public municipal installations where manufacturer's product as proposed pursuant to this bid has been installed and has been in continuous use for a minimum of five (5) years each.

B. Manufacturing Facility: Bidder's products must be completely manufactured entirely in its own factory by its own employees, including powder-coating, thereby ensuring complete quality control. Bidder must certify that no aspect of its production – including powder-coating – is contracted out to third parties.

C. Alternative Product Approval Procedure: Ten (10) day prior approval required for substitution of product design, materials and features specified above. Submittals must include plans, drawings, cut sheets, material data sheets, testing results and samples. Bids failing to meet this requirement will be deemed non-responsive.

1.5 WARRANTY

A. INSURANCE: Manufacturer must show acceptable evidence of the following minimum insurance coverages, all written on the Occurrence Form:

1. Commercial Product Liability/Completed Operations of $1,000,000 per claim and $2,000,000 aggregate;
2. Professional Liability (Errors & Omissions) of $2,000,000 per claim;
3. Additional $5,000,000 umbrella coverage.
4. $2,000,000 professional liability coverage.

B. WARRANTY: Shade Systems, Inc. warrants that the equipment sold will conform in kind and quality to the specifications listed in the Order Acknowledgment and will be free of defects in workmanship or materials. Shade Systems further warrants:

1. LIMITED 20 YEAR WARRANTY on all upright posts, cables, and tensioning plates against failure due to rust-through corrosion.
2. LIMITED 10 YEAR WARRANTY on all CoolNetTM fabrics, threads, and cables against degradation, cracking or material breakdown resulting from ultra-violet exposure, mold, and mildew, as well as on Turn-N-SlideTM fastening device. This warranty excludes fading or failure of fabric due to chemical erosion, flying or falling objects, and accumulation of snow or ice.
3. LIMITED 1 YEAR WARRANTY on powder-coating, or any other product or part not covered by one of the above warranties.
4. The above warranties are not pro-rated. Please refer to the full text of our complete Limited Warranty for additional details and other important warranty information.

PART 2 - PRODUCTS

2.1 GENERAL:

A. Shade Systems™ products are designed and manufactured to the most exacting specifications by skilled craftsmen, and certified by Professional Engineers for structural soundness of designs. All Shade Systems products are shipped knocked-down, with complete assembly instructions, and ready for easy in-field installation.

2.2 ENGINEERING DATA:

A. Structures are engineered to meet or exceed the requirements of the International Building Code (IBC), with the following specifications:

1. Wind Speed (Frame only): 165 mph
2. Wind Speed (Frame w/ canopy: 90 mph
3. Live Load: None
4. Snow Load: None

Note: Optional design with greater wind speeds, live loads and snow loads are available.

2.3 MATERIALS

A. All materials shall be structurally sound and appropriate for safe use.

B. Product durability shall be ensured by the use of corrosion-resistant metals such as stainless steel, and coatings such as zinc-plating, galvanizing, and powder-coating on steel parts, subject to the Project-Specific requirements below.

C. Fabrics used shall include UV-stabilizers and fire retardants for longevity and safety.

2.4 WELDMENTS

A. All tubing members are factory-welded by Certified Welders to American Welding Society (AWS) specifications and to the highest standards of quality workmanship.

B. Weldments are finished with a zinc-rich galvanized coating.

C. No field welding is required in the assembly of Shade Systems products.

2.5 POSTS, STRUCTURAL FRAME TUBING, AND HARDWARE

A. All tubing used shall be cold-formed and milled per ASTM A-135 and ASTM A-500. Material testing is in accordance with ASTM E-8.

B. Minimum yield is 40,000 psi with a minimum tensile strength of 45,000 psi on all posts.

C. All tubing shall be pre-cut to appropriate lengths, and where applicable all outside surfaces shall be galvanized, with an interior corrosion-resistant zinc-rich coating.

D. Where required, support pipes shall be schedule 40 hot-dip galvanized or powder-coated black steel.

E. All fastening hardware shall be stainless steel.

2.6 ARCHITECTURAL POLYESTER POWDER-COATING PROCESS

A. All powder-coated parts undergo a rigorous multi-step process to ensure colorfastness and durability per the specific sequential steps itemized below.

B. All parts are completely sandblasted, pre-treated, and coated with coastal primer prior to powder coating.

C. Powder-coating is then electrostatically applied and oven-cured at 375 to 425 degrees Fahrenheit.

D. Powders shall meet or exceed ASTM standards for Adhesion, Hardness, Impact, Flexibility, Overbake Resistance, and Salt Spray Resistance.

E. Colors shall be specified on drawings.

F. The following seven (7) specific steps shall occur in sequence:

1. Sandblasting. All powder-coated parts shall be completely sandblasted with the use of 80 grit garnet abrasives.

2. Mechanical smoothing. A traditional mechanical method shall be used for removing remaining foreign matter for surface preparation by use of sanding, grinding, and rounding rough edges to smoothness.
3. Initial Surface Preparation. A heavy-duty liquid cleaner such as Calvary Industries Inc Cal Clean 675 shall be applied for initial surface preparation.
4. Corrosion resistant Coating. A liquid detergent iron phosphate, such as Calvary Industries Inc, Cal Prep 63, shall be applied, thereby resulting in a superior quality corrosion resistant coating.
5. Final Surface Preparation. All parts shall then be sealed using a reactive, non-chrome sealer product such as Calvary Industries, Advantech S1488E Sealer. The sealer enhances corrosion protection and increases paint adhesion, effectively increasing salt spray hours on all metal substrates.
6. Coastal Primer. Prior to powder-coating, a rust inhibiting coastal primer shall be applied on all parts, such as PPG Envirocron™. The coastal primer coating provides a combination of excellent physical and chemical resistance properties, and is the ideal solution for smooth, low-bake durability and physical property requirements for the most demanding environments.

   Primer attributes:

Gloss	ASTM D-523	.0-10 @ 60 degrees
Adhesion	ASTM D-3359	100% (5B Pass)
Hardness	ASTM D-3363	2H Pencil (Eagle)
Impact Resistance	ASTM D-2794	80 in.-lbs. Direct
Conical Mandrel	ASTM D-522	1/8" - No Cracking
Salt Spray	ASTM B-117	4000 Hours Pass
1000 Hours (degrease only)		
Humidity	ASTM D-1735	100F, 100% RH-2000+ Hours
Scab Corrosion	SAEJ2334	120 Cycles - Pass
Film Properties (thickness)		2 mils

7. Application of Powder-Coating. Lastly, PPG Envirocron™ Ultradurable powder coatings shall be used to provide a combination of excellent physical and chemical resistance properties, outstanding resistance to outdoor weathering, and a durable and uniform final coat.

Primer attributes:

Gloss	ASTM D-523	80 Minimum @ 20 degrees
Gloss	ASTM D-523	80 Minimum @ 20 degrees
Adhesion	ASTM D-3359	100% (5B Pass)
Hardness	ASTM D-3363	2H Pencil (Eagle)
Impact Resistance 20 in.-lbs. Reverse	ASTM D-2794	40 in.-lbs. Direct
Conical Mandrel	ASTM D-523	1/8" Mandrel - No Cracking
Salt Spray <1/8" Scribe Creep No Blisters	ASTM B-117	1000Hours Pass
Humidity <1/8" Scribe Creep No Blisters	ASTM D-1735	1000 Hours Pass
Film Properties		3 mils

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces for conditions that will adversely affect execution, permanence, and quality of work.

B. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Job site examination:

1. Prior to commencing work, examine entire job site for objects designated to be removed and protected, and limits of demolition.
2. Locate existing active utility lines and provide for their protection.

3.3 FASTENING SYSTEM INSTRUCTIONAL VIDEO

A. Product must be delivered complete with a minimum 5-minute instructional video on an USB Flash Drive. Video must show the viewer the exact procedure for removing and re-attaching canopy using an actual shade structure in the field. Submittals which do not include the video on an USB Flash Drive are not acceptable.

3.4 STANDARD FOOTINGS

A. Footings shall be designed per stringent International Building Code (IBC) for the specific structure. Columns will be provided as standard direct embedment or optional pier mount (anchoring hardware not supplied by Shade Systems). Other footing methods are available upon request.

3.5 ROOFING

A. Structural frames and/or fabric sails are designed by Shade Systems only for use with CoolNet™ polyethylene shade fabric. Fabric is attached to frame or columns using the

Fastening Systems below in conjunction with vinyl covered stainless steel cables. Cable fasteners are zinc-plated copper for maximum corrosion resistance.

3.6 FASTENING SYSTEM

A. CoolNet™ Shade Fabric shall be delivered complete with fastening system installed. Fastening System to consist of factory-formed stainless steel tensioning plates pre-attached to fabric canopies at each corner, and cables per the above hemmed into the fabric at the factory and terminating in the bracket. Posts shall be equipped with an adjustable 360-degree swivel and pivot attachment mechanism to which the tensioning plate fastens. Tensioning plate includes a stainless steel adjustment bolt which, when turned, tensions the fabric for a taut fit. Fabrics, cables, and brackets which are not pre-assembled at the factory are not acceptable. Cables which attach to posts with u-bolts or 'S' hooks, and which do not use a stainless steel bracketing system similar to the above are not acceptable.

3.7 CoolNet™ SHADE FABRIC

A. Knitted of monofilament and tape construction high density polyethylene with Ultra-Violent (U.V.) stabilizers and flame retardant. CoolNet™ offers the ultimate combination of maximum sun protection, strength and durability to ensure maintenance free long-life performance. UV- Block Factor varies by standard color offered from 90% to 97%.

B. CoolNet™ Shade Fabrics meet the most stringent Fire Standards for shade fabrics including CSFM 1237.1 and NFPA 701 across all color variants.

C. All hems and seams are double row lock stitched using exterior grade UV-stabilized polyethylene GORE™ TENARA® sewing thread (GORE and TENARA are trademarks of W. L. Gore & Associates).

- END OF SECTION-

SECTION 13 34 00
FABRICATED ENGINEERED STRUCTURES

PART 1 - GENERAL

1.01 SUMMARY

A. The basis of design is Poligon, Inc. metal shelter

B. Each of the pre-engineered Site Shelter packages shall be shipped as a pre-cut and pre-fabricated package that shall include the structural frame members, roof panels, fasteners, and installation instructions. The structures shall be shipped knocked down for minimum shipping charges. No on-site welding will be required or shall be allowed.

C. The items covered in this Specification include the following:

1. Custom Poligon 12x10 **Shower Shelter**
2. Custom Poligon 24x24 **Equipment Storage Shelter**

D. Section Includes:
Under this item, the Contractor shall furnish all labor, materials, equipment and perform all operations necessary for the completion of the work as shown on the drawings. This includes all excavation, concrete footings, backfill, hardware, fittings, and accessories, in accordance with the drawings, specifications and directions of the Owner's Representative.

E. Related Sections:

1. Section 31 22 00, Grading
2. Section 31 23 02, Excavating and Fill for Utilities
3. Section 32 13 13, Site Concrete Work

1.02 SYSTEM DESCRIPTION

A. **Shower Shelter** is a 12x10 Mono Slope with over Multi-Rib Roof.

B. ROOF SLOPE: 1:12.

C. Minimum Clearance Height (MCH): 10 in ft. Minimum clearance height under the structure indicates the lowest height of a member from finish grade for clearance under the structure. This is generally the clearance under roof eave or frame, whichever is lower.

D. **Equipment Storage Shelter** (for Splash Pad) is a 24x24 Square with over Multi-Rib Roof.

E. ROOF SLOPE: 6

F. Minimum Clearance Height (MCH): 7.5 in ft. Minimum clearance height under the structure indicates the lowest height of a member from finish grade for clearance under the structure. This is generally the clearance under roof eave or frame, whichever is lower.

1.03 REFERENCE STANDARDS:

A. AISC - American Institute of Steel Construction Manual of Steel Construction.
B. ASTM - American Society for Testing and Materials.
C. AWS - American Welding Society.
D. LEED - Leadership in Energy and Environmental Design.
E. OSHA – Occupational Safety and Health Administration Steel Erection Standard 29 CFR 1926 Subpart R-Steel Erection.
F. PCI - Powder Coating Institute.
G. SSPC – The Society for Protective Coatings.
H. Architecturally Exposed Structural Steel (AESS) - as defined by AISC

1.04 SUBMITTALS

A. GENERAL SUBMITTAL: Submit three sets of engineered drawings and three sets of engineered calculations, both signed and sealed by a Professional Engineer licensed in the State of California.

B. PRODUCT DESIGN REQUIREMENTS: The building shall meet the following design requirements as shown on the drawings:

1. Building Code: See drawings.
2. Ground Snow Load (Pg): See drawings.
3. Basic Wind Speed (V): See drawings.
4. Seismic Design: See drawings.

C. FOUNDATION DESIGN:

1. The shelter shall be set on foundations designed by manufacturer.
2. Foundation materials shall be provided by contractor.
3. Owner shall provide manufacturer with complete information about the site including soil bearing capacity and lateral load capacity.
4. If soil data are not provided, foundations will be designed to the minimum values identified in the governing building code.

D. ANCHOR BOLTS:

1. Anchor bolts shall be provided by Poligon.
2. Hooked anchors are not permitted par AISC requirements.

E. LEED SUBMITTALS:

1. LEED MR Credit 4.0: Material and Resources, Recycled Content.

1.05 QUALITY ASSURANCE:

A. MANUFACTURER QUALIFICATIONS:

1. Minimum of five (5) years in the shelter construction industry.
2. Full time on-staff Licensed Engineer.
3. Full time on-staff Quality Assurance Manager.
4. All welders AWS Certified.
5. Manufacturer owned and controlled finishing system to include shot blast, pretreatment, primer, and top coat.

B. MANUFACTURER'S CERTIFICATONS:

1. AISC Certified Building Fabricator, (American Institute of Steel Construction) Certified Building Fabricator is an AISC Quality Management Systems (QMS) Certification which sets the quality standard for the structural steel industry.

2. PCI 4000 S Certified, Certification thru Powder Coating Institute for original equipment manufacturers (OEMs) to evaluate process on entire finish system to add powder coat over steel.

3. City of Los Angeles, CA Approved Fabricator Type I Steel.

1.06 WARRANTY

A. Shelter must have a (10) year limited warranty on steel frame members.

B. Shelter must have a (10) year limited warranty on paint system.

C. Pass through warranty of Metal Roof manufacturer shall be provided upon request.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

A. Acceptable Manufacturer: Poligon, a Product of Porter Corp,
4240 N 136th Ave., Holland, MI 49424; 616.399.1963;
E- mail: info@poligon.com; www.poligon.com.

B. Contact Poligon Representative for pricing.
Miracle Playground
Rob Fryhoff at (800) 264-7225.
email: rfryhoff@miracleplayground.com

C. The product shall be designed, produced, and finished at a facility operated and directly supervised by the supplier who has a minimum of (10) years in the business of making pre-manufactured shelters.

D. Manufacturer must be an AISC Certified Building Fabricator.

2.02 SUBSTITUTION LIMITATIONS:

A. Substitutions for cause: Will only be considered when circumstances, outside of the contractor's control, will create a substantial delay in the completion of the project. Approval of substitution requests is at the discretion of the architect, owner, and/or their designated consultants. Architect will only consider contractor's request for substitution when the following conditions are satisfied:

1. Requested substitution meets or exceeds requirements as per the Contract Documents and will produce indicated results
2. Requested substitution provides equal design characteristics that specified product provides
3. Substitution request is fully documented and properly submitted.

2.03 PRODUCT REQUIREMENTS AND MATERIALS:

A. GENERAL: The pre-engineered package shall be pre-cut unless otherwise noted and pre-fabricated which will include all parts necessary to field construct the shelter. The shelter shall be shipped knocked down to minimize shipping expenses. Field labor will be kept to a minimum by pre-manufactured parts. On-site welding is not necessary.

B. REINFORCED CONCRETE: Concrete shall have minimum 28-day compressive strength of 3,000 psi and slump of 4" (+/- 1"), unless otherwise noted on the drawings. Reinforcing shall be ASTM A615, grade 60.

C. STEEL COLUMNS: Hollow structural steel tube minimum ASTM A500 grade B with a minimum wall thickness of 3/16". Unless columns are direct buried, columns shall be anchored directly to concrete foundation with a minimum of four anchor rods to meet OSHA requirement 1926.755(a)(1).

D. STRUCTURAL FRAMING: Hollow Structural Steel tube minimum ASTM500 grade B. "I" beams, tapered columns, or open channels shall not be accepted for primary beams. Frame will have a STANDARD POLI-5000 finish. Color chosen from manufacturer's standard color chart; textured colors not available:

E. COMPRESSION MEMBERS: Compression rings of structural channel or welded plate minimum ASTM A36 or compression tubes or structural steel tube minimum ASTM A500 grade B shall only be used.

F. CONNECTION REQUIREMENTS:

1. Anchor bolts shall be ASTM F1554 (Grade 36) unless otherwise noted.
2. Structural fasteners shall be zinc plated ASTM A325 high strength bolts and A563 high strength nuts.
3. Structural fasteners shall be hidden within framing members wherever possible.
4. Structural fasteners shall be manufactured in the U.S
5. No field welding shall be required to construct the shelter.
6. All welds shall be free of burrs and inconsistencies.
7. Exposed fasteners shall be powder coated by manufacturer prior to shipment to match frame or roof colors as applicable.
8. Manufacturer shall provide extra structural and roofing fasteners.

G. ROOFING MATERIALS: PRIMARY ROOF DECK: "R" PANEL METAL ROOFING (MR)

1. Roofing shall be 24 gauge ribbed galvalume steel sheets, with ribs 1 3/16" high and 12" on center.
2. Roof surface shall be painted with Kynar 500 to the manufacturer's standard color: Ash Grey. Ceiling surface shall be a "wash coat" primer.
3. Roof panels shall be factory precut to size and angled to provide ease of one-step installation.
4. Metal roofing trim shall match the color of the roof and shall be factory made of 26 gauge Kynar 500 painted steel.
5. Trim shall include panel ridge caps, hip caps, eave trim, splice channels, rake trim, roof peak cap, and corner trim as applicable for model selected. Trim may need to be cut to length and notched. Installation drawings shall have detailed information on how to cut and affix roof trim.
6. Ridge, hip, and valley caps shall be pre-formed with a single central bend to match the roof pitch and shall be hemmed on the sides.
7. Roof peak cap shall be pre-manufactured.
8. Manufacturer shall supply painted screws and butyl tape.

H. SECONDARY ROOF SYSTEM: By Others, not applicable.

I. FINISHES:

1. STANDARD POLI-5000 FINISH: Steel shall be cleaned, pretreated, and finished at a facility owned and directly supervised by the manufacturer.
2. Steel shall be shot blasted to SSPC-SP10 near-white blast cleaning. SSPC-SP2 hand tool cleaning will not be an acceptable alternative.
3. Parts shall be pretreated in a (3) stage iron phosphate or equal washer.
4. Epoxy primer powder coat shall be applied to parts for superior corrosion protection.
5. Top coat of Super Durable TGIC powder coat shall be applied over the epoxy primer.
6. Finish shall not have any VOC emissions.
7. Sample production parts shall have been tested and meet the following criteria:
    a) Salt spray resistance per ASTM B 117/ ASTM D 1654 to 10,000 hours with no creep from scribe line and rating of 10.
    b) Humidity resistance per ASTM D2247-02 to 5,000 hours with no loss of adhesion or blistering.
    c) Color/UV resistance per ASTM G154-04 to 2,000 hours exposure, alternate cycles with results of no chalking, 75% color retention, color

variation maximum 3.0 E variation CIE formula (before and after 2,000 hours exposure).

8. The manufacturer shall be PCI 4000 S Certified.
9. Exposed fasteners for frame and ornamentation shall be powder coated to match structure.

J. ACCESSORIES (***Equipment Shelter only***)

1. Electrical Access & Cutouts:

a) Electrical access to be provided through a 1 1/8" diameter hole in the column base plate and ¾" diameter holes are provided through connection plates for wire access through columns, trusses, and into the compression ring/tube.

b) Electrical cutouts shall be provided in 2 places for fixtures or wires.

2. Perforated Metal Screens:

a) Perforated metal screens shall be made of picture frame sections with perforated .063 gauge Type 3003-H14 aluminum screens which shall be powder coated to match the color of the steel frame of the shelter.

b) Perforated metal shall be sized to be ¼" diameter holes with 5/16" staggered centers, 12 holes PSI, 58% overall open area.

c) Screens shall be cross bent to add rigidity and reduce vibration.

d) Screens will have a STANDARD POLI-5000.

e) Color chosen from manufacturer's standard color chart: Juniper.

PART 3 - EXECUTION

3.01 INSTALLER'S STORAGE AND HANDLING

A. Protect building products after arrival at destination from weather, sunlight, and damage.

B. Installer shall store product elevated to allow air circulation and to not introduce mold, fungi decay or insects to the product.

C. Product must be handled with protective straps or padded forks if lifting with mechanical equipment. Use of chain or cable to lift product into place will not be accepted and may void manufacturer's warranty.

3.02 ERECTION

A. INSTALLATION: Install all components according to manufacturer's installation instructions and these specifications.

B. GENERAL CONTRACTOR: Interface with other work is to be coordinated by the customer or the customer's agent. Certain designs have electrical or other plumbing requirements that are not supplied by Poligon.

C. The structure shall be erected in a work-man-like manner with framing, roofing and trim installed according to the manufacturers' installation instructions. Components of the structure shall be covered and kept dry prior to erection. Care shall be taken to avoid damaging the structure during installation.

D. TOLERANCES: Tolerances on steel structural members are set according to AISC construction practices, abided in the factory, and cannot be increased. No field slotting or opening of holes will be allowed. It is therefore essential that contractors conform to the tolerances specified on the installation drawings for anchor bolt or column layout details.

E. OSHA COMPLIANCE: OSHA Compliance to Steel Erection Standard 29CRF 1926 Subpart R-Steel Erection.

3.03 REPAIR

A. Do not attempt any field changes without first contacting Poligon.

3.04 TOUCH UP

A. Touch up powder coat paint with paint provided to prevent rusting. Components of the structure shall be covered and kept dry prior to erection. Additional paint to be provided as requested by the County.

-END OF SECTION-

SECTION 22 00 00
PLUMBING GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 Requirements of Division 00 and Division 01 apply to work of this Section.

1.02 APPLICATION OF THIS SECTION TO WORK OF OTHER SECTIONS:

A. Plumbing General Requirements applies to all plumbing work specification sections.

B. Specifications for plumbing work include, but are not limited to the following sections:

Section 31 23 02 - Excavation and Fill for Utilities

1.03 WORK INCLUDED: Furnish materials and equipment and perform labor required to execute this work as indicated on the Drawings, specified herein and necessary to complete the work of this Section, including but not limited to, the following principal items:

A. Sanitary soil, waste and vent system.
B. Domestic water systems.
C. Trenching and backfilling for Plumbing work.
D. Testing.
E. All plumbing fixtures, equipment, and other miscellaneous items required for a complete installation.
F. Rough-in and final connections of water and drain to heating equipment and other equipment not included in this Section.

1.04 Related Work Not Included In This Section:

A. Cutting and Patching
B. Landscape Irrigation
C. Concrete Work
D. Painting, except as specified
F. Line and low voltage wiring, and conduit
G. Fire Protection System

1.05 CODES AND REGULATIONS

A. Comply with all pertinent codes and regulations of all governmental agencies having jurisdiction.

B. Permits, Fees and Inspections: Apply and pay for all permits, licenses, fees, etc. for the installation or construction of the plumbing work required by any legally constituted public authorities having jurisdiction and furnish all necessary drawings required for same. Arrange for inspections and examinations so required, and deliver certificates of all inspections to the Owner.

1.06 DEFINITIONS, ABBREVIATIONS AND STANDARDS

A. In compliance with the requirements of Division 01 references to technical societies, trade organizations and governmental agencies are made in this Division.

1.07 DRAWINGS AND SPECIFICATIONS

A. The Drawings are in part diagrammatic and are intended to convey the scope of the work; they indicate the general arrangement and approximate sizes of equipment, piping, etc. Follow the Drawings as closely as practicable in laying out the work, be guided by the conditions at the job and consult the Drawings of the other crafts to become familiar with all conditions affecting the work.

B. It is the intent of the Drawings and Specifications to provide complete operating systems, unless specifically noted to the contrary. The omission from the Drawings or Specifications of any minor details of construction, installation, materials, or specialties necessary for a safely operable system shall not relieve the Contractor from furnishing such items in place, complete.

1.08 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

A. Should there appear to be any error or discrepancy in or between the Drawings and Specifications, refer the matter to the Landscape Architect for adjustment before proceeding with the work. Should the Contractor proceed with the work without so referring the matter, he does so at his own responsibility.

B. The Architect will interpret the meaning of any part of the Drawings and Specifications about which any misunderstanding may arise and his decision will be final.

C. In the event of conflict between or among specified requirements and pertinent regulations, the more stringent requirement shall govern.

1.09 SUBSTITUTIONS

A. Comply with Division 00 and Division 01 requirements.

1.10 SUBMITTALS

A. Comply with Division 00 and Division 01 requirements.

B. Product Data: Submit material list of items to be provided under this Section. Include manufacturers' specifications, catalog cuts, and other data needed to comply with the specified requirements. Submit all product data at one time, bound between covers. Partial submittals or facsimile submittals will not be accepted. Items not submitted will be assumed to be as indicated in the Construction Documents. Reference each item submitted to the relevant specification section.

Shop Drawings or other data, as required, to indicate method of installation and attachment of piping, and equipment, except where such details are fully indicated on the Drawings.

Sterilization Certificate: Upon completion of water line sterilization, deliver to the Architect two copies of an acceptable "Certificate of Performance" for that activity.

E. Cathodic Protection: Upon completion of the work of this Section, deliver to the Project Manager sufficient data to prove that wrapping of underground steel and copper piping has been tested and meets the specified requirements. Show date of inspection, voltages used, and name and address of the inspector.

1.11 RECORD DRAWINGS

A. Comply with Division 00 and Division 01 requirements.

B. Provide and keep at job site a complete record set of blue line prints, corrected daily to show every change from the original Drawings and Specifications. Prints for this purpose may be obtained from

the Project Manager.

C. Project Record Documents of utilities shall be prepared as follows: Depth of lines shall be given from top of pipe to grade. Dimensions shall be given with permanent objects such as buildings, sidewalks, curbs, and driveways as reference points. Where Contractor uses other equipment than noted on drawings, record drawings shall accurately note make, type, and model number of such equipment.

D. Project Record drawings: Complete set Plumbing Drawings in AutoCAD Release 14 or higher format complete with all external reference drawings, fonts, blocks and plotter pen color / line thickness settings and in PDF format on CD-Rom. Also submit one set of full-size print.

E. On or before final inspection, Contractor shall deliver corrected and completed prints to the owner's representative responsible for the project. Delivery of prints to will not relieve Contractor of the responsibility of furnishing required information that may have been omitted from prints.

1.12 QUALITY ASSURANCE AND PRODUCT HANDLING

A. Comply with pertinent provisions of Division 01.

B. Use all means necessary to protect plumbing materials before, during and after installation and to protect the installed work and materials of all other trades.

C. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

1.13 EXAMINATION OF THE SITE

A. Examine the site and all conditions thereon or therein. Take into consideration all conditions that may affect this work. Lack of this information will not be considered as justification for extra cost or allowances to the Contract sum.

1.14 OPENINGS

A. Openings or holes for piping or equipment will not be allowed in any structural members without consent of the Architect.

B. Openings have been indicated on the Architectural and Structural Drawings. At a time in advance of the work, verify the location and size of openings or furnish new instructions as to the requirements for these openings. Should the furnishing of this information be neglected, delayed or incorrect, and additional cutting, notching, or boring is found to be required, the work shall be done as acceptable by the Architect at no additional cost to the Owner.

C. Make absolutely watertight any openings through waterproofed construction caused by the penetration of piping.

1.15 NOISE AND VIBRATION

A. It is the specific intent of these Specifications and design conditions that the entire system including equipment, piping, and all other parts be noiseless and free of vibration transmission. Provide vibration dampers, sound insulation pads, flexible connectors and similar material as required, to prevent transmission to the building structure of sound and vibration caused by the flow of fluids, motors, and motor operated equipment. If, as a result of the installation, noise or vibrations occurs in the building, make the necessary corrections at no additional cost to the Owner. Do not reduce the capacity of any equipment.

1.16 WARRANTY

A. Be responsible for all work under this Section, adjust all valves, controls, vacuum breakers and other incidental items. Leave the system in perfect operating condition. Repair, regulate and replace any defective workmanship, materials, and equipment which may become apparent during warranty period, at no additional cost to the Owner. Furnish the Owner all manufacturer's written warranties of materials and equipment.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide all new materials, in proper condition, of the best quality for the purpose intended, clearly marked or stamped with the manufacturer's name and/or stamp and rating.

2.02 ADDITIONAL MATERIALS

A. Provide additional materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Project Manager.

PART 3 - EXECUTION

3.01 INSTALLATION - GENERAL

A. Install all work not indicated in complete detail in conformance with accepted standard practice and manufacturer's recommendation.

B. Verify all clearances in areas where work will be installed and coordinate the Work with that of the other crafts and other Sections of the Specifications.

C. Where job conditions, or the Project Manager, require reasonable changes in indicated locations and arrangement, make such changes with no additional cost to the Owner.

D. Install all apparatus and equipment in a manner and in locations avoiding all obstructions, preserving headroom, and keeping openings and passageways clear. Make the necessary changes in locations of equipment and materials to accomplish this.

3.02 MANUFACTURER'S RECOMMENDATIONS

A. Install all equipment, materials, fixtures and devices in accordance with the recommendations of the manufacturer and the requirements of the Drawings and Specifications.

B. In the event of conflict, consult the Project Manager for a decision and perform the Work as acceptable to the Landscape Architect.

3.03 INSTALLATION OF PIPING

A. Clean all pipe and remove all scale, sand, dirt, etc., before installation. Provide full lengths of pipe whenever possible to minimize the number of couplings.

B. Cut pipes accurately to measurements established on the site. Work pipes into place without springing or forcing, and properly clear equipment, doors and openings of buildings.

C. Install piping as straight as possible and make all changes in direction with fittings.

D. Install all piping to run parallel to the building construction and arrange to form neat and symmetrical patterns to insure the best appearance possible.

E. Unless otherwise specified, conceal all pipe in walls, partitions or furred spaces.

F. Install piping at the exterior of the building, at a minimum depth of 18" below finish grade. Do not expose pipes on the exterior of building.

G. Use proper shoring and rigging methods.

H. Proceed with the rough piping as rapidly as the general construction work will permit and have all of the rough piping in and stubbed out to the proper point and tested, in each case, before any lath, plaster, drywall or finish work of the ceilings, partitions, walls, or floors are in place.

I. Install all pipes with allowances for expansion and contraction. Construct so that strains will be evenly distributed without damage to the system. Avoid building in erection stresses into the piping.

J. Make connection between copper or brass piping and steel with approved dielectric couplings.

3.04 FIRE STOPPING

A. Install seals and other items at penetrations through fire rated construction.

3.05 PAINTING

A. Finish Painting:
   1. Thoroughly clean and prepare for painting all unpainted or unfinished equipment, piping, and apparatus.
   2. Field finish painting is specified in 09 91 13 – Exterior Painting.

B. Prime coat all exposed iron work and all iron work subject to outside ambient weather conditions, including pipe hangers and rods.

3.06 TEMPORARY SERVICES

A. Furnish all water and fuel required for the installation of the work under this Division and other Divisions, and for the period of operation required during testing of the systems.

3.07 TESTING

A. Test and inspect all work under the supervision of the Owner and/or his representative and authorities having jurisdiction over this work. Deliver four (4) sets of all test charts and reports to the Project Manager.

B. Pressure Tests: Test the various parts of the systems before piping is concealed as required by governing authorities and pay all costs for same. Show no loss in pressure or visible leaks after a minimum test duration of 24 hours.

C. Operating Tests:
   1. Before final acceptance, perform operating tests for the duration of eight hours. Furnish all labor and instruments for tests.
   2. Demonstrate that all machinery and devices comply with Specifications and that there is free and equal circulation from each part of the piping systems, as well as satisfactory operation of all valves, equipment, controls, etc.

D. Should the Contractor refuse or neglect to make any tests necessary to satisfy the Owner, or his representative, the Owner may make such tests and charge the expense thereof to the Contractor.

3.08 CLEANING

A. During the progress of the work:
   1. Carefully clean up after your workers, and leave the premises and all portions of the building in which you are working, free from debris.
   2. Thoroughly clean all equipment and piping to remove dust, scale, plaster, or any internal obstructions before any covering is installed or any piping, or equipment is painted and/or placed in operation.

B. Upon Completion of Operational Tests:
   1. Flush clean inside of pipes, etc., before being placed in operation.
   2. Clean all strainers, flush valve diaphragms, faucet outlets, flow controls, etc. and adjust water volume for proper operation.

C. Upon Completion of the Work and Before Final Acceptance:
   1. Remove all temporary protective coverings, rubbish, debris, surplus and left-over materials, tools and equipment from the premises, and leave the site in a neat, clean and acceptable condition.
   2. Clean exposed parts of equipment, remove oil and grease, and leave the bright metal parts clean and polished. Clean plumbing fixtures of protective materials and clean and polish the entire assemblies. Thoroughly polish chromium or nickel-plated materials and equipment. Clean floor drain grates and check each fixture to insure against trap stoppage. Restore finished surfaces if damaged, and deliver entire installation in acceptable condition.

3.09 ADJUSTING

A. Upon completion of and after cleaning of system and equipment, carefully adjust to normal operation the automatic parts of plumbing systems.

-- END OF SECTION --

SECTION 26 0000
ELECTRICAL GENERAL REQUIREMENTS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. It is the responsibility of the Contractor to obtain and thoroughly review construction drawings and specifications that pertain to this project where requirements for electrical construction exist in other drawings and specifications the Contractor shall include these in the bid. As a minimum, these other drawings shall include plans by the building electrical engineer, the aquatic consultant, the security consultant /installer, the dry utility consultant, the irrigation consultant, and the fire alarm consultant/installer (if applicable).

B. The Contractor shall furnish and install all material, labor, and equipment necessary for a complete and operable site electrical system. The Contractor shall make application and coordinate all required permits, inspections, and examinations. Permit fees are paid by the Owner.

C. The electrical drawings, which constitute an integral part of the technical specifications, are schematic and they are intended to indicate a general layout of the electrical system. These drawings indicate the desired locations and arrangements of conduit runs, outlets, equipment, etc., and are to be followed as closely as possible. In all cases of material and equipment visible to view above grade, the contractor shall stake the locations of the material and equipment and obtain approval for placement from the Owner's representative prior to any permanent installation. The actual field conditions of construction, including the work of the other trades involved in the construction will dictate the exact methods and materials to be used. The Contractor is responsible to adequately review the plans and work of the other trades to assure that the work is properly coordinated with others and that conflicts are avoided.

D. During the progress of the work, the Contractor shall maintain an accurate record of the installation of the system on as-built drawings which shall be submitted to the Owner's representative at the completion of construction. All as-built notations shall be neat and orderly and submitted in reproduced format.

1.02 CODES, STANDARDS, AND PERMITS

A. Design, manufacture, testing and method of installation of all apparatus and materials furnished under requirements of these specifications shall conform to latest publications or standard rules of the following:

- Institute of Electrical and Electronic Engineers - IEEE
- National Electrical Manufacturers' Association - NEMA
- Underwriters' Laboratories, Inc. - UL
- National Fire Protection Association - NFPA
- Federal Specifications - Fed. Spec.
- American Society for Testing and Materials - ASTM
- American National Standards Institute – ANSI
- California Electrical Code - CEC

- National Electrical Code - NEC
- National Electrical Safety Code - NESC
- Insulated Cable Engineers Association - ICEA
- American Institute of Steel Construction - AISC
- Municipal Codes In Force In The Specific Project Area
- Occupational Safety and Health Administration (OSHA)

B. Perform Work in accordance with the California Electrical Code and the National Electrical Code, applicable building ordinances, and other applicable codes, hereinafter referred to as the "Code." The Contractor shall comply with the Code including local amendments and interpretations without added cost to the Owner. Where Contract Documents exceed minimum requirements, the Contract Documents take precedence. Where code conflicts occur, the most stringent shall apply unless variance is approved.

1. Comply with all requirements for permits, licenses, fees and codes.
2. Comply with requirements of the applicable utility companies serving this Project. Make all arrangements with utility companies for proper coordination of Work

1.03 WORKMANSHIP

A. The Contractor shall be responsible for using experienced personnel who are fully competent and familiar with proper installation techniques and with the manufacturers' recommendations relative to the products that are used. As a minimum, personnel shall be equivalent to that of a licensed journeyman electrician. The Contractor shall be fully responsible for the work methods and safety of these personnel. In the acceptance or rejection of the finished installation, no allowance will be made for the lack of skill on behalf of the personnel.

B. Work In Cooperation with Other Trades

Examine the Drawings and Specifications and determine the work to be performed by the electrical, mechanical and other trades. Provide the type and number of electrical materials and equipment necessary to place this work in proper operation, completely wired, tested and ready for use. This shall include all conduit, wire, disconnects, relays, and other devices for the required operation sequence of all electrical, mechanical and other systems or equipment.

1.04 CONSTRUCTION REVIEW

The Electrical Engineer reserves the right to visit the job site for the purpose of determining that the work of the Contractor is in general compliance with the intent of the construction documents.

1.05 SCHEDULE OF WORK

A. The Contractor shall be responsible for the scheduling of his work to meet the required completion date and shall also coordinate with other Contractors so that the overall project can be accomplished on schedule.

B. When product submittals are required as defined in subsequent sections of this specification, the Contractor shall allow 15-calendar days for the Electrical Engineer to review the submittals of the specified products.

1. If the Contractor is seeking a substitution for any products, he shall allow an additional 10-calendar days for review time. The Contractor is responsible to arrange these lead times such that they do not delay the completion of the project.

C. Immediately upon the issuance of the Notice to Proceed the Contractor shall coordinate with the suppliers of intended materials and products to be used in construction to verify that delivery of these materials and products will not impact the completion date of construction.

1.06 SUBMITTALS

A. General: Submittals shall be in accordance with General Requirements.

B. Operating and Maintenance Manuals: Prior to the substantial completion of the project, the Contractor shall submit operating and maintenance manuals. In addition to the requirements specified in the Contract Documents (also see technical specification sections following for additional requirements), include the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers and replacement parts.
2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and, as required, summer and winter operating instructions.
3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
4. Servicing instructions and schedules.

1.07 CLEANING

All exposed parts of electrical equipment shall be completely and thoroughly cleaned and free from cement, plaster, paint, etc. All scratches, dents, and marks are to be refinished identical in appearance to the original factory finish and in a manner acceptable to the Owner's representative at no additional cost to the contract.

In addition, any concrete structures such as equipment pads shall be consistent in finish and color, without chips and cracks, and the repairs and final finishes shall be uniform with surrounding concrete work. Any final concrete work that is not acceptable to the Owner's representative shall be redone or replaced by the contractor at no additional cost to the contract.

PART 2 - PRODUCTS

2.01 PRODUCT AND MATERIALS

A. All products and materials used in the project shall be new and delivered to the job site in the original packaging.

B. All materials used and furnished for which UL Standards have been established shall be listed and bear the label of Underwriters Laboratories, Inc.

C. Prior to ordering any lighting fixtures, service and distribution equipment, transformers, wiring devices and systems, the Contractor shall submit manufacturers' catalogs and/or shop drawings to the Electrical Engineer for approval. This requirement is required to check whether the Contractor truly has the proper drawings, equipment, part numbers, and manufacturers, etc. The Contractor will be notified when the review is completed and at such time, the Contractor may order material and products.

PART 3 - TESTING AND ADJUSTING OF ELECTRICAL SYSTEM

3.01 INSULATION RESISTANCE TESTING

It is the responsibility of the Contractor to assure the integrity of the insulation in all wiring. It is required that all wiring be tested as it is installed. This testing is to be conducted by a licensed electrician utilizing methods and equipment that are acceptable to the County of Los Angeles. See the drawings for the County of Los Angeles specific requirements for insulation testing and recording. A written record of this testing shall be made by the Contractor indicating the time and date of the test, the name of the person conducting the test, the equipment and method used, and this record shall be kept by the Contractor and made available to the Electrical Engineer and Owner upon request for a period of three (3) years following completion of the construction.

3.02 GROUND TESTING

It is the responsibility of the Contractor to assure the integrity of the grounding system throughout the project and it is mandatory that the entire system be thoroughly tested.

A written record of this testing shall be made by the Contractor indicating the time and date of the test, the name of the person conducting the test, the equipment and method used, and this record shall be kept by the Contractor and made available to the Electrical Engineer and Owner upon request for a period of three (3) years following completion of the construction.

3.03 GFI AND GFCI EQUIPMENT TESTING

All GFI circuit breakers and GFI convenience outlets shall be thoroughly tested during installation and at the completion of the project.

- END OF SECTION -

SECTION 26 0500
DISTRIBUTION EQUIPMENT

PART 1 - GENERAL

1.01 EQUIPMENT

A. If the distribution equipment shown on the drawings does not indicate the names of specific manufacturers, this equipment shall be manufactured by recognized manufacturers and shall comply with all applicable codes and standards. The Contractor shall study the dimensions of proposed manufacturers and verify that the equipment will physically fit in the spaces intended. This is to be accomplished prior to bid of the project. If there is a problem discovered relative to the dimensions of proposed equipment, the Contractor shall contact the Electrical Engineer and Owner and develop a solution prior to the bid. If this condition is not met for any reason, then the Contractor shall be responsible for working within the allowed limitations as indicated in the drawings by utilizing substitute equipment to fit the existing dimensions.

1.02 QUALITY ASSURANCE

All distribution equipment shall be approved by a testing laboratory recognized by the code enforcing authority and bear the approval label of that laboratory with a permanently mounted and engraved placard. Additionally, all distribution equipment shall have permanently placed on it a permanently engraved placard nameplate indicating the name of the manufacturer, the manufacturer's serial number, the voltage, phase, and ampacity of the specific equipment.

1.03 SUBMITTALS

The Contractor shall submit copies of the manufacturer's shop drawings for each distribution board, switchboard, panel board, load center, transformer, motor control center, and any other service and distribution equipment. Prior to any fabrication, manufacturing, or ordering of equipment, the Contractor shall have copies approved by the Electrical Engineer in his possession.

1.04 SCHEDULE AND DELIVERY

The Contractor is responsible for obtaining approvals and secure delivery of all contractual related works (i.e. drawings, equipment, etc.) in conformance with the construction schedule.

PART 2 - PRODUCTS

2.01 MAIN DISTRIBUTION QUIPMENT

Unless indicated otherwise in the drawings, the distribution equipment shall be a freestanding, deadfront, deadrear, stainless steel assembly. The Contractor is responsible for verifying the size of the pull section and provide the required equipment.

The equipment will utilize circuit breakers as shown in the drawings unless the Contractor obtains the written permission of the Electrical Engineer to utilize alternative configurations.. The main, and all subfeed breakers and switches are to be identified with a permanently affixed engraved phenolic nameplate and all switches and breakers are to be lockable "off". Any equipment shown outdoors shall be rated for a wet location.

2.02 PANEL BOARDS AND BRANCH CIRCUIT

A. Branch circuit panelboards shall be of the dead front safety type equipped with thermal-magnetic bolt-on type 40 deg C. circuit breakers. Panels shall be minimum 20-inch wide and 5-¾-inch deep, and shall have a bus, main circuit breaker, and branch circuit breakers of the rating indicated on the panel schedule in the plans. See panel schedules and panel schedule notes on drawings for additional requirements.

B. All branch circuit breakers less than 225A shall be molded case breakers per UL 489. Trips shall be thermal magnetic with common trip bars for two (2) pole and three (3) pole breakers so tripping of any one (1) pole will trip all poles. All breakers shall be trip indicating, bolt-on type with certified quick make-quick break contacts. GFI breakers shall conform to UL Class A, Group 1. Series rated breakers may be used to conform to short circuit ratings shown on drawings, but all circuit breakers in all panels shall be from the same manufacturer. Refer to panel schedules in the building plans and the site electrical plans for full requirements. All circuit breakers shall be full size breakers: no half size of tandem breakers are allowed.

C. Each panel shall have a plastic covered directory frame with a typed identification card of all circuit and panel numbers for branch circuit panelboards.

D. Neutral and Ground bus bars shall be full size, and rectangular in cross section.

PART 3 - EXECUTION

3.01 EQUIPMENT INSTALLATION

In all cases the Contractor shall install distribution equipment in such a manner that the equipment is reasonably protected from adverse conditions and damage. Distribution equipment that is shown outdoors shall be installed on a concrete pad at least 15-inches thick, and at a finished elevation three (3) inches above the water level (which shall be at or above the elevation of main doors into the structure). When the main service equipment is not located on or adjacent to a structure, the finished elevation of the pad shall be field verified to be above anticipated water levels, and the pad shall be set three (3) inches above the finished adjacent surface. All equipment shall be bolted to the pad or floor on which it is located.

3.02 GROUNDING

A. The main service ground bus shall be grounded in compliance with the requirements of the code enforcing authority and by the following methods:

1. Ground rod, see drawings for requirements – NEC 250
2. Uffer ground method where a building is part of the construction.

B. The resistance measured from the main service neutral bus to the ground shall not exceed 25 ohms as measured with dry ground conditions.

C. Nonmetallic conduits shall contain a ground conductor per NEC 250-122.

END OF SECTION

SECTION 265000
BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

The Contractor is responsible to assure that all material and equipment delivered to the job site are new and in proper usable condition. All materials and products used are to be inspected and may be rejected if found to be defective or flawed. It shall be the responsibility of the Contractor to ensure that this element of the specifications is satisfactorily completed. The Owner, Architects, and Electrical Engineers reserve the right to reject any materials or equipment that are deemed to be flawed or defective in the finished project.

1.02 PRODUCT AND EQUIPMENT VERIFICATION

A. The Contractor shall be responsible to check all products and equipment that is specified in the drawings when it is received at the job site to assure that it is in fact compatible with the electrical plans based upon the enclosed manufacturers' instructions including any instructions or information placed on the products and equipment.

B. In the case of distribution equipment the Contractor shall verify that the nameplates agree with the approved shop drawings relative to voltage, phase, bus ampacity, short circuit and/or AIC rating, and enclosure type.

C. In the case of lighting fixtures, the Contractor shall verify the fixture is rated for the specified lamp, the specified input voltage, the specified mounting and/or installation application, and the specified control system.

PART 2 - PRODUCTS

2.01 CONDUIT GENERAL

A. All conductors and wiring are to be installed in conduit unless the drawings clearly state that conduit is not required and that the use of an approved cable is permitted. Conduits are to be concealed in all finished areas. The conduits shall be continuous, terminating only in junction boxes, panels, approved wireways, etc.

B. Where non-metallic conduit is used in construction, the Contractor shall include a ground conductor in the run whether shown on the drawings or not and the conduit shall be sized accordingly.

2.02 RIGID NON-METALLIC CONDUIT (RNMC)

RNMC may only be used underground or in or below concrete slabs when used for conductors of 110 volts or higher. Conduit shall be polyvinyl chloride schedule 40, electrical conduit, rated 90 degrees C. Only approved electrical fittings may be used. When run in concrete maintain a minimum of four (4) inches of cover on all sides and convert to rigid galvanized steel to stub out of concrete.

2.03 RIGID METAL CONDUIT (RMC), PVC COATED

A. SCOPE

The PVC-coated, threaded conduit system is specifically designed to prevent corrosive conditions from causing early replacement of the conduit. All the conduit, fittings, and supporting products shall be provided by the same manufacturer to ensure that a five-year product warranty is achieved.

B. CLASSIFICATION AND USE

The PVC-coated, threaded conduit system is approved for all applications where rigid metal conduit is permitted. Also, it will replace the need for wider fill around Rigid Metal Conduit (RMC) where judged suitable for the conditions (reference NEC Article 344, II, C).

C. PRODUCT MANUFACTURER

PVC-coated, Galvanized Rigid Conduit (GRC) and fittings as manufactured by Plasti-Bond, Perma-Cote, and KorKap. Any deviation will require approval of the specifying engineer or owner and shall meet all the performance standards specified herein and verified by a nationally recognized testing agency.

D. MATERIALS

The PVC coated galvanized rigid conduit must be UL Listed and ETL Verified. Both the PVC and Zinc coating must have been investigated by UL as providing primary corrosion protection for the rigid metal conduit. Ferrous fittings for general service locations must be UL Listed with PVC as the primary corrosion protection. Hazardous location fittings, prior to plastic coating must be UL listed. All conduit and fittings must be new, unused material.

The PVC coated galvanized rigid conduit must be ETL Verified to the Intertek ETL High Temperature H2O PVC Coating Adhesion Test Procedure for 200 hours. The PVC coated galvanized rigid conduit must bear the ETL Verified PVC-001 label to signify compliance to the adhesion performance standard.

The conduit shall be hot dip galvanized inside and out with hot galvanized threads.

A PVC sleeve extending one pipe diameter or two inches, whichever is less, shall be formed at every female fitting opening except unions. The inside sleeve diameter shall be matched to the outside diameter of the conduit. The PVC coating on the outside of conduit couplings shall have a series of longitudinal ribs 40 mils in thickness to protect the coating from tool damage during installation.

Form 8 Condulets shall have a V-Seal tongue-in-groove gasket to effectively seal against the elements. The design shall be equipped with a positive placement feature to ease and ensure proper installation. Certified results confirming seal performance at 15 psig (positive) and 25 in. of mercury (vacuum) for 72 hours shall be available. Form 8 Condulets shall be supplied with plastic encapsulated stainless steel cover screws.

Urethane coating of nominal 2 mil thickness shall be uniformly and consistently applied to the interior of all conduit and fittings. Conduit or fittings with thin or no coating shall be unacceptable.

The PVC exterior and urethane interior coatings applied to the conduit shall afford sufficient flexibility to permit field bending without cracking or flaking at temperatures above 30°F (-1°C).

All female threads on fittings and couplings shall be protected by urethane coating.

Right angle beam clamps and U bolts shall be specially formed and sized to snugly fit the outside diameter of the coated conduit. All U bolts will be supplied with plastic encapsulated nuts that cover the exposed portions of the threads.

E. EXECUTION INSTALLATION

Installers of the PVC-coated galvanized rigid conduit system must be certified by the manufacturer and be able to present a valid, unexpired certified installer card prior to starting installation. All clamping, cutting, threading, bending, and assembly instructions given during the manufacturer's certified installation training should be vigorously followed.

Steel RMC shall be mild steel, hot dipped galvanized inside and outside, and all couplings and connectors shall be tapered pipe thread. Running threads and split couplings are not permitted.

2.04 NOT USED IN THIS PROJECT

2.05 FLEXIBLE METAL CONDUIT (FMC)

FMC shall be steel or aluminum with UL listing. Fittings shall be steel or malleable iron threaded.

2.06 PULL AND JUNCTION BOXES

A. Boxes are to be installed in all conduit runs in sufficient number to meet the requirements of codes, special requirements of utility companies, requirements of providers of special equipment and systems, and to allow for efficient and convenient installation of conductors. It is the responsibility of the Contractor to locate these boxes and size them according to code requirements. Boxes shown on the drawings are to be installed as shown, but do not necessarily indicate all boxes necessary for any installation. Boxes installed in outdoor or wet locations shall be of the type approved for the purpose.

B. Boxes used in the site system shall be marked Electric as appropriate. Concrete boxes shall be installed on a 12-inch crushed rock base and all surfaces visible above grade shall be fully fabricated from natural concrete with no coatings or special finishes including sealants. The Contractor shall coordinate the finished elevation with specific conditions of the installation. In general, the Contractor shall attempt to locate boxes such that they are as visually unobtrusive as possible and shall obtain approval from the Owner's representative for all locations prior to any permanent installation. Boxes used in runs for primary feeders of panels, transformers, switchboards, and other distribution equipment shall indicate the originating source and destination on the cover (i.e. "MSB to P10"), and they shall not be shared for sub feeds to more than one (1) of the above types of equipment.

C. Boxes located outdoors in landscape or in traffic areas, shall be pre-casted with concrete as manufactured by Christie, as indicated on plans. The covers of these boxes shall be

appropriate to their specific location. Boxes used in the utility site system, covers shall be marked Electric, Telephone, or CATV as appropriate. Concrete boxes shall be installed on a 12-inch crushed rock base. In general, the Contractor shall attempt to locate boxes such that they are as visually unobtrusive as possible and shall obtain approval from the Owner's representative for all locations prior to any permanent installation.

1. The Contractor shall coordinate the finished elevation with the specific conditions of the installation. In general, the Contractor shall attempt to locate boxes such that they are as visually unobtrusive as possible.

D. Boxes that are in wet areas shall be installed with conduits in boxes such that they are protected from intrusion of water. Furthermore, if there is a possibility that water can enter buildings or equipment by entering conduits owing to grades and elevations, the Contractor shall make the Electrical Engineer and Owner aware of this field condition prior to completion of the installation to allow the Electrical Engineer and Owner to take appropriate actions and protective measures.

2.07 NOT USED

2.08 CONDUCTORS

A. The Contractor shall be responsible to install all conductors used on the project in compliance with Article 310 of the NEC.

B. Conductors used as distribution conductors, to sub feed switchboards, panels, transformers, and other equipment, where the wire sizes are #6 and larger shall be installed with the wire size, insulation class, and voltage rating indications on the insulation visible without inside the equipment without touching the conductors from the front of the connections.

C. Conductors #10 AWG and larger shall be stranded. The minimum wire size to be used is #10 THWN CU (AWG). The minimum insulation rating shall be 600 volts.

D. All conductors shall be copper with THWN or THHN insulation. In no event may aluminum conductors be used.

E. Conductors for 277/480-volt systems shall be brown, orange and yellow.

2.09 CONNECTORS

A. Copper conductors for wire sizes #10 AWG and smaller shall be spliced utilizing "spring-lock" connectors, in particular, "Scotchlock" by 3M or "Wing Nuts" by Ideal. The Contractor is responsible to assure that all splices are completed in a secure and permanent fashion, maintaining the integrity of the connection without faults or shorts. In cases where the conductors may be affected by adverse conditions the Contractor shall take special precaution to protect the conductors such as by wrapping connectors with an appropriate tape.

B. Copper conductors for wire sizes #8 AWG and larger shall be made with approved split bolt connectors. These types of uninsulated connections shall be thoroughly protected with applied insulation such as 3M #2200 vinyl insulating pads.

C. Connections made in outdoor locations shall follow all applicable code requirements for wire terminations.

PART 3 - EXECUTION

3.01 TRENCHING / EXCAVATION

Where specifications appear in the architectural or site electrical portion of the specifications that pertain to trenching and backfilling, the Contractor is responsible to review these specifications and comply. In the absence of other specifications, the Contractor shall:

A. Comply with the Electrical Specifications on the drawings relative to the minimum depths of conduits.

B. Maintain a minimum of 12-inches separation between: 0-600 volt feeders; and over 600 volt feeders; and low voltage (telephone, alarm, communications, CATV, other Class 2 conductors, etc.); and non electrical installations (water, gas, drains, sewers, etc.). This condition shall apply to joint trench situations and to conditions where trenches cross.

C. Each layer of backfill shall be compacted to a minimum density of 90% and the top six (6) inch shall be compacted to 95% maximum density. The proper procedure is to use a "stomper" type compaction device, place properly moistened earth in six (6) inch lifts and make at least three (3) passes per lift. Proceed until trench is filled. It is the responsibility of the Contractor to provide verification that this condition is fulfilled.

D. Upon completion of backfill and compacting the Contractor shall leave the site in the same condition that it was at the commencement of the work. This requirement includes replacement of any damaged landscape materials, asphalt, concrete, other pavements and finish materials, fences, lawns, trees, etc. Additionally, the Contractor shall be responsible for any damage to other installations such as sprinkler lines, and the like.

If the Contractor feels that damage to other installations is unavoidable then it is his responsibility to bring this to the attention of the Electrical Engineer and Owner prior to any specific work to allow the Electrical Engineer and Owner to designate corrective procedures.

E. Upon completion of the trenching and backfill the Contractor is responsible for removing any excess dirt, rock, and other debris from the job site.

END OF SECTION

SECTION 26 5600
LIGHTING FIXTURES

PART 1 - GENERAL

1.01 EQUIPMENT

Lighting fixtures as indicated in the drawings shall be furnished by the Contractor. The Contractor is responsible for coordinating with the manufacturers of specified fixtures and assure that submittals for approvals and subsequent orders and delivery dates will not conflict with the job schedule. The Contractor shall apply the following procedure to the ordering of light fixtures:

A. The Contractor shall maintain complete and accurate documentation of communications with the suppliers.

B. The Contractor shall request fixture submittals for the approval of the Electrical Engineer within five (5) days of notification of the award of contract and shall verify that the submittals have been received by the Electrical Engineer/Owner and allow for 15-days review time.

C. The confirmed order for the purchase of the fixtures shall be placed within an adequate time to allow for the timely delivery of the fixtures. If there is to be a delay in the delivery the Contractor shall make every reasonable attempt to inform the Electrical Engineer and Owner of the delay at the soonest possible time. As a minimum, the Contractor is to secure a confirm delivery date from the manufacturer at the time of ordering and follow up on this delivery date periodically until the order is received by the Contractor.

D. If there is to be a delay in delivery the Contractor is to make available to the Electrical Engineer and Owner all of the written records pertaining to the order.

1.02 QUALITY ASSURANCE

A. Lighting fixtures shall be manufactured by a recognized manufacturer and bear the approval label of a test lab recognized by the code enforcing agency. Additionally, this label shall conform to the specific location of installation such as "damp" or "wet".

B. All fixtures shown on the drawings are to be furnished with all necessary mounting devices and accessories. In all cases the Contractor is responsible to install fixtures with proper and appropriate structural support.

C. The Contractor shall exercise care when handling and installing fixtures to protect finishes and lenses and other visible components. The Owner, Architect, and Electrical Engineer reserve the right to reject any damaged or flawed materials and products.

PART 2 - PRODUCTS

2.01 LED FIXTURES

A. Operates in -40°C to 40°C ambient with optional high ambient 50°C ambient configuration. Circuit module designed to withstand 10kV of transient line surge. >L90 60,000 hours at 40°C, compliant with IESNA TM-21. 120V-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. Controls Standard with 0-10V dimming driver(s). Optional occupancy sensor. Optional wireless control and monitoring system

END OF SECTION

SECTION 31 2200
GRADING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Site grading, including:

1. Site stripping.
2. Removal of organic soils.
3. Import or export of soils as required to complete grading.
4. Rough grading and shaping of site.
5. Final finish grading and shaping of site.
6. Groundwater control and dewatering of excavations.
7. Removal from site and proper disposition of all debris and excess material resulting from the work.
8. Fill and compact holes resulting from removals.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Geotechnical Report.

B. Division 31 Section "Site Demolition".

C. Division 31 Section "Excavation and Fill for Utilities".

D. Division 31 Section "Excavation and Fill for Structures".

E. Division 31 Section "Erosion and sedimentation controls".

F. Division 32 Section “Site Concrete Work”.

1.04 DEFINITIONS

A. Dewatering: Control of surface water runoff and ground water accumulation.

1.05 QUALITY ASSURANCE

A. Tests and Inspections:

1. Procedure: In accordance with Division 01 Sections.
2. Required tests:

a. Fill material: Determine suitability of fill material not previously evaluated.
b. Maximum density tests: Determine optimum moisture content and maximum dry density of fill materials placed and compacted in accord with ASTM D 1557, Procedure A.

c. Field density tests: Determine in-place density of fill materials placed and compacted in accord with ASTM D 1556, ASTM D 2922, or ASTM D 2937. Provide one test for every 10,000 sq. ft. per lift.
d. Certification of all subgrade improvements and engineered fills and subgrades with respect to their adequacy and suitability values for intended uses.
e. Suitability and classification testing for all soils of unknown characteristics prior to use as compacted fills.
f. Other tests as may be required by Owner.

3. Required inspections and controls:

a. General inspection of stripping of surfaces and removal of root mat, peat, organic soils (muck), clay, and other unsuitable material.
b. Detailed inspection of exposed subgrades prior to finishing or placing fill materials.
c. Continuous control of placing and compacting of all engineered fills.
d. Continuous inspection and monitoring during placing and compacting operations.
e. Observation and consultation in processes of bank shaping, safety in excavations, dewatering, and identification of materials encountered.

B. Requirements of regulatory agencies: In addition to complying with other legal requirements, comply with the following.

1. Code of Federal Regulations Title 29 CFR Part 1926, Subpart P, Excavations.
2. Occupational Safety and Health Administration Document 2226.

C. Reference specifications and standards:

1. ASTM: D 1556 Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM: D 1557 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft.-lbf/ft3).
3. ASTM: D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
4. ASTM: D 2937 Density of Soil In-Place by the Drive-Cylinder Method.
5. CFR: Title 29 CFR Part 1926 Safety and Health Regulations for Construction.
6. OSHA: Document 2226 Excavations.

D. Allowable tolerances:

1. Grading elevations and contours: Accuracy of final grading elevations and contour shall be the responsibility of a civil engineer or land surveyor licensed in the State of California.
2. Grade (cut or fill) site to the elevations indicated on Drawings within the following tolerances:

a. All cuts and fills: Within a tolerance ±0.10 feet for grades indicated on Drawings.
b. Structures at or on grade: Within 0.02 feet (including hardscape).

PART 2 - PRODUCTS

2.01 MATERIALS

A. On-site and borrow fill:

1. Non-expansive, predominantly granular material:

a. Particles less than 2 inch in any dimension;
b. Free of organic and inorganic debris;
c. Not more than 12 percent by weight passing the No. 200 sieve.

2. Acceptable to geotechnical engineer retained by Owner.
3. Top soil: All soil above the lower root line of fine vegetation (grasses and sod).
4. Borrow site: At location approved by Owner.

B. Recycled fill: Refer to Division 02 Section "Selective Site Demolition". Limit use as follows:

1. Not more than 10 percent (by volume, compacted) of total fill.
2. Not less than 2 feet below bottom of concrete foundations.
3. Imported, recycled fill is not acceptable.

PART 3 - EXECUTION

3.01 PROTECTION

A. Public and adjacent properties: Protect in accord with applicable laws and ordinances.

B. Existing on-site features, plant life, including trees, scheduled to remain:

1. Protect from damage at all times.
2. Do not allow earth-moving equipment within the branch spread perimeter (drip line) of existing trees.

C. Utilities:

1. When utility line excavation occurs near existing utilities, whether or not indicated on Drawings, maintain existing utility services fully operational. Protect and support utility lines in a manner to prevent damage. Method of protection is subject to Owner's approval.
2. Expeditiously repair damaged utilities at no cost to Owner.
3. Remove abandoned lines encountered during excavating and dispose of off-site. Report unidentified lines to Owner prior to removal.
4. Capping and rerouting of indicated active utility lines encountered during Work of this Section will be performed as part of the work of section pertaining to utility encountered.

D. Dust control:

1. Throughout entire construction period, effectively dust-palliate working area, unpaved roads, and involved portions of site.
2. Palliation: Intermittently water and sprinkle with such frequency as will satisfactorily allay dust at all times. Chemical treatment of any type is not permitted.

3. Use of reclaimed water shall conform to requirements and guidelines of governing health authorities and be specifically approved by Owner.

3.02 STRIPPING AND CLEARING

A. Strip dry ground areas of all top soil, surface vegetation, muck, roots, organic material, and debris to result in a uniform surface of exposed clean, natural sand or soils.

B. Except as directed otherwise by Owner, dispose of all waste materials to legal off-site disposal areas.

C. Soil redistribution: Do not redistribute existing soils beyond immediate area of origin

3.03 EXCAVATIONS

A. Excavate materials of every nature to dimensions and elevations indicated. Use equipment of suitable type for materials and conditions involved.

B. Where additional excavation is required to remove unsatisfactory materials encountered, such additional work shall be paid for by means consistent with terms of the Contract.

C. Remove from site materials not approved for use as topsoil or fill and excess excavated materials.

3.04 FILLING, COMPACTING, AND GRADING

A. Filling:

1. Place fill in uniform lifts not exceeding 8 inches in loose thickness that will uniformly compact to the required densities.
2. Bring each layer to between ±2 percent of optimum moisture content before compaction. Add water by uniform sprinkling and mixing with soils. Add or blend additional fill materials or dry out existing materials as required.
3. When moisture content and condition of each layer is satisfactory, compact to specified density. Compact areas not accessible to motor-driven equipment with mechanical or heavy hand tampers.
4. Rework compacted areas failing to meet specified density as determined by tests. Recompact and retest as required or directed to achieve proper density.
5. Correct unauthorized excavation made below depth indicated, as acceptable to geotechnical engineer retained by Owner, at no additional cost to Owner.
6. Do not place fill materials until subgrade is acceptable to geotechnical engineer retained by Owner, nor until preceding fill layer is acceptable.
7. Prior to placing fill material on existing surfaces, scarify to a depth of 6 inches and recompact to same degree of compaction as overlying fill material.

B. Compacting:

1. Parking and pavement areas: Compact soils below all parking areas, walks, slabs, and asphalt pavement to 90 percent of the Modified Proctor maximum dry density for full depth of fill.
2. Landscape areas: Compact soils below all landscape, planting ,and sod areas to 85 percent of the Modified Proctor maximum dry density for the full depth of fill.

3. Building areas: Compact soils below all buildings and for a distance of 5 feet beyond perimeter footing to at least 90 percent of the Modified Proctor maximum dry density for the full depth of fill. Proof roll within these limits with a self-propelled vibratory compactor capable of imparting a maximum dynamic drum force of at least 36,000 lb. Proof roll from a level that is 2 feet above ambient water table. This may require locally filling low areas prior to utilizing a vibratory compactor. Densify subsoils by making repeated overlapping coverages of roller as it operates at its full vibrational frequency, and at a travel speed of not more than 2 feet. per second.

4. Minor structures: Support catch basins and other minor structures on bottom and all sides by soils compacted to 90 percent of the Modified Proctor maximum dry density for full depth of fill.

C. Grading:

1. Grade (cut or fill) site to the elevations indicated on Drawings within the following tolerances:

a. All cuts and fills: Within a tolerance ±0.10 feet for grades indicated on Drawings.
b. Structures at or on grade: Within 0.02 feet (including hardscape).

2. Elevations and contours indicated on Drawings are to finish grade unless otherwise indicated. Make allowances for pavement thickness, bases, and sod material where applicable.

3.05 DEWATERING

A. Drain excavations and other prepared work areas occurring below groundwater level and maintain in a dewatered condition while performing work at those elevations.

B. Prevent surface water drainage from entering excavations, and ponding on subgrades and other prepared work areas.

C. Maintain dry excavations and subgrades by whatever means necessary while working in each area.

1. Reduce groundwater level to a sufficient depth to ensure that bottom soils are not saturated or develop a "quick" condition.

2. Reroute surface water drainage away from excavations, prepared subgrades, and other work areas.

3. Prevent excessive rainwater, to the extent that detrimental softening, undermining, washout, and similar damage would occur, from accumulating in excavations, upon subgrades, and at other prepared work areas.

4. Do not use excavations as temporary drainage.

D. Dewatering methods selected by Contractor shall be subject to approval by Owner.

-END OF SECTION-

SECTION 31 2302
EXCAVATION AND FILL FOR UTILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Dewatering, excavating, shoring, sheeting, bracing, trenching, backfilling, and all other earthwork operations required for utility and other underground lines and appurtenances.

B. Providing access to open trenches after utility lines have been installed and bedded, but prior to backfilling being commenced, to permit recording of record or "as-built" survey information.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Geotechnical Report.

B. Division 31 Section “Site Demolition”.

C. Division 31 Section "Excavation and Fill for Structures".

D. Division 33 Section "Underground Utilities Marking".

E. Division 33 Section “Site Water Distribution System”.

F. Division 33 Section “Sanitary Sewer System”.

G. Division 33 Section “Storm Drainage System”.

1.04 QUALITY ASSURANCE

A. Tests and inspections:

1. Procedure: In accordance with Division 01 Sections.
2. Test methods:
    a. Maximum dry density of backfill materials shall be determined by ASTM D 1557, Procedure A.
    b. Field density tests shall be determined by ASTM D 1556, ASTM D 2922, or ASTM D 2937.
3. Required tests:
    a. Backfill material: Determine suitability of backfill and bedding material not previously evaluated.
    b. Maximum density tests: Determine optimum moisture content and maximum dry density of backfill and bedding materials placed and compacted.
    c. Field density tests: Determine in-place density of backfill materials placed and compacted. Conduct one test for every 100 linear feet of trench and one test for each 1-foot vertical lift.

d. Other tests as may be required by Owner.

4. Required inspections:

a. Excavation inspection: Detailed inspection of exposed excavations prior to placing bedding and backfill material.

b. Bedding conditions: Determine and evaluate condition of bedding to receive utility lines.

B. Requirements of regulatory agencies: In addition to complying with other legal requirements, comply with the following.

1. Code of Federal Regulations Title 29 CFR Part 1926, Subpart P, Excavations.
2. Occupational Safety and Health Administration Document 2226.

C. Reference specifications and standards:

1. ASTM: D 1556 Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM: D 1557 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft.-lbf/ft3).
3. ASTM: D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
4. ASTM: D 2937 Density of Soil In-Place by the Drive-Cylinder Method.
5. CFR: Title 29 CFR Part 1926 Safety and Health Regulations for Construction.
6. OSHA: Document 2226 Excavations.

1.05 SUBMITTALS

A. Procedures: In accordance with Division 01 Sections.

B. Drawings and engineering design calculations: Signed and sealed engineering drawings and calculations for required shoring, sheeting, or cribbing for approval prior to starting installation of shoring, sheeting, or cribbing.

PART 2 - PRODUCTS

2.01 MATERIALS

A. On-site materials: Materials obtained by selective stockpiling of excavated soils.

1. Bedding: Unless indicated otherwise on Drawings, conform to the following.

a. Clean sand and native free-draining granular materials, free from all vegetation and debris or as indicated on Drawings.

b. Bedding shall meet gradation requirements when tested in accord with ASTM D 422 and have a minimum sand equivalent of 30 as determined by ASTM D 2419.

Sieve Size	% Passing Sieve by Weight
1/2 in.	100
No. 4	70 - 100
No. 16	50 - 90
No. 50	10 - 50
No. 200	0 - 10

2. Backfill: Clean material, free from all vegetation and debris. Do not use rocks or lumps larger than 2 inches in any dimension.

B. Borrow fill:

1. Non-expansive, predominantly granular material:

   a. Particles less than 2 inches in any dimension;
   b. Free of organic and inorganic debris;
   c. Not more than 12 percent by weight passing the No. 200 sieve behind retaining walls and 25 percent elsewhere.

2. Acceptable to geotechnical engineer retained by Owner.

PART 3 - EXECUTION

3.01 PROTECTION

A. Public and adjacent properties: Protect in accord with applicable laws and ordinances.

B. Existing on-site features, plant life, including trees, scheduled to remain:

1. Protect from damage at all times.
2. Do not allow earth-moving equipment within the branch spread perimeter (drip line) of existing trees.
3. Do not cut tree roots over 2 inches in diameter without prior approval from Owner.
4. Support trees during excavation in an approved manner.
5. When excavation adjacent to existing trees is necessary, use all possible care to avoid injury to trees and tree roots. Excavate by hand all areas where 2 inch and larger roots occur. Tunnel under and heavily wrap with burlap roots 2 inches and larger in diameter, except directly in the path of pipe or conduit, to prevent scarring or excessive drying. When a trenching machine runs close to trees having roots smaller than 2 inches in diameter, hand trim wall of trench adjacent to tree, making clean cuts through roots. Paint roots 1 inch and larger in diameter with two coats of Tree Seal, or Owner-approved equivalent. Close trenches adjacent to trees within 24 hr.; when this is not possible, shade side of trench adjacent to tree with burlap or canvas.
6. All work around and adjacent to existing trees, including inspection prior to backfill, shall be approved by Owner. Obtain Owner's approval in writing for all procedures prior to commencement of work. Trees that die due to damage or unacceptable work shall be back-charged to Contractor.

C. Where utility line excavation occurs in lawn, grassed, or landscaped areas, carefully remove and stockpile sod and plants to preserve for transplanting.

1. Place excavated material from trenches on lawn or grass, provided a drop cloth or other approved method is employed to protect lawn or grass from permanent damage. Do not keep stockpiled materials on lawn or grass for more than 72 hr.
2. Immediately after completion of backfilling and testing of utility lines, replace sod and replant plants in a manner to restore lawn, grass, and landscaping to its original condition within practical limits. Replace damaged landscaping at no cost to Owner as part of the work of this Section.

D. Where utility line excavation occurs in paved areas, saw-cut existing pavement along straight, uniform lines such that the amount of pavement cut and removed shall be the minimum consistent with safe excavation practices.

1. Do not use removed pavement as backfill material.
2. Replace removed pavement with new pavement to match existing in accord with Project Specifications.

E. Open trenches: Barricade all open trenches during work hours and cover at the close of each day's work.

F. Utilities:

1. When utility line excavation occurs near existing utilities, whether or not indicated on Drawings, maintain existing utility services fully operational. Protect and support utility lines in a manner to prevent damage. Method of protection is subject to Owner's approval.
2. Expeditiously repair damaged utilities at no cost to Owner.
3. Remove abandoned lines encountered during excavating and dispose of off-site. Report unidentified lines to Owner prior to removal.
4. Capping and rerouting of indicated active utility lines encountered during Work of this Section will be performed as part of the work of section pertaining to utility encountered.

G. Dust control:

1. Throughout entire construction period, effectively dust-palliate working area, unpaved roads, and involved portions of site.
2. Palliation: Intermittently water and sprinkle with such frequency as will satisfactorily allay dust at all times. Chemical treatment of any type is not permitted.
3. Use of reclaimed water shall conform to requirements and guidelines of governing health authorities and be specifically approved by Owner.

H. Water control:

1. Maintain trenches and other excavations free of water while lines are being placed and until backfill has been completed and approved.
2. Maintain adequate pumping equipment at all times to provide for emergencies.
3. Dispose of water in such a manner as not to create a nuisance, cause damage to property, or interfere with activities of other contractors. Prevent water from migrating outside of construction areas. Use Owner-approved methods and materials to confine water to construction areas. Failure to contain water is not permitted.

4. Dewater as required to maintain site in a relatively dry condition, including well point dewatering.
5. Methods of dewatering and disposal of water are subject to Owner's approval.

I. Bracing and shoring:

1. Support excavations in accord with all legal requirements.
2. Set and maintain sheet piling and shoring timbers in a manner that will prevent caving of walls of excavations or trenches and not impose other loads or surcharges on lines.
3. When it is impractical to remove shoring and bracing, obtain approval from Owner to leave in place. Record locations of such "in-place" shoring and bracing on Project Record Documents.

J. Stockpiled excavated materials: Confine excavated materials to immediate area of stockpiled location.

K. Soil redistribution: Do not redistribute any existing soils beyond the immediate area of origin.

3.02 EXCAVATION

A. General: Include removal of materials and obstructions that interfere with the execution of the Work.

1. Unless indicated otherwise, excavation for utilities lines shall be by open trench.
2. Sides of trenches shall be as nearly vertical as practicable.
3. Obtain prior approval from Owner for use of tunneling.

B. Trench widths:

1. Lines less than 6 inches outside diameter: 18 inches minimum.
2. Larger lines: Clear distance on each side of line of not less than 8 inches or more than 1/2 of outside diameter of line.

C. Trench depth: Excavate trenches to lines and grades as necessary for construction of utility lines indicated.

D. Over-excavation: Backfill over-depth excavations to required grade with specified bedding and backfill material. Compact bedding and backfill material to specified density.

E. Perform any dewatering and pumping required to keep excavations free of standing water.

F. Refer to geotechnical reports for seasonal high groundwater table elevation estimates. It is the sole responsibility of contractor to make its own judgments as to the actual conditions, and to draw its own conclusions as to means and methods required for performance of the work. Provide dewatering, if required, at whatever elevation groundwater is actually encountered.

G. A plan for any proposed dewatering shall be submitted for approval prior to commencement of any such work. Any permitting for dewatering which may be required shall be the responsibility of Contractor.

H. Sequence, schedule, coordinate, and perform the work so as to maintain safe, unobstructed passage as required for emergency egress and general site access. Provide any and all

bridging of trenches of work, barricades, etc., that may be required to comply with this requirement.

3.03 BACKFILL

A. General: Backfill consists of bedding, backfill, and restoration of surface.

B. Bedding: Bedding is defined as material supporting, surrounding, and extending to 12 inches above the top of utility line. Bedding shall not be required under or around structures, except at utility lines.

1. Do not cover lines until they have been inspected and approved for alignment and grade and recording of record or "as-built" survey information has been performed.
2. Commence bedding immediately after approval and survey information recording, to preclude damage to utility lines.
3. Carefully place bedding around utility lines so as not to displace or damage line, and fill symmetrically on each side of line to 12 inches above top of line.
4. Compact bedding to 90 percent of the maximum dry density in accord with ASTM D 1557 using mechanical equipment.

C. Backfill: Backfill includes material from 12 inches above the lines to, and including, surface restoration.

1. Do not backfill against structures until concrete has attained sufficient strength to withstand loads, and structures have been approved.
2. Place backfill in loose uniform lifts not exceeding 8 inches.
3. Use mechanical compactors for compaction of backfill.

D. Coordinate and ensure installation of underground utilities marking in accord with Division 33 Section "Underground Utilities Marking".

E. Compacting:

1. Parking and pavement areas: Compact soils below parking areas, walks, slabs, and asphalt concrete pavement to 90 percent of the maximum dry density in accord with ASTM D 1557 for full depth of fill.
2. Landscape areas: Compact soils below landscape, planting, or sod areas to 85 percent of the maximum dry density in accord with ASTM D 1557 for full depth of fill.
3. Building areas: Compact soils below all buildings and for a distance of 5 feet beyond perimeter footing to at least 90 percent of the maximum dry density in accord with ASTM D 1557 for full depth of fill.
4. Minor structures: Support catch basins and other minor structures on bottom and all sides by soils compacted to 90 percent of the maximum dry density in accord with ASTM D 1557 for full depth of fill.

3.04 ADJUST AND CLEAN

A. Surface restoration:

1. Restore surface areas over trenches equivalent to conditions which existed prior to start of work.
2. Reconstruct surfaces in accord with applicable Sections of the Specifications.

B. Disposal:

1. Debris:

a. Remove and dispose of all rubbish, debris, and vegetation as it accumulates.
b. Dispose of debris off-site or at an on-site disposal area designated by Owner.

2. Excess soil: Stockpile at an on-site area designated by Owner.

-END OF SECTION-

SECTION 31 23 04
EXCAVATION AND FILL FOR STRUCTURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Excavating, backfilling, and compacting for structures.

B. Restore grades to required elevations.

C. Remove excess materials from site.

D. Pumping and dewatering.

E. Support of excavations.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Geotechnical Report.

B. Division 03 Section "Cast-In-Place Concrete".

C. Division 31 Section “Site Demolition”.

D. Division 31 Section "Excavation and Fill for Utilities".

1.04 QUALITY ASSURANCE

A. Tests and inspections:

1. Procedure: In accordance with Division 01 Sections.

2. Test methods:

a. Maximum dry density of backfill materials shall be determined by ASTM D 1557, Procedure A.
b. Field density tests shall be determined by ASTM D 1556, ASTM D 2922, or ASTM D 2937.

3. Required tests:

a. Backfill material: Determine suitability of backfill material not previously evaluated.
b. Maximum density tests: Determine optimum moisture content and maximum dry density of backfill materials placed and compacted.
c. Field density tests: Determine in-place density of backfill materials placed and compacted. one test for every 100 cu. yd. of material placed and one test for each 1 foot vertical lift.
d. Other tests as may be required by Owner.

4. Required inspections:

a. Excavation inspection: Detailed inspection of exposed excavations prior to placing backfill material.
b. Placement and compaction inspection: Continuous inspection and monitoring.

B. Requirements of regulatory agencies: In addition to complying with other legal requirements, comply with the following.

1. Code of Federal Regulations Title 29 CFR Part 1926, Subpart P, Excavations.
2. Occupational Safety and Health Administration Document 2226.

C. Reference specifications and standards:

1. ASTM: D 1556 Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM: D 1557 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft.-lbf/ft3).
3. ASTM: D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
4. ASTM: D 2937 Density of Soil In-Place by the Drive-Cylinder Method.
5. CFR: Title 29 CFR Part 1926 Safety and Health Regulations for Construction.
6. OSHA: Document 2226 Excavations.

1.05 SUBMITTALS

A. Procedures: In accordance with Division 01 Sections.

B. Drawings and engineering design calculations: Signed and sealed engineering drawings and calculations for required shoring, sheeting, or cribbing for approval prior to start of installation of shoring, sheeting, or cribbing.

PART 2 - PRODUCTS

2.01 MATERIALS

A. On-site materials and borrow fill:

1. Non-expansive, predominantly granular material:

a. Particles less than 2 inches in any dimension.
b. Free of organic and other deleterious materials.
c. Not more than 12 percent by weight passing the No. 200 sieve behind retaining walls and 25 percent elsewhere.

2. Acceptable to a geotechnical engineer retained by Owner.
3. Top soil: All soil above the lower root line of fine vegetation (grasses and sod).
4. Borrow site: At location approved by Owner.

PART 3 - EXECUTION

3.01 PROTECTION

A. Public and adjacent properties: Protect in accord with applicable laws and ordinances.

B. Existing on-site features, plant life, including trees, scheduled to remain:

1. Protect from damage at all times.
2. Do not allow earth-moving equipment within the branch spread perimeter (drip line) of existing trees.
3. Do not cut tree roots over 2 inches in diameter without prior approval from Owner.
4. Support trees during excavation in an approved manner.
5. When excavating adjacent to existing trees is necessary, use all possible care to avoid injury to trees and tree roots. Excavate by hand areas where 2 inch and larger roots occur. Tunnel under and heavily wrap with burlap roots 2 inches and larger in diameter, except directly in the path of pipe or conduit, to prevent scarring or excessive drying. When a trenching machine runs close to trees having roots smaller than 2 inches in diameter, hand trim wall of trench adjacent to tree, making clean cuts through roots. Paint roots 1 inch and larger in diameter with two coats of Tree Seal, or Owner-approved equivalent. Close trenches adjacent to trees within 24 hr.; when this is not possible, shade side of trench adjacent to tree with burlap or canvas.
6. All work around and adjacent to existing trees, including inspection prior to backfill, shall be approved by Owner. Obtain Owner's approval in writing for all procedures prior to commencement of work. Trees that die due to damage or unacceptable work shall be back-charged to Contractor.

C. Utilities:

1. When utility line excavation occurs near existing utilities, whether or not indicated on Drawings, maintain existing utility services fully operational. Protect and support utility lines in a manner to prevent damage. Method of protection is subject to Owner's approval.
2. Expeditiously repair damaged utilities at no cost to Owner.
3. Remove abandoned lines encountered during excavating and dispose of off-site. Report unidentified lines to Owner prior to removal.
4. Capping and rerouting of indicated active utility lines encountered during Work of this Section will be performed as part of the work of section pertaining to utility encountered.

D. Dust control:

1. Throughout entire construction period, effectively dust-palliate working area, unpaved road, and involved portions of site.
2. Palliation: Intermittently water and sprinkle with such frequency as will satisfactorily allay dust at all times. Chemical treatment of any type is not permitted.
3. Use of reclaimed water shall conform to requirements and guidelines of governing health authorities and be specifically approved by Owner.

E. Water control:

1. Maintain excavation free of water while foundations are being placed and until backfill has been completed and approved.
2. Maintain adequate pumping equipment at all times to provide for emergencies.
3. Dispose of water in such a manner as not to create a nuisance, cause damage to property, or interfere with activities of other contractors. Prevent water from migrating outside of construction areas. Use Owner-approved methods and materials to confine water to construction areas. Failure to contain water is not permitted.
4. Dewater as required to maintain site in a relatively dry condition, including well point dewatering.

5. Methods of dewatering and disposal of water is subject to Owner's approval.

F. Cribbing and shoring:

1. Provide temporary or permanent cribbing, sheeting, and shoring as necessary to safely retain earth banks and protect excavations from caving or other damage.
2. Design, install, and maintain cribbing, sheeting, and shoring and remove after use.

G. Stockpiled excavated materials: Confine excavated materials to immediate area of stockpiled location.

H. Soil redistribution: Do not redistribute existing soils beyond immediate area of origin.

3.02 STRIPPING

A. Stockpile materials from excavations suitable for use in fill and backfill.

B. Remove from site materials not approved for use as topsoil, fill or backfill, and excess excavated materials.

3.03 EXCAVATING

A. Excavate materials of every nature to dimensions and elevations indicated on Drawings. Use equipment of suitable type for materials and conditions involved.

B. Extend excavation a sufficient distance from walls to allow for forming and shoring, application of waterproofing, installation of services, and approvals. Do not excavate below indicated depths.

C. Foundations: Excavations may be made to net sizes plus 2 inches for casting concrete directly against earth banks, provided, in opinion of County INSPECTOR of record or geotechnical engineer, earth banks are sufficiently stable to remain in position until concrete has been placed.

1. If, in opinion of Architect or County Engineer, earth banks are not stable enough for concrete placement, excavate additional width necessary to provide space for formwork, and backfill after forms have been removed.
2. All trenches shall be formed.

D. Correct unauthorized excavation made below depths indicated on Drawings, as recommended by geotechnical engineer retained by Owner, at no additional cost to Owner.

E. Where additional excavation is required to remove unsatisfactory materials encountered, such additional work shall be paid for by means consistent with terms of Contract.

3.04 FILL, BACKFILL, AND COMPACTION

A. Fill and backfill:

1. Place earth fill and backfill in layers that will uniformly compact to required densities, but in loose layers not more than 8 inches thick.

a. Place backfill only after walls have been supported by completion of interior floor systems or have been sufficiently braced to resist imposed loading.
b. Place backfill against walls below grade after waterproofing systems have been completed and approved.
c. Protect waterproofing systems during backfill operations.

d. If waterproofing is damaged, do not continue backfilling until membrane damage is repaired as approved by Owner.
e. Restore grades to indicated elevations.

2. Slurry cement (lean concrete) backfill:

a. Where specifically indicated on Drawings, slurry cement backfill consisting of a fluid, workable mixture of aggregate, cement, and water shall be used as foundation structure backfill.
b. Cement shall be Portland cement conforming to provisions in Division 03 Section "Cast-In-Place Concrete", except that testing will not be required.
c. Water used for slurry cement backfill shall be free from oil, salts, and other impurities which would have an adverse effect on quality of backfill material.
d. At Contractor's option, aggregate shall be either 1) material selected from excavation, imported material, or a combination thereof, which is free of organic material and other deleterious substances, or 2) commercial quality concrete sand. Material selected from excavation, imported material, or a combination thereof shall meet the following grading:

Sieve Sizes	Percentage Passing
1-1/2 in.	100
1 in.	80-100
3/4 in.	60-100
3/8 in.	50-100
No. 4	40-80
No. 100	10-40

e. Aggregate, cement, and water shall be proportioned either by weight or by volume. Not less than 188 lb. of cement shall be used for each cu. yd. of material produced. Water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of aggregate while being placed.
f. Materials for slurry cement backfill shall be thoroughly machine-mixed in a pugmill, rotary drum, or other approved mixer. Mixing shall continue until cement and water are thoroughly dispersed throughout material. Slurry cement backfill shall be placed in the Work within 1 hr. after mixing.
g. Slurry cement backfill shall be placed in a uniform manner that will prevent voids in, or segregation of, backfill and will not float or shift foundation structures. Foreign materials which fall into trench prior to or during placing of slurry cement backfill shall be immediately removed.
h. Placing material over slurry cement backfill shall not commence less than 4 hours after slurry cement backfill has been placed.

B. Compaction:

1. Bring each layer to within ±2 percent of optimum moisture content before compaction. Add water by uniform sprinkling. Jetting and flooding are prohibited. Add and blend additional fill materials or dry out existing materials as required.

2. When moisture content and condition of each layer is satisfactory, compact to not less than 90 percent of maximum dry density in accord with ASTM D 1557.
3. Compact areas not accessible to motor-driven equipment with mechanical or heavy hand tampers.
4. Rework compacted areas failing to meet specified maximum dry density, as determined by tests. Recompact and retest as required to achieve 90 percent of the maximum dry density in accord with ASTM D 1557.

C. Grading:

1. Build compacted backfills to indicated or required finish grades, less allowances for thickness of slabs, paving, and required base courses.
2. Rough grade backfilled surfaces smooth, level to within 0.10 foot of intended surface. Compact loose material and maintain in a moist condition until covered.

-END OF SECTION-

SECTION 31 25 00
EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Erosion, sedimentation and water pollution control features in place or relocated as indicated on Drawings, prior to start of all grading or construction.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Temporary facilities and controls.

B. Division 31 Section "Grading".

1.04 DEFINITIONS

A. Control features: Includes, but not limited to berms, erosion control blankets, gravel bags, sand bags, silt barriers, silt fences, swales, and other features in accord with referenced specifications and standards.

1.05 QUALITY ASSURANCE

A. Performance criteria: Prevention, control and abatement of erosion, sedimentation and water pollution shall be in accord with:

1. As indicated on Drawings.
2. As called for in County's approved Local Storm Water Pollution Prevention Plan (LSWPPP).
3. As established under the accepted Contractor's Stormwater Management Plan (CSMP):
    a. Contractor shall prepare a comprehensive plan for the management of incident and transient storm water within the limits of work or such larger area as may be indicated on the plans.
    b. Contractor's plan shall indicate all measures required to comply with the applicable requirements of the SWPPP as relates to the Work and the situation within limits of work during the Contract Time.
    c. The SWPPP was prepared solely for the purpose of expediting permitting for the Work, and Owner's having prepared same shall not be construed as relieving Contractor of any responsibility it has to establish and maintain proper stormwater management pursuant to its signing of the LSWPPP Certificates of Compliance and any other applicable regulations. Neither shall County's review or approval of the CSMP relieve the Contractor of such responsibility.
4. Reference specifications and standards: County's approved Local Storm Water Pollution Prevention Plan (LSWPPP). The LSWPPP shall conform to the requirements in

these Special Provisions, and the California Stormwater Best Management Practice Handbook for Construction.

1.06 SUBMITTALS

A. Procedures: In accordance with Division 01 Sections.

B. Shop drawings: Plans and details, including layout and locations of erosion and sedimentation control features. Indicate dimensions, materials, and anchorage underlying substrates.

C. Product data:

1. Manufacturer's detailed technical materials and application data.
2. Submit filter fabric material specifications and installation configuration prior to start of construction.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials for control features: In accord with referenced specifications, standards, and approved submittals.

PART 3 - EXECUTION

3.01 ERECTION

A. General: Erect and maintain control features in accord with Drawings and referenced specifications, standards, and approved submittals.

B. Maintenance:

1. Inspect control features immediately after each rainfall and similar event, and at least once a day during periods of prolonged rainfall and similar events. Immediately repair control features to maintain intended function and performance.
2. Replace sandbags and other materials that exhibit damage, decomposition, or are otherwise ineffective.
3. Prevent excessive accumulation of sediment deposits. Remove sediment deposits at a frequency of not less than after each rainfall and similar event.

3.02 REMOVAL OF CONTROL FEATURES

A. Remove control features when directed by Owner.

-END OF SECTION -

SECTION 32 1216
ASPHALT CONCRETE PAVING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Asphalt concrete paving.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Division 31 Section “Site Demolition”.

B. Division 31 Section "Grading".

C. Division 31 Section "Excavation and Fill for Utilities".

D. Division 31 Section “Excavation and Fill for Structures”.

E. Division 32 Section “Site Concrete Work”.

F. Division 32 Section "Pavement Markings and Bumpers".

G. Division 33 Section “Site Water Distribution System”.

H. Division 33 Section “Sanitary Sewer System”.

I. Division 33 Section “Storm Drainage System”.

1.04 QUALITY ASSURANCE

A. Tests and inspections:

1. Procedure: In accordance with Division 01 Sections.
2. Required tests:
    a. Compaction:
        1) Crushed aggregate and crushed miscellaneous base: Perform field density tests in accord with SSPWC Section 211-2
        2) Asphalt concrete surface course: Perform field density tests in accord with SSPWC Section 302-5.6.2.
    b. Water flood tests of finished paving: In addition to tests and requirements of SSPWC Section 302-5.6.2, conduct a water flood test of areas as directed by Owner.
3. Required inspections:
    a. Base:
        1) Verify that base meets or exceeds specified base course.

2) Visually observe uniformity and moisture condition of base material as it is delivered to project site.

3) Observe and monitor placement and construction of base material to ensure that work meets or exceeds specified requirements.

4) Make random depth checks before and after final compaction to assure minimum compacted thickness is obtained.

B. Reference specifications and standards:

1. ASTM: C 136 Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM: C 150 Portland Cement.
3. ASTM: D 558 Moisture-Density Relations of Soil-Cement Mixtures.
4. ASTM: D 977 Emulsified Asphalt.
5. ASTM: D 1557 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft.-lbf/ft3).
6. ASTM: D 2026 Cutback Asphalt (Slow-Curing Type).
7. ASTM: D 2028 Cutback Asphalt (Rapid-Curing Type).
8. ASTM: D 3320 Emulsified Coal-Tar Pitch (Mineral Colloid Type).
9. SSPWC: Standard Specifications for Public Works Construction.

1.05 SUBMITTALS

A. Procedures: In accordance with Division 01 Sections.

B. Product data: Manufacturer's detailed technical materials and application data, including technical bulletins, guides, and manuals for seal coat materials.

C. Certificates/certifications: Supplier's certification that materials conform to Specifications requirements.

1. Class and grade of asphalt concrete mixtures in accord with SSPWC Section 203.
2. Sieve analysis of asphalt concrete aggregates in accord with SSPWC Section 211-1.

1.06 PROJECT CONDITIONS

A. Existing conditions: Do not conceal or cover any work until required tests or inspections have been performed and accepted.

B. Environmental requirements: Unless recommended otherwise by material or product manufacturer conform to the following.

1. Apply or install products or systems only when ambient temperatures are above 50°F and rising.
2. Place base course when ambient temperature is above 40°F.

C. Protection: Protect completed installation from damage of subsequent construction activities. Immediately remove all foreign matter that accumulates on exposed surfaces in accord with fabricator or manufacturer's recommendations.

1. Maintain vehicular and pedestrian traffic during paving operations, as required for other construction activities.
2. Provide flagmen, barricades, warning signs, and warning lights for movement of traffic and safety, and to cause the least interruption of work.

D. Sequencing and scheduling:

1. Coordinate and sequence the application or installation of work of this Section with adjacent or integral materials, products, and work specified in other Sections. Such work includes, but is not limited to, the following:

    a. Concrete curbs and gutters.
    b. Concrete paving.
    c. Utility services.
    d. Demolition of existing asphalt concrete.
    e. Cold mill existing asphalt concrete paving.

2. Order specified materials, products, and similar items with extended "long lead" (ordering) times, sufficiently in advance of scheduled application, or installation dates to not delay the scheduled progress of the Work. Such items include but are not limited to the following:

    a. Items of rare ("short") supply.
    b. Items not of standard stock.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Crushed aggregate base: Conform to SSPWC Section 200 2.2.

B. Crushed miscellaneous base: Conform to SSPWC Section 200-2.4. Refer to Division 02 Section "Selective Site Demolition". Limit use as follows:

1. Confine to extent (areas and locations) where indicated on Drawings or as directed by Owner.
2. Imported material is not acceptable.

C. Asphalt concrete: Conform to SSPWC Section 203-6, B PG70-10 for base course, if required on the drawings, C2 PG70-10 for surface course, D2- or E PG70-10 for overlay filling and patching, unless indicated otherwise on Drawings.

D. Prime coat: Cutback asphalt, slow-curing, Grade SC 250, in accord with SSPWC Section 203 2 (ASTM D2026).

E. Tack coat: Anionic asphalt emulsion, slow-setting, Grade SS 1H, SSPWC Section 203 3.

F. Seal/slurry coat: If indicated on the plans.

1. New paving: Emulsified asphalt, Grade SS 1h, conforming to SSPWC Section 203-3 (ASTM D 977) blend of emulsified asphalt and coal-tar emulsion (not less than 10 percent).
2. Existing paving: Plant-blended asphalt emulsion and mineral aggregate mixture, conforming to SSPWC Section 203-9.

2.02 MIXES

A. Asphalt concrete: Plant mix in accord with SSPWC Section 203-6

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine surfaces for conditions that will adversely affect execution, permanence, and quality of work.

B. Do not proceed with work until unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Proof-roll subgrade using heavy, rubber-tired rollers to locate unstable areas or areas requiring additional compaction.

B. Compact unstable areas or areas requiring additional compaction in accord with SSPWC Section 301-1.

C. Cold mill areas as shown on Drawings in accord with SSPWC Section 302-5.2.

3.03 APPLICATION/INSTALLATION/PERFORMANCE

A. Crushed aggregate and crushed miscellaneous base: Transport, spread, shape, compact, and finish crushed aggregate and crushed miscellaneous base material in accord with SSPWC Section 301-2, to minimum compacted thickness as indicated on Drawings. Compact in excess of 95 percent of Modified Proctor maximum dry density in accord with ASTM D 1557.

B. Asphalt concrete:

1. Prime coat: After base course has been placed to required grades and approved, apply prime coat in accord with SSPWC Section 302-5.3.
2. Tack coat: When new asphalt is to be placed against existing or new concrete or asphalt surfaces, such as curbs, gutters, walls, structures, or other paving, apply tack coat in accord with SSPWC Section 302-5.4.
3. Asphalt concrete: Provide transportation, placing, and compacting of asphalt concrete, preparation of application surfaces, joints, tolerances, and protection of finished asphalt in accord with SSPWC Section 302-5.

C. Seal/slurry coat: After asphalt concrete paving has sufficiently cured, apply seal/slurry coat in accord with SSPWC Section 302-8, unless otherwise recommended by manufacturer.

3.04 FIELD QUALITY CONTROL

A. Mixes: Do not deliver batches of base or asphalt concrete materials to job site which do not conform to specified requirements.

B. Flood test: All finished asphalt concrete paving surfaces that retains standing water when flood tested shall be deemed defective.

C. Physical defects: Any portion of asphalt concrete paving that exhibits creeping, shoving, cracking, raveling, softening, or other similar defects during warranty period shall be deemed defective.

D. Removal and replacement of defective asphalt concrete paving:

1. Remove and replace defective areas, including base and subgrade, as directed by Owner.

2. Cut away, remove, and fill patch area with fresh, hot asphalt concrete.
    a. As a minimum, remove defective areas for full depth of asphalt concrete surfacing course.
    b. Cut sides perpendicular and parallel to direction of traffic with edges vertical.
    c. Apply tack coat to exposed asphalt concrete surfaces before placing new asphalt concrete mixture.
    d. Compact by rolling to specified surface density and smoothness.

3.05 ADJUST AND CLEAN

A. Cleaning: After completion of paving operations, clean surfaces of excess or spilled asphalt materials.

B. Protection: After final rolling, do not permit vehicular traffic on asphalt concrete pavement until it has cooled and hardened.

END OF SECTION

SECTION 321313
SITE CONCRETE WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Site concrete work, including subgrade preparation, formwork, reinforcing steel, concrete, and accessory materials for:

1. Pavement, curbs, and gutters.
2. Retaining walls, catch basins, manholes, valve and sump pits, and similar structures.
3. Footings for fence posts, and similar work of other trades.
4. Dumpster and compactor equipment pads.
5. Thrust blocks for pressure piping systems.
6. Mechanical and electrical equipment pads.
7. Ductbanks.
8. Other site concrete work as indicated on Drawings.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Geotechnical Report.

B. Division 31 Section “Site Demolition”.

C. Division 31 Section "Grading".

D. Division 32 Section "Concrete Paving Joint Sealants".

E. Division 33 Section "Sanitary Sewerage System".

F. Division 33 Section "Storm Drainage System".

G. Precast concrete and other use concrete specified as part of Division 22 Plumbing and Division 26 Electrical and Lighting.

1.04 DEFINITIONS

A. Slip resistance: Slip index of not less than 0.5 when tested dry and wet (with an unbroken film of pure water) in accord with ASTM F 1677 or ASTM F 1679, using a Neolite test pad.

1.05 QUALITY ASSURANCE

A. Geotechnical data: Refer to Geotechnical Report.

B. Tests and inspections:

1. Testing laboratory services: Refer to Division 01 Sections.

2. Soil bearing and compaction:
    a. Test methods:
        1) Maximum dry density of backfill materials shall be determined by ASTM D 1557, Procedure A.
        2) Field density tests shall be determined by ASTM D 1556, ASTM D 2922, or ASTM D 2937.
    b. Required tests:
        1) Backfill material: Determine suitability of backfill material not previously evaluated.
        2) Maximum density tests: Determine optimum moisture content and maximum dry density of backfill materials placed and compacted.
        3) Field density tests: Determine in-place density of backfill materials placed and compacted. one test for every 1000 cubic yard of material placed and one test for each 1 foot vertical lift.
        4) Other tests as may be required by Owner.
    c. Required inspections:
        1) Excavation inspection: Detailed inspection of exposed excavations prior to placing backfill material.
        2) Placement and compaction inspection: Continuous inspection and monitoring.
3. Concrete: In accord with SSPWC Section 201-1.1.4 and as specified herein.
    a. Portland cement: Furnish cement mill test reports and manufacturer's certification that cement complies with specification requirements.
    b. Required tests:
        1) Aggregate:
            a) Hardrock aggregate: Test in accord with ASTM C 33.
            b) Do not deliver aggregates to site or ready-mix plant until pit source has been approved, and plant, capacity, and ability to produce a uniform and continuous product has been verified.
            c) Take samples from aggregate stockpiles assigned to project.
        2) Slump tests: Make one slump test in accord with ASTM C 143 for each set of test cylinders: Make additional tests as may be ordered by Owner.
            a) Make and keep an accurate record of all tests.
            b) Maximum slumps: As specified hereinafter.
        3) Test cylinders: Take one sample of four cylinders from each day's placement of 100 cubic yards or fractional part thereof of each mix design in accord with ASTM C 172. Take samples at evenly spaced intervals as concrete is deposited in forms. Mark cylinders with date, sample number, and location in structure from which sample was taken. Do not take more than one sample of four cylinders from any location or batch of concrete.
            a) Make and store cylinders in accord with ASTM C 31.

b) Curing: At the end of 24 hours, take cylinders to laboratory and store under moist curing conditions at approximately 70°F until tested.

c) Testing: Test cylinders in accord with ASTM C 39. Test one cylinder at age of 7 days for information and two cylinders at 28 days for acceptance. Maintain one cylinder in reserve.

d) Seven-day strength: Not less than 60 percent of specified ultimate 28-day strength.

e) Mix adjustment: Should test results indicate concrete strength below specified 7-day or 28-day minimum requirements, decrease water/cement ratio and adjust mix proportions as necessary to achieve specified minimum strengths.

f) Concrete failures: Should test results indicate that concrete strength requirements for any portion of work does not conform to 28-day minimum requirements, secure core or prism specimens of hardened concrete and test in accord with ACI 301 and ASTM C 42.

g) Laboratory shall secure and test specimens under Owner's direction.

c. Ready-mix plant inspections:

1) Testing laboratory shall provide and maintain continuous inspection at plant to check sieve analysis for quality and moisture content of aggregates, check mix with design mixes, check cement being used with test reports, check loading of mixer trucks, and certify quantities of materials loaded in each mixer truck.

2) Certification: Provide batch tickets signed by dispatcher and testing laboratory inspector at ready-mix plant. Each batch ticket shall state batch quantities of cement, water, fine aggregates, coarse aggregates, and admixture contained in each truck load.

3) Deliver to Owner's representative on job site a properly signed ticket with each load of ready-mix concrete.

4. Reinforcing steel:

a. Quality control of identifiable steel:

1) Submit to laboratory copies of mill certificates for all types, sizes, and heats of reinforcing steel intended for use in the work. Include the following information:

a) Source of steel.
b) Description.
c) Heat number.
d) Yield point.
e) Ultimate tensile strength.
f) Elongation percentage in 8 in. length.
g) Bend test results.
h) Chemical analysis, including carbon equivalent (CE) of ASTM A 615 bars to be welded.

2) All costs in connection with tests and inspections of identifiable steel will be paid by Owner.

b. Quality control of unidentifiable steel:

1) When steel cannot be identified, testing laboratory shall make one series of tensile tests and one series of bend tests in accord with ASTM A 370 or ASTM A 615, for each 5 tons or fractional part thereof of each size and kind of reinforcing steel. Make tests using a minimum of two separate samples. Test full sections of bars as rolled.

2) All costs in connection with tests and inspections of unidentifiable steel will be paid by Contractor.

5. Payment:

a. Owner will pay all costs for all tests and inspections except retests and reinspections required because of failures.

b. All costs incurred for retests and reinspections required because of failure of original tests will be paid by Contractor.

C. Reference specifications and standards:

1. ACI: 301 Specifications for Structural Concrete for Buildings.
2. ACI: 305 Hot Weather Concreting.
3. ACI: 306 Cold Weather Concreting.
4. ASTM: A 370 Mechanical Testing of Steel Products.
5. ASTM: A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
6. ASTM: C 31 Making and Curing Concrete Test Specimens in the Field.
7. ASTM: C 33 Concrete Aggregates.
8. ASTM: C 39 Compressive Strength of Cylindrical Concrete Specimens.
9. ASTM: C 42 Drilled Cores and Sawed Beams of Concrete, Obtaining and Testing.
10. ASTM: C 143 Slump of Hydraulic Cement Concrete.
11. ASTM: C 172 Sampling Freshly Mixed Concrete.
12. ASTM: C 1107 Packaged Dry, Hydraulic-Cement Grout (Non-Shrink).
13. ASTM: D 1556 Density of Soil in Place by the Sand-Cone Method.
14. ASTM: D 1557 Moisture-Density Relations of Soils Using 10 lb. Rammer and 18 in. Drop.
15. ASTM: D 2922 Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
16. ASTM: D 2937 Density of Soil In-Place by the Drive-Cylinder Method.
17. ASTM: E 1155 Determining Floor Flatness and Levelness Using the F-Number System
18. ASTM: F 609 Using a Horizontal Pull Slipmeter (HPS).
19. ASTM: F 1677 Using a Portable Inclineable Articulated Strut Slip Tester, (PIAST).
20. ASTM: F 1679 Using a Variable Incidence Tribometer, (VIT).
21. SSPWC: Standard Specifications for Public Works Construction ("Green Book").

1.06 SUBMITTALS

A. Procedure: In accordance with Division 01 Sections.

B. Shop drawings: Plans, elevations, sections, and details, including layout of components and accessories. Indicate dimensions, clearances required, utility service requirements, materials, and finishes.

C. Manufacturer's detailed technical materials data, including technical bulletins, drawings, guides, and manuals, as applicable to the work of this Project, for the following:

1. Admixtures.
2. Curing materials.
3. Joint materials.
4. Waterstops.
5. Metallic aggregate topping.
6. Nonshrink grout, including test data.

D. Certifications:

1. Cement mill test reports and certification.
2. Admixture certification, including chloride ion content.
3. Ready-mix batch plant tickets.
4. Reinforcing steel mill certifications.
5. Reinforcing steel welder's certifications.

E. Concrete mix designs: Submit, for approval, certified concrete mix designs for initial and any subsequent changes in mix designs.

1.07 PROJECT CONDITIONS

A. Existing conditions:

1. Do not conceal or cover any work until required tests and inspections have been performed and accepted.
2. Do not fabricate items which require fitting to other building elements or into building spaces, until dimensions have been verified at the site.

B. Environmental requirements: Unless otherwise recommended by product or system manufacturer or reference specifications or standards, conform to the following:

1. Do not place concrete when the ambient temperature is 35°F or lower or is expected to go below that temperature within 24 hours.
2. Do not place concrete during rain that will cause surface damage to concrete.
3. Hot weather concreting procedures: In accord with ACI 305.
4. Cold weather concreting procedures: In accord with ACI 306.

C. Traffic control:

1. Maintain vehicular and pedestrian traffic control during concrete operations.
2. Provide flagmen, barricades, warning signs, and warning lights for movement of traffic and safety, and to cause the least interruption of work.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Concrete: In accord with SSPWC Section 201-1, Portland Cement Concrete, type as indicated on Drawings.

1. Cement: Conform to SSPWC Section 201-1.2.1.
2. Admixtures: Conform to SSPWC Section 201-1.2.4.
3. Fine aggregates: Conform to SSPWC Section 200 1.5.3
4. Coarse aggregates: Conform to SSPWC Section 200 1.4.
5. Design slumps and mix proportioning: SSPWC Sections 201-1.1.2 and 201-1.1.3 except as follows.
    a. Provide concrete which will develop the following minimum 28-day ultimate compressive strengths.
        1) Retaining walls and similar structural uses: 4000 psi.

B. Formwork: Wood or equivalent metal, conforming to SSPWC Section 303-1.3.

C. Reinforcement: Conform to SSPWC Section 201-2.

D. Curing materials: Liquid or equivalent sheet membrane, conforming to SSPWC Section 201-4, except as specified herein.

E. Joint materials:

1. Construction joints: Preformed galvanized steel sheet or resawn wood.
2. Expansion joints: Premolded resilient filler, conforming to SSPWC Sections 201-3, except as specified herein.

F. Waterstops: Unless otherwise indicated on Drawings, provide extruded dumbbell type, spliced by thermal butt fusion.

G. Borrow material (for fill): Nonexpansive, predominantly granular material:

1. Particles less than 2 inches in any dimension;
2. Free of organic and inorganic debris;
3. Not more than 12 percemt by weight passing the No. 200 sieve.
4. Acceptable to a geotechnical engineer retained by Owner.

H. Non-shrink grout: Prepackaged, nonshrink, nonmetallic, natural aggregate grout conforming to ASTM C 1107, with minimum 28-day compressive strength of 5000 psi.

1. Hi-Flow or NS Grout by Euclid Chemical Company.
2. Five Star Grout by Five Star Products.
3. Master Flo 713 or 928 by Master Builders, Inc.

I. Integral mineral coloring pigments: Provide pure synthetic or natural mineral oxide colors as selected by Architect.

1. Chromix by L.M. Scofield Co., Longwood, FL, Los Angeles, CA.
2. Davis Colors, Beltsville, MD, Los Angeles, CA.

3. Lambco Colors by Lambert Corp. of Florida, Orlando, FL.
4. Landers-Segal Color Co., Inc., Passaic, NJ.
5. Solomon Colors, Springfield, IL.

PART 3 - EXECUTION

3.01 PREPARATION

A. Compact top 6 inches subgrade to 95 percent of the Modified Proctor maximum dry density.

B. Do not allow traffic over prepared subgrade.

C. Uniformly moisten subgrade at time concrete is placed. Uniformly apply water immediately prior to concrete placement.

D. Accurately trim to required elevations, allowing for full thickness concrete.

3.02 WALKS AND SLABS

A. Construct in accord with SSPWC Section 303-5, except finishing and curing of integral color concrete shall be as follows.

1. Finishing:
    a. Tamp freshly placed concrete with approved metal grid tampers not less than 12 inches by 12 inches in size to bring fines to top, then rod to uniform surfaces at required levels.
        1) Float and trowel finish as soon as surface becomes workable.
        2) Provide slopes as indicated on Drawings, or as directed by Architect.
    b. During finishing maintain adequate surface moisture and reduce plastic shrinkage as recommended by integral color manufacturer.
        1) Immediately after fresh concrete has been brought to a flat surface, a shiny film of moisture on top surface shall not be permitted to evaporate or as soon as the shiny surface disappears, it shall be restored and maintained until troweling.
        2) Maintain surface moisture film as specifically recommended by integral color manufacturer applying evaporation retarder/finishing aids, frequent, light, fine spray applications of water rather than excessive wetting. Adjust extent of water spray in accord with temperature, humidity, and wind conditions.
    c. Work concrete flatwork to achieve the following tolerances when measured in accord with ASTM E 1155.
        1) Trowel finished surfaces: FF25/FL20 with minimum FF20/FL15.
        2) Float and broom finished surfaces: FF20/FL17 with minimum FF15/FL10.
    d. Surface finish textures:
        1) Provide float, trowel, brush/broom, and/or abrasive-blasted surface textures to match Architect-approved sample panels.

2) Perform slip resistance testing to ensure that slip resistance of exposed concrete walking surface finishes is maintained. Follow testing procedures required for slip resistance testing of mock-up sample panels.

2. Curing: Cure, harden, and seal colored concrete flat slabs with compound(s) recommended by manufacturer of integral color concrete pigments. Curing, hardening, and sealing compound(s) shall not discolor, lighten, darken, stain, or impart other unsightly characteristics to colored concrete and shall be compatible with Owner's maintenance sealer.

3.03 CURBS AND GUTTERS

A. Construct concrete curbs, gutters, and other similar structures in accord with SSPWC Section 303-5, except finishing and curing of integral color concrete shall be as specified herein for walks and slabs.

3.04 SITE STRUCTURES

A. Construct retaining walls, catch basins, manholes, valve and sump pits, thrust blocks, ductbanks, and similar structures to conform to requirements of SSPWC Section 303-1, Concrete Structures.

1. Formwork: Conform to SSPWC Section 303-1.3.
2. Placing reinforcing steel: Conform to SSPWC Section 303.17.
3. Placing concrete: Conform to SSPWC Section 303-1.8.
4. Consolidating (mechanically vibrating) concrete: Conform to SSPWC Section 303-1.8.4.
5. Waterstops:
   a. Install accurately in the formwork. Securely fasten in place as recommended by manufacturer to prevent displacement during concrete placement.
   b. Use full manufactured length to avoid joints as much as possible.
   c. Thermally weld all joints and intersections in accord with manufacturer's instructions. Joints shall develop 85 percent (minimum) of tensile strength of section.
6. Construction joints: Unless indicated otherwise on Drawings, keyed type, conforming to SSPWC Section 303-1.8.6 and as specified herein.
7. Expansion joints: Unless indicated otherwise on Drawings, premolded resilient filler, conforming to SSPWC Sections 303-1.8.6.
8. Form removal: Conform to SSPWC Section 303-1.4.
9. Finishing: Conform to SSPWC Section 303-1.9.
10. Curing: Conform to SSPWC Section 303-1.10.

B. Additionally construct thrust blocks, ductbanks, and similar concrete structures related to other Divisions of work, in accord with requirements specified in applicable Sections and as indicated on Drawings.

3.05 JOINTS

A. Construction (pour) joints:

1. Place construction joints at all breaks in concrete placement lasting more than 1 hour and at color changes.
2. Unless otherwise indicated on Drawings, key construction joints for slabs 6 inches or more in thickness, except at expansion joints.

B. Expansion joints: Construct expansion joints with preformed resilient filler compatible with joint sealant materials, including joint backing, specified in Division 32 Section "Concrete Paving Joint Sealants".

C. Control joints:

1. Place control joints in all exterior flat concrete work, and other locations as indicated on Drawings.
2. Where control joints are not indicated on Drawings, verify specific types and layout with Architect prior to placing concrete. Size and shape of layout is dependent on specific areas, but do not space control joints farther apart than 10 feet o.c. in a square pattern (e.g., if a concrete walk is 4 feet wide, control joint should occur at equal spacing of approximately 4 feet o.c. along length).
3. Control joints may be one of two types, as indicated on Drawings: Saw-cut or hand-tooled.
    a. Saw-cut:
        1) Use at slabs on grade only. Make saw-cuts 1/8 inch wide. Do not cut through steel bar reinforcing. Depth of all saw-cuts shall not be less than 1/4 of slab thickness.
        2) Verify hardness condition of concrete before commencing saw-cutting to ensure that saw will not fret, ravel, or spall edges of cuts nor dislodge aggregate. Use saw-cutting equipment appropriate for the hardness condition of concrete
    b. Hand tooled: Make control joints with a "V" shaped jointing tool with rounded edges and a 3/4 inch deep keel.
    c. Whether saw-cut or hand-tooled, accurately lay out areas and make control joints straight and true, with clearly defined angles.
4. Construction (pour) joints may be substituted for control joints where specifically approved by Architect.

3.06 PROTECTION OF COMPLETED WORK

A. During curing period, protect concrete from damaging mechanical disturbances, water flow, loading shock, and vibration.

-END OF SECTION-

SECTION 32 15 40
STABILIZED NATURAL PAVEMENT

PART ONE – GENERAL

1.1 SUMMARY

A. Section includes:
   1. Stabilized granite surfacing
   2. Aggregate Base Course
   3. Edging Materials

B. Related Work:
   1. Section 32 1313: Site Concrete Work
   2. Section 31 2200: Grading

1.2 REFERENCES

A. ASTM C136 – Sieve Analysis of Fin and Coarse Aggregates

B. ASTM D2419 – Sand Equivalent Value of Soils and fine Aggregates

C. "Greenbook" Standard Specifications for Public Works Construction

D. USP – U.S. Pharmacopeial Convention (1995)

1.3 SUBMITTALS

A. Submit in accordance with Division 1 specifications.
   1. Manufacturer's product data sheet and installation instructions indicating that product complies with specifications for stabilized decomposed granite surfacing

B. Samples:
   1. Decomposed granite or specified aggregate, 1 quart for review, in the color specified on the drawings.

1.4 QUALITY ASSURANCE

A. Manufacturer and Installer specializing in manufacturing work of this section with a minimum of 5 years documented experience.

B. Obtain each type of decomposed granite surfacing from a single manufacturer.

1.5 MOCK-UP

A. Install minimum 3 feet x 3 feet section of stabilized decomposed granite surfacing including edging at location approved by Project Manager.

B. Project Manager to approve mock-up before proceeding with rest of stabilized decomposed granite installation.

C. Approved mock-up may remain as part of completed work.

1.6 DELIVERY, STORAGE AND HANDLING

A. Bagged Materials: Accept delivery of materials only in unopened and undamaged containers bearing the brand name and manufacturer's identification.

B. Bulk Materials: Each load of decomposed granite surfacing material arriving at the job site in bulk shall be accompanied by a delivery ticket containing the following minimum information:

1. Quarry of origin
2. Amount, weight and type of material
3. Brand name and manufacturer's identification

C. Protect stabilized decomposed granite surfacing mix from contamination. Store under cover.

1.7 SITE CONDITIONS

A. Weather and Site Requirements:

1. Do not install decomposed granite surfacing when subbase is wet at saturated field capacity.
2. Surface of aggregate base or sub-base to be dry and sufficiently stable to be properly compacted.
3. Do not install natural pavement mix, or seal coat if the possibility of rain is forecast within four days following installation.
4. Install natural pavement mix and seal coat when ambient temperature is above 60 degrees Fahrenheit and overnight temperature is above 32 degrees.

PART TWO – PRODUCTS

2.2 ACCEPTABLE MANUFACTURERS AND SUPPLIERS

A. Specification is based on products by Gail Materials, Corona, CA; (951) 667-6106; www.gailmaterials.com. Equal products will be reviewed and considered.

B. Substitutions: Products by other manufacturers that comply with specifications will be considered in accordance with Division 1.

2.3 MATERIALS

A. Aggregate Base:

1. Meet requirements of Geo-technical Report and accepted by Geo-technical engineer and Landscape Architect if indicated.

B. Decomposed Granite.

1. Produce from naturally friable granite. Blends of coarse sand and rock dust are not acceptable.
2. Graduation in accordance with ASTM C136:

Sieve Size	Percent Passing

½"	100
3/8"	90 – 100
No. 4	50 – 100
No. 30	25 – 55
No. 100	10 – 20
No. 200	5 – 18

3. Sand Equivalent: 30 minimum in accordance with ASTM D2419.

C. Binder: Provide Natracil by Gail Materials or approved equal and complying with the following requirements.

1. Swell Volume: 35 ml/gm minimum in accordance with USP procedures.
2. 90% minimum shall pass a No. 40 mesh screen.

D. Factory Blending:

1. Mix decomposed granite and Natricil or equal stabilizer with a pub mill that includes a weigh-belt feeder.
2. Pedestrian Paths: Mix 12 lbs. of binder per 2000 lbs. of decomposed granite.

2.4 BASE COURSE MATERIAL

A. Comply with Green book Section 200-2, Untreated Base Materials for crushed aggregate base.

2.5 ACCESSORIES

A. Water: Free from contaminants that would discolor or be deleterious to stabilized decomposed granite surfacing.

B. Edging: Steel where noted.

C. Geosynthetic Fabric: comply with Green book Section 213-2, Geosynthetics.

PART THREE – EXECUTION

3.1 EXAMINATION

A. Examine grading and subsoil conditions. Do not proceed until conditions are acceptable.

B. Verification of General Conditions: Examine site and verify that conditions are suitable to receive work and that no defects or errors are present which would cause defective installation of product or cause latent defects in workmanship and function.

C. Sub grade: Review sub grade to verify that it has been graded to the correct grades and compacted as required for correct installation of the Aggregate base. Aggregate base is recommended for all vehicular applications in accordance with local ordinances pertaining to AC paving.

D. Unsuitable conditions: Before proceeding with work, installing contractor to notify the Project Manager in writing of unsuitable conditions and conflicts.

3.2 PREPARATION

A. Protection of Existing Conditions:

1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, irrigation systems, plant materials and paving on or adjacent to the site of the work.
2. Provide barricades, fences or other barriers as necessary to protect existing conditions to remain from damage during construction.
3. Do everything possible to protect all structures, utilities and existing plants to remain during the installation.
4. Submit written notification of conditions damaged during construction to the Project Manager.

B. Sub-grade Preparation:

1. Refer to Geo-technical report for sub-grade preparation prior to placement of fill or aggregate base. Refer to Geo-technical Report for sub-grade preparation prior to placement of fill or aggregate base.
2. Comply with Greenbook Section 301-10, Subgrade Preparation, if no Geo-technical Report is available.
3. Grade sub-grade with uniform slope between points where elevations are given. A requirement of the installation is that the pavement surface has a crown in the middle or 2% slope from one side to the other.
4. Use equipment of proper size and type to achieve grades required.
5. Grade sub-grade surface to within 0.05 foot of finish grade minus aggregate base and aggregate paving thickness.
6. Fill and compact any depressions and remove loose material to finish true to line and grade, presenting a smooth, compacted and unyielding surface, except where indicated otherwise.
7. Remove debris, loose dirt and other extraneous materials.
8. All proper drainage design elements should be in place. Ditches, drains and drain pipes should be installed to assure protection of the pavement and base from cross flows of water. All water flow should be directed off of and away from the pavement and base.

C. Base Course Installation:

1. Comply with Greenbook Section 302-2 Untreated Base, if applicable.

D. Edging Materials:

1. Edging materials must be in place prior to the beginning of placing aggregate base or natural pavement.

2. Establish lines and levels, locate and lay out by instrumentation and similar appropriate means for aggregate paving finish grades.

3.3 INSTALLATION

A. Prior to installation, thoroughly presoak surface on which stabilized decomposed granite is to be placed.

B. Install in 2" maximum lift thickness and soak with sufficient water to activate Natracil or approved equal stabilizer, through entire depth of lift. Install the additional lifts and soak with sufficient water to activate Natricil or approved equal stabilizer as required.

C. Grade and smooth to required elevations.

D. Compact: After +/- 4 hours, compact final lift with a three-five ton double or single static drum roller.

E. Minimum Compacted Thickness:

1. Pedestrian Paths: 4 inches
2. Vehicular Drives: 6 inches

F. Surface shall follow overall contours of landscape. Flat areas shall be crowned for drainage. Slope minimum of 1% to drain away from structures.

G. Completed surface shall be of consistent quality and free of deleterious materials such as organic materials, nails, stones and loose material. Surface shall not have depressions or humps greater than ¼ inch in 10 feet.

3.4 FIELD QUALITY CONTROL

A. Material shall comply with manufacturers specifications.

3.5 PROTECTION

A. Do not allow traffic on stabilized decomposed granite surfacing for four (4) days after placement or until compacted stabilized granite has fully cured.

B. Protect stabilized decomposed granite surfacing form damage until Project completion. Repair damaged areas to match specified requirements.

3.6 MAINTENANCE & REPAIRS

A. Loose aggregate will appear on the surface over time which is a natural occurrence. If excessive aggregate over ¼ inches occurs, redistribute the stabilized decomposed granite over the entire surface, water thoroughly and re-compact with a minimum one ton drum roller. This process can be repeated as needed.

B. To repair, excavate damaged area leaving a minimum one inch depth of existing stabilized decomposed granite, water and scarify. Scarifying existing stabilized decomposed granite will prevent a cold joint layer between the existing stabilized decomposed granite and the newly imported pre-blended stabilized decomposed granite.

C. Add water to the pre-blended stabilized decomposed granite to activate. Apply moistened pre-blended stabilized decomposed granite to excavated area at or above finished grade.

D. Compact with a walk behind drum roller. Do not allow traffic on stabilized decomposed granite surfacing for one to two days after placement or until compacted stabilized decomposed granite has fully cured.

-END OF SECTION-

SECTION 32 84 00
IRRIGATION SYSTEM

PART 1 – GENERAL

1.01 SCOPE

A. This Part and all Subparts shall conform to the following related documents:

1.02 SUMMARY

A. It is the intent of the specifications and drawings that the finished system is complete in every respect and shall be ready for operation satisfactory to the Owner.

B. The work shall include all materials, labor, services, transportation, and equipment necessary to perform the work as indicated on the drawings, in these specifications, and as necessary to complete the contract.

1.03 GENERAL CONDITIONS

A. The requirements of the General Conditions specified in Division 1 – General requirements shall apply to all work of this Section with the same force and effect as throughout repeated herein.

1.04 CONSTRUCTION DRAWINGS

A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.

B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications. When an item is shown on the plans but not shown on the specifications or vice versa, it shall be deemed to be as shown on both. The Landscape Architect shall have final authority for clarification.

C. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect as soon as detected. In the event this notification is not performed, the Irrigation Contractor shall assume full responsibility for any revision necessary.

1.05 QUALITY ASSURANCE

A. Provide at least one English speaking person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and who shall direct all work performed under this section.

B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnish directions covering points not shown in the drawings and specifications.

C. All local, municipal, and state laws, rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.

D. All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to Owner.

E. The Contractor shall secure the required licenses and permits including payments of charges and fees, give required notices to public authorities, verify permits secured or arrangements made by others affecting the work of this section.

1.06 SUBMITTALS

A. Materials List:

1. The Contractor shall furnish the articles, equipment, materials, or processes specified by name in the Drawings and Specifications. No substitution will be allowed.

2. Complete material list shall be submitted prior to performing any work. Material list shall include the manufacturer, model number, and description of all materials and equipment to be used.

3. Although manufacturer and other information may be different, the following is a guide to proper submittal format:

Item	Manufacturer	Model Number	Description
1.	Pacific Plastics	Mainline piping per Specification	PVC Class 315 with solvent welded joints for sizes 2" and larger and PVC Schedule 40 with solvent welded for sizes 1-1/2" and smaller.
2.	Paige Electric	Irrigation Control wire	#14 UF UL approved for control wire and #12 UF UL approved for common wire.
3.	Nibco	T-113	T-113 with bronze cross handle - 3" and smaller.
4.	Rainbird	1806-SAM-PRS	6" pop-up spray head with Rain Bird "MPR" nozzles.
5.	Etc.	Etc.	Etc.

4. Irrigation submittal must be specific and complete with a full description of product use. All items must be listed and should include solvent/primer, wire, wire connectors, valve boxes, etc. No copies of manufacturer's literature (catalog cuts) are required as submittal information.

5. Equipment or materials installed or furnished without prior approval of the Owner's Authorized Representative may be rejected and the Contractor may be required to remove such materials from the site at his own expense.

6. Approval of any item, alternative or substitute, indicates only that the product or products apparently meet the requirements of the Drawings and Specifications on the basis of the information or samples submitted.

7. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.

1.07 EXISTING CONDITIONS

A. The Contractor shall verify and be familiar with the locations, size and detail of points of connection provided as the source of water, electrical supply, and communication line connection to the irrigation system.

B. Irrigation design is based on the available static water pressure shown on the drawings. Contractor shall verify static water on the project prior to the start of construction. Should a discrepancy exist, notify the Landscape Architect and Owner's authorized representative prior to beginning construction.

C. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, the Contractor shall promptly notify the Landscape Architect and Owner who will arrange for relocations. The Contractor will proceed in the same manner if a rock layer or any other such conditions are encountered.

D. The Contractor shall protect all existing utilities and features to remain on and adjacent to the project site during construction. Contractor shall repair, at his own cost; all damage resulting from his operations or negligence.

E. The Irrigation Contractor shall coordinate with the General Contractor for installation of required sleeving as shown on the plans prior to paving operations.

F. The Contractor shall verify and be familiar with the existing irrigation systems in areas adjacent to and within the Project area of work.

G. The Contractor shall protect all existing irrigation systems, in areas adjacent to and within the project area of work, from damage due to his operations.

H. Contractor shall notify Owner’s Representative if any existing system is temporarily shut off, capped or modified. Provide 48-hour notice, prior to turning off or modifying any existing irrigation system.

I. The Contractor shall repair or replace all existing irrigation systems, in areas adjacent to and within the project area of work, damaged by the construction of this project. Adjacent irrigation systems shall be made completely operational and provide complete

coverage of the existing landscaped areas. All repairs shall be complete to the satisfaction of the Owner's Representative.

J. The contractor shall provide bore holes under any existing pavement or paving encountered for the required lateral, mainline and low voltage control wire sleeving. Bore holes under 2 inches in diameter and smaller shall be made with a BulletMole® underground boring tool as manufactured by Dimension Tools, LLC (Contact telephone number (888)-650-5554 or at www.bulletmole.com). Bore holes larger than 2 inches in diameter shall be made with an approved mechanical boring tool. No air jacking or hydraulic boring of any kind shall be allowed.

1.08 STAKING

A. The Contractor shall coordinate with job survey to use current irrigation drawings in CAD format for the following items:

1. Irrigation controllers
2. Point of connection equipment
3. Pressure main line
4. Pressure main line valve boxes after start of maintenance for use with as-built record drawings.

1.09 PRE-CONSTRUCTION MEETINGS

A. Meeting shall be required with the Landscape Architect, Owner's authorized representative and Water District Inspector for the following:

1. Pre-construction meeting for start of Project

1.10 INSPECTIONS

A. The Contractor shall permit the Landscape Architect, Irrigation Consultant, and Owner's authorized representative to visit and inspect at all times any part of the work and shall provide safe access for such visits.

B. Where the specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Landscape Architect, Owner's authorized representative, Water District, and/or governing agencies. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, Water District, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's expense.

C. Inspections will be required for the following at a minimum:

1. System layout
2. Pressure test of irrigation mainline (Four hours at 150 PSI or 120% of static water pressure, whichever is greater.) Acceptable pressure loss shall be determined by Water District inspector at pre-construction meeting
3. Mainline installation and ductile iron fitting installation prior to backfill.

4. Coverage test of irrigation system. Test shall be performed prior to any planting.

5. Final inspection prior to start of maintenance period.

6. Final acceptance prior to turnover.

D. Site observations and testing will not commence without the field record drawings as prepared by the Irrigation Contractor. Record drawings must complete and up to date for each site visit.

E. All re-inspections required due to either the site or contractor not being prepared or non-conformance with the Construction Documents shall be back-charged to the contractor. These costs shall be paid for by the contractor prior to the Design Team member's participation in any future site reviews.

1.11 STORAGE AND HANDLING

A. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect the installation work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Landscape Architect and Owner and at no additional cost to the Owner.

B. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings under cover until ready to install. Transport plastic pipe only on a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load.

1.12 CLEANUP AND DISPOSAL

A. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris will not be permitted. The Contractor shall remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the Owner's authorized representative.

B. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a legal disposal area.

1.13 TURNOVER ITEMS

A. Record Drawings:

1. The Contractor shall provide and keep up-to-date a complete record set of plain paper copy prints which shall be corrected daily, showing every change from the original Drawings and Specifications and the exact installed locations, sizes, and kinds of equipment. Prints for this purpose may be obtained from the Owner's Authorized Representative at cost. This set of drawings shall be kept on the site and shall be used only as a record set.

2. These drawings shall also serve as work progress sheets and shall be the basis for measurement and payment for work completed. These drawings shall be available at all times for observation and shall be kept in a location designated by the Owner's Authorized Representative.

3. The Contractor shall make neat and legible notations on the record drawing progress sheets daily as the work proceeds, showing the work as actually installed.

4. Before start of plant establishment, the Contractor shall provide the completed irrigation red lined set of “as-built” record drawings to the Owner’s Authorized Representative for review and approval.

5. The Contractor shall be responsible for preparation of irrigation “as-built” record drawings in digital format.

6. Prior to the final turnover, the Contractor will deliver the completed prints and electronic files of the of irrigation “as-built” record drawings to the Owner’s Authorized Representative. Submittal shall include:

   (a) One set of full-size bond plots

   (b) One digital copy of the “as-built” record drawing file on CD-ROM

   (c) One digital copy in full size PDF format of the “as-built” record drawing file on CD-ROM

   (d) File names shall incorporate the controller identification number

B. Controller Charts:

1. As-built drawings shall be reviewed by the Owner's Authorized Representative before controller charts are prepared.

2. The Contractor shall be responsible for preparation of irrigation “controller chart” drawings in AutoCAD format.

3. The Contractor shall be responsible to provide two controller charts for each controller supplied.

4. The chart shall show only the area controlled by the automatic controller and shall be 11” X 17” in size.

5. The chart is to be a reduced drawing of the actual installed system. However, in the event the controller valve sequence is not legible when the drawing is reduced, valve sequence ID’s shall be enlarged to be readable when reduced.

6. The chart shall be a plain paper copy print and a different color shall be used to indicate the area of coverage for each station.

7. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 10 mils.

8. These charts shall be approved by the Owner’s Authorized Representative and shall be turned over to the Owner prior to final turnover.

C. Operation and Maintenance Manuals:

1. Two individually bound copies of operation and maintenance manuals shall be delivered to the Landscape Architect or Owner's authorized representative at least 10 calendar days prior to final inspection. The manuals shall describe the material installed and the proper operation of the system.

2. Each complete, bound manual shall include the following information:

3. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment including names and addresses of local manufacturer representatives.

   (a) Operating and maintenance instructions for all equipment.

   (b) Spare parts lists and related manufacturer information for all equipment.

D. Equipment:

1. Supply as a part of this contract the following items:

   (a) Operation and maintenance manuals

   (b) Automatic controller certification letter from Site One Green Tech for each controller installed under this contract

   (c) Two (2) keys for each automatic controller enclosure

   (d) Two (2) quick coupler keys and matching hose swivel for each type of quick coupling valve installed per construction package.

   (e) Irrigation controller manuals

   (f) Completed Irrigation Guarantee Statement

   (g) Transmittal with itemized turnover list shall be signed by Owner’s authorized representative

2. The above equipment shall be turned over to Owner's authorized representative at the final inspection.

1.14 COMPLETION

A. At the time of the pre-maintenance period inspection, the Landscape Architect, Owner's authorized representative, Water District, and governing agencies will inspect the work, and if not accepted, will prepare a list of items to be completed by the Contractor. The Landscape Maintenance Period shall be extended at contractor’s sole cost as necessary. Upon completion of the punch-list the contractor shall again make written request for review. If, upon re-visiting the site, it is found that the punch-list has not been completed, the review shall end and the contractor shall be back-charged for all additional visits.

B. Punch list to be checked off by contractor and submitted to Landscape Architect or Owner’s authorized representative prior to any follow-up meeting. This checked off list to indicate that all punch list items have been completed. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Landscape Architect, Owner's authorized representative, and governing agencies.

C. The Owner's authorized representative shall have final authority on all portions of the work.

D. After the system has been completed, the Contractor shall instruct Owner's authorized representative in the operation and maintenance of the irrigation system and shall furnish a complete set of operating and maintenance instructions.

E. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to the Owner's satisfaction by the Contractor without any additional expense to the Owner. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

F. Maintain all planting starting with the planting operations and continuing for 90 calendar days after planting is complete and approved by the Owner in writing. The maintenance period will not commence until all planting has been approved in writing by the Owner.

1.15 GUARANTEE

A. The entire sprinkler system, including all work done under this contract, shall be unconditionally guaranteed against all defects and fault of material and workmanship, including settling of backfilled areas below grade, for a period of one (1) year following the filing of the Notice of Completion.

B. Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to Owner within ten (10) calendar days of receipt of written notice from Owner. When the nature of the repairs as determined by the Owner constitute an emergency (i.e. broken pressure line) the Owner may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the Owner by the Contractor, all at no additional cost to the Owner.

C. Guarantee shall be submitted on Contractors own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted. We agree to repair or replace any defective material during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within 10 calendar days following written notification by the Owner. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT NAME:

PROJECT LOCATION:

CONTRACTOR NAME:

ADDRESS:

TELEPHONE:

SIGNED:

DATE:

PART 2 – PRODUCTS

Products in this Part and all Subparts shall conform to the documents referenced in Part 1 – General. Products include, but are not limited to the following:

2.01 SUMMARY

A. Use only new materials of the manufacturer, size and type shown on the drawings and specifications. Materials or equipment installed or furnished that do not meet Landscape Architect's, Owner's, or governing agencies standards will be rejected and shall be removed from the site at no expense to the Owner.

2.02 PVC PRESSURE MAIN LINE PIPE AND FITTINGS

A. Use Purple Pipe for irrigation systems carrying reclaimed water and white pipe for irrigation systems carrying domestic water.

B. Pressure main line piping for sizes 2" – 3" shall be PVC Class 315 with solvent primer and welded joints.

C. Class 315 pipe shall be made from an NSF approved Type I, Grade I, PVC compound conforming to ASTM resin specification D1784. All pipe must meet requirements as set forth in Federal Specification PS-22-70, with an appropriate standard dimension ratio (S.D.R.)

D. Pressure main line piping for sizes 1-1/2" and smaller shall be PVC Schedule 40 with solvent primer and welded joints.

E. Schedule 40 pipe shall be made from NSF approved Type I, Grade I PVC compound conforming to ASTM resin specification D1785. All pipe must meet requirements as set forth in Federal Specification PS-21-70.

F. PVC solvent-weld fittings shall be Schedule 40, 1-2, II-I NSF approved conforming to ASTM test procedure D2466.

G. Solvent primer and cement for PVC solvent-weld pipe and fittings shall be of type and installation methods prescribed by the fitting manufacturer.

H. All PVC pipe must bear the following markings:

1. Manufacturer's name
2. Nominal pipe size
3. Schedule or class
4. Pressure rating in P.S.I.
5. NSF (National Sanitation Foundation) approval

6. Date of extrusion

I. All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable I.P.S. schedule and NSF seal of approval.

2.03 PVC NON-PRESSURE LATERAL LINE PIPE AND FITTINGS

A. (Use Purple Pipe for irrigation system carrying recycled water and white pipe for irrigation system carrying domestic water)

B. Non-pressure buried lateral line piping shall be PVC Schedule 40 with solvent-weld joints.

C. Pipe shall be made from NSF approved, Type I, Grade II PVC compound conforming to ASTM resin specification D1784. All pipe must meet requirements set forth in Federal Specification PS-22-70 with an appropriate standard dimension ratio (S.D.R.)

D. Except as noted in paragraphs 1, 2, and 3 of this section (2.01C), all requirements for non-pressure lateral line pipe and fittings shall be the same as for solvent-weld pressure main line pipe and fittings as set forth in section 2.01B of these Specifications.

2.04 BRASS PIPE AND FITTINGS

A. Where indicated on the Drawings, use red brass threaded pipe conforming to Federal Specification #WW-P-351.

B. Fittings shall be red brass conforming to Federal Specification #WW-P-460.

C. Buried brass pipe shall be coated with 12-mil polyethylene pipe wrapping tape with butyl rubber mastic over a suitable primer.

2.05 COPPER PIPE AND FITTINGS

A. Pipe: Type K, hard tempered

B. Fittings: wrought copper, solder joint type

C. Joints shall be soldered with silver solder, 45% silver, 15% copper, 16% zinc, 24% cadmium, solidus at 1125o F. and liquidus at 1145o F.

D. Buried copper pipe shall be coated with 12-mil polyethylene pipe wrapping tape with butyl rubber mastic over a suitable primer.

2.06 PRESSURE REGULATION VALVE

A. The Pressure Reducing Valve shall consist of a bronze body and bell housing, shall have separate access covers for the plunger and strainer screen and shall have a bolt to adjust the downstream pressure.

B. The Pressure Reducing Valve shall be of the balanced piston design and shall reduce pressure in both flow and no-flow conditions.

C. The bronze bell housing and access caps shall be threaded to the body and shall not require the use of ferrous screws.

D. The adjustment spring shall have a special order 75-125 PSI range.

E. The valve shall contain a sealed cage bell housing.

F. Piping between the water meter and the pressure regulator shall be brass.

G. Valve shall be WILKINS Model 600XL-HR SC.

2.07 ISOLATION VALVE

A. Valves 3" and smaller shall meet the following requirements:

1. Valve shall be size and type shown on the drawings.

2. Valve shall have threaded ends and shall be gate type equipped with a bronze cross handle.

3. Valve shall be Nibco T-113-K.

B. Valves 4" and larger shall meet the following requirements:

1. Valve shall be flanged cast iron body, bronze mounted, doubled discs, parallel seats with pin disc spreader mechanism, and shall conform to the specification of the American Water Works Association.

2. Valve shall be 2" square operating nut, with arrow cast in metal indicating direction of opening.

3. Valve shall have push-on type ends with Leemco LG joint restraint.

4. Valve shall be Nibco PCR-619-RW or approved equal.

C. All isolation valves shall be installed per installation details.

2.08 QUICK COUPLING VALVE

A. Quick coupler valves shall be of the brand, size and type indicated on the irrigation plans.

B. Quick coupling valves shall have a red brass, two-piece body designed for working pressure of 150 P.S.I. with a 1inch FPT bottom inlet

C. Quick coupling valve shall be operable with a 1 inch quick coupler key. Key size and type shall be as shown on the Drawings.

D. Quick coupler valve shall have a hinge cover constructed of red brass with a leather like vinyl cover bonded to it in a permanent type of cover.

E. Quick couplers used with potable water shall have yellow locking vinyl covers and shall have a single slot key and shall be a Rainbird 33-DLRC

F. Quick couplers used with recycled water shall have purple vinyl covers with the appropriate recycled water warnings in English and Spanish, as well as the international "Do Not Drink" symbol and shall have an ACME threaded key and shall be a Hunter HQ44-LRC-AW-R

2.09 MASTER VALVE

A. Assembly shall be installed in a below grade vault as shown on the detail drawings

B. Master Valve:

1. The electric remote control valve shall be a normally closed 24 VAC 50/60 Hz (cyles/sec) solenoid actuated globe pattern with a balanced pressure diaphragm. The valve pressure rating shall not be less than 200 PSI.

2. The valve body and bonnet shall be constructed of heavy cast red brass, diaphragm shall be of nylon reinforced nitrile rubber. All other internal parts shall be made of bronze, brass, and stainless steel to ensure corrosion resistance.

3. The valve shall have both internal and external manual open/close control (internal and external bleed) for manually opening and closing the valve without electrically energizing the solenoid. The valve shall have internal manual bleed to prevent flooding of the valve box.

4. The valve construction shall be such as to provide for all internal parts to be removable from the top of the valve without disturbing the valve installation.

5. The valve shall also have a purple flow control handle and chlorine resistant diaphragm.

6. Valve shall be a Rainbird EFB-CP

2.10 CHECK VALVE

A. Spring check valves shall be of high-impact Schedule 40 PVC Type II material with stainless steel 5 lb spring and stem rated at 150 PSI by NDS or approved equal.

B. Anti-drain valves shall be of heavy-duty virgin PVC construction with F.I.P. thread inlet and outlet. Internal parts shall be stainless steel and neoprene. Anti-drain valve shall be field adjustable against drawout from 4 to 32 feet of head. Anti-drain valve shall be NDS or approved equal.

2.11 CONTROL VALVE WIRING

A. Connections between an automatic controller and all electric control valves, including the master valve, shall be made with #14 AWG solid copper conductor meeting the requirements of ASTM specification B-3. Conductor shall be insulated with Polyvinyl chloride, 75°C rated conforming to UL Standards 493 and 83. All cables shall be tested physically and electrically in accordance with UL Standard 493, and 83. It should also be tested to CSA Rule C.22.2 No.75.

B. Attach control valve wiring to main line at 10' O.C., provide 24" expansion loop at change in directions.

C. Control valve wiring shall be Paige P7001D

D. All wire splices shall be made with 600 VAC rated waterproof connectors.

E. Splices other than at the control valve will not be allowed.

2.12 IRRIGATION CONTROLLER ASSEMBLY

A. Automatic controller(s) shall be of size and type shown on the Drawings.

B. Final location of automatic controller(s) shall be approved by the Owner's Authorized Representative.

C. Irrigation controller shall be Hydropoint WeatherTrak with station count as shown on the Drawings and as described below.

1. Hardware features shall include:

(a) Locking, wall mount, stainless steel enclosure with stainless steel back plate.

(b) A separate flow sensor shall be required for each irrigation controller.

(c) Primary voltage transient protection.

(d) UL Approved 110vac transformer.

(e) Ground rod as a part of controller assembly.

(f) User manual with step-by-step programming instructions delivered with controller.

2. Electrical Requirements:

(a) Input Power Required: 117 VAC, 60 HZ capable of operating up to two 24-volt VAC solenoids per station while running a 24-volt VAC pump/master valve output circuit.

(b) Total controller output: maximum 2.0 amps (57 VA) at 24 VAC including 1.0 amps for the master valve output.

(c) Power supply overload, back-up fuse: 2.0 amps with surge protection on 24V output board.

3. Warranty and Technical Support shall include:

(a) Controllers and Enclosure assembly shall include warranty and field technical support for a period of 5-years.

(b) Technical support shall be supplied by the Site One United Green Tech.

D. Final location of irrigation controller(s) shall be approved by the Owner's Authorized Representative prior to installation. Refer to drawings for installation details.

E. All incidental parts which are not shown on the plans or specified herein and are necessary to complete the installation of the irrigation controller(s) shall be furnished and installed as though such parts were shown on plans or specified.

F. Unless otherwise noted on the Drawings, the 120-volt electrical power to each automatic controller location is to be furnished by others. The final electrical hook-up shall be the responsibility of the Contractor.

G. Unless noted on the Drawings, each automatic irrigation controller shall be housed in a stainless steel vandal-resistant controller enclosure assembly as follows:

H. The stainless steel vandal-resistant controller enclosure assembly shall consist of a V.I.T products “Strong Box wall mount SB-16SS" housing, stainless steel back board, automatic irrigation controller(s), station boards, and a 110-volt outlet.

I. Enclosure assembly shall be equipped with a 120-volt duplex box with an On/Off switch, and 120-volt receptacle. The Contractor shall provide metal conduit run from the 120-

volt supply to the controller assembly. All power within the housing shall be properly phased.

J. The vandal-resistant controller enclosure assembly shall be manufactured by Site One Green Tech.

K. Upon final inspection of the project, the Irrigation Contractor shall provide for the Owner a "Job Site Equipment Inspection and 5 year Warranty Certification" letter from the assembly manufacturer. This letter shall include verification of conformance with specifications and installation recommendations, site inspection date and shall list all assemblies covered under the 5-year warranty.

2.13 ELECTRIC CONTROL VALVE

A. All electric control valves shall be the same size and type shown on the Drawings.

B. The electric remote control valve shall be a normally closed 24 VAC 50/60 Hz (cycles/sec) solenoid actuated globe pattern with a balanced pressure diaphragm. The valve pressure rating shall not be less than 200 PSI.

C. The valve body and bonnet shall be constructed of heavy cast red brass, diaphragm shall be of nylon reinforced nitrile rubber. All other internal parts shall be made of bronze, brass, and stainless steel to ensure corrosion resistance.

D. The valve shall have both internal and external manual open/close control (internal and external bleed) for manually opening and closing the valve without electrically energizing the solenoid. The valve shall have internal manual bleed to prevent flooding of the valve box.

E. The valve shall house a fully-encapsulated, one-piece solenoid. The solenoid shall have a captured plunger with a removable retainer for easy servicing, and a leverage handle for easy turning. This 24 VAC 50/60 Hz solenoid shall open with 19.6 VAC minimum at 200 PSI at 24 VAC, average inrush current shall not exceed .41 amps. Average holding current shall not exceed 0.28 amps.

F. The valve construction shall be such as to provide for all internal parts to be removable from the top of the valve without disturbing the valve installation.

G. The valve shall also have a purple flow control handle and chlorine resistant diaphragm.

H. Provide and install one control valve box for each electric control valve.

2.14 VALVE BOX

A. Refer to irrigation drawings for model numbers of all valves boxes.

B. All mainline valve boxes to include spring loaded encapsulated stainless steel bolt incorporated into lid.

C. All valve boxes using recycled water shall be purple in color.

D. All valve boxes using domestic water shall be green in color.

E. All valve boxes for control valve wire splices or stubs, communication cable and flow sensor pull boxes, lightning arrestors and electrical grounding shall be black in color.

F. Use 6" round box for all drip flush valves and drip air relief valves.

G. Use 10" x 10-1/4" round box for all gate valves, quick couplers, air relief valves and controller ground rods, Carson / Old Castle #910-12B with bolt-down cover.

H. Use 14" x 19" x 11" rectangular box for electric control valves, pressure regulators, flow sensors, lightning arrestors, pull boxes, Carson / Old Castle #1419-12B with bolt-down cover.

I. Use 12" x 20" jumbo valve box for all drip valve assemblies, Carson / Old Castle #1220 series with bolt down cover.

2.15 SPRINKLER HEAD

A. All sprinkler heads shall be of the same size, type, and deliver the same rate of precipitation with the diameter (or radius) of throw, pressure, and discharge as shown on the Drawings and/or as specified herein.

B. Spray heads shall be equipped with an anti-drain valve feature capable of holding up to 14 feet of water.

C. Spray heads shall have a screw adjustment.

D. When used with recycled water, spray heads shall have an integral purple molded cap. Snap caps will not be permitted.

E. Riser units shall be fabricated in accordance with the installation details.

F. Riser nipples for all sprinkler heads shall be the same size as the riser opening in the sprinkler body.

G. All sprinkler heads of the same type shall be by the same manufacturer.

2.16 IDENTIFICATION TAG

A. I.D. tags for all valves attached to pressure mainline, drip air relief and drip flush valves shall be manufactured from Polyurethane Behr Desopan.

B. Use Christy's standard tag hot-stamped.

C. Tags shall be numbered to match programming shown on the Drawings.

D. Provide one tag for each electric control valve as follows:

1. Recycled water: Christy ID-MAX-P2-RC006 black letters on purple background with recycled water warning sign on rear face.

2. Potable water: Christy ID-MAX-B1-014

3. Non-potable water: Christy ID-MAX-G2-NP012 black letters on green background

4. Station ID tags: Christy ID-MAX-Y1 black letters on yellow background

E. Special order tags from T. Christy Enterprises, 655 East Ball Road, Anaheim, CA 92805. Phone (714) 507-3300.

2.17 FLOW SENSOR AND FLOW SENSOR CABLE

A. An irrigation main-line flow sensor shall be installed in accord with Drawings and manufacturer's installation instructions. See Drawings for location. Contractor shall be responsible for the installation, hook-ups, materials, components, connections, etc., of the flow sensors for the complete automatic operation of the system.

B. The flow sensor shall be manufactured by Hydropoint. Install as recommended by the manufacturer and as detailed.

C. The flow sensor cable shall be shielded cable model number P7315D #16 AWG manufactured by Paige Electric.

D. Flow sensor wire may be extended to a maximum distance of 2000 ft. from the location of the assembly to which it is connected.

E. Provide a separate flow sensor cable from each flow sensor to its respective designated controller.

F. Flow sensor cables from different points of connection may not be installed within the same conduit.

G. All flow sensor splices shall be performed with 600 VAC rated waterproof connectors. No splices allowed between controller and flow sensor.

2.18 FLOW SENSOR CABLE CONDUIT

A. As a part of this Contract, the Contractor shall provide and install a flow sensor cable in conduit

B. Flow sensor cable conduit shall be gray Schedule 40 PVC with solvent welded joints and unless otherwise noted on the Drawings, shall be 1-1/4" in size, with 1/4" nylon pull rope installed within entire length of conduit.

C. Sweep ells shall be fabricated standard electrical type PVC schedule 40 sweep elbows. Cap sweep ell with tri-plug with the ring for securing nylon pull rope.

D. The flow sensor cable conduit shall be installed where indicated on the Drawings and shall be routed, wherever possible, with the irrigation pressure main line piping. Provide 24" minimum cover over all flow sensor cable conduits. Provide 6" minimum separation between conduit and irrigation pressure main line piping.

E. Pull boxes shall be located a minimum of 200 feet on center, at each automatic controller location, and at each change of direction. Use rectangular boxes for all pull boxes, Carson / Old Castle #1419-12B with black bolt-down cover or approved equal. Cover shall be marked "FSC". Refer to the Drawings for additional information.

2.19 DRIP IRRIGATION

A. Drip irrigation shall have the following component specifications:

1. The individual self-cleaning, pressure-compensating emitter shall be ½" threaded emitter on a Hunter IH riser.

2. The low volume emitter shall be capable of a discharge rate of 2 gallons per hour (GPH) between operating pressures of 7 to 70 psi for each individual dripper.

3. All emitters shall have a build in check valve capable of holding back 4.6' of water.

4. Maximum flow for inline drip irrigation systems is 14 gallons per minute.

B. Non-pressure supply and exhaust headers shall be rigid polyvinyl chloride PVC 1220, (Type 1, Grade 2), Schedule 40 PVC with Schedule 40 PVC fittings.

C. Drip filtration unit shall include a Pressure Regulating Quick Check Basket Filter that combines filtration and pressure regulation in one integrated unit for protection of downstream components of drip irrigation system. Pressure regulating basket filter shall be Rainbird PRF-QKCHK-100 with component specifications to include:

1. Basket style body and jar-top cap constructed of heavy-duty glass-filled, UV-resistant polypropylene, with 150 PSI operating pressure rating.

2. Indicator incorporated into filter cap that changes color from green to red during operation when the filter element requires cleaning.

3. 200 mesh filter screen constructed of stainless steel attached to propylene frame. Screen is serviceable for cleaning purposes by unscrewing cap from filter body and removing filter element.

4. Normally-open in-line pressure regulating device, constructed of durable, UV resistant non-corrosive material able to accommodate an inlet pressure rating of not less than 150 PSI, with preset outlet pressure of approximately 40 PSI. Pressure regulating device allows full flow with minimal pressure loss unless inlet pressure is greater than preset level. As inlet pressure increases above preset level, internal spring compresses to reduce downstream pressure.

5. Male threaded 1″ inlet and outlet connections.

D. All inline drip tubing systems shall have a ½″ PVC schedule 40 ball valve manual flush valve at each isolated zone within the system to allow water to be drawn through all the tubing during flush operation. Multiple flush valves may be necessary per drip valve zone, refer to plan for locations.

2.20 MISCELLANEOUS IRRIGATION EQUIPMENT

A. Refer to the Drawings for sizes and types of miscellaneous irrigation equipment.

B. All miscellaneous irrigation equipment shall be as specified or approved equal.

PART 3 – EXECUTION

3.01 GENERAL

A. Execution of all related work in this Section shall conform to the documents referenced in Part 1 - General. Execution includes, but is not limited to the following:

3.02 GENERAL INSTALLATION REQUIREMENTS

A. Before work is commenced, hold a conference with Owner, General Contractor, and Irrigation designer to discuss general details of the work.

B. Verify dimensions and grades at job site before work is commenced.

C. During the progress of the work, a competent superintendent and any assistants necessary shall be on site, all satisfactory to Owner. The superintendent shall not be changed, except with consent of Owner, unless that person proves unsatisfactory and ceases to be employed. The superintendent shall represent Contractor in its absence and all directions given to the superintendent shall be as binding as if given to Contractor.

D. All work indicated or noted on Drawings shall be provided whether or not specifically mentioned in the Specifications.

E. If there are ambiguities between Drawings and Specifications, and specific interpretation or clarification is not issued prior to bidding, the interpretation or clarification will be made only by Owner, and Contractor shall comply with the decisions. In the event the installation contradicts the directions given, the installation shall be corrected by Contractor at no additional cost to Owner.

F. Layout of sprinkler lines shown on Drawings is diagrammatic only. Location of sprinkler equipment is contingent upon and subject to integration with all other underground utilities. Contractor shall employ all data contained in the Contract Documents and shall verify this information at the construction site to confirm the manner by which it relates to the installation.

G. Coordinate the installation of all sprinkler materials, including pipe, with the landscape Drawings to avoid conflict with the trees, shrubs, or other planting.

H. Do not proceed with the installation of the sprinkler system when it is apparent that obstructions or grade differences exist or if conflicts in construction details, legend, or specific notes are discovered. All such obstructions, conflicts, or discrepancies shall be brought to the attention of Owner.

I. Replace, or repair to the satisfaction of Owner, all existing paving disturbed during the course of this work. New paving shall be the same type, strength, texture, finish, and be equal in every way to the material removed.

J. Owner reserves the right to make temporary repairs as necessary to keep equipment in operating condition without voiding Contractor's guarantee or relieving Contractor of its responsibilities during the guarantee shall not be allowed.

K. All sprinkler heads will require installation of anti-drain devices to prevent low head drainage.

L. Coordinate the installation of all sprinkler materials, including pipe, with the landscape Drawings to avoid conflict with the trees, or other planting.

3.03 OBSERVATION OF SITE CONDITIONS

A. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions and receive approval from the Owner's Authorized Representative prior to proceeding with work under this Section.

B. Exercise extreme care in excavating and working near existing utilities. The Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect. Check existing utilities drawings for existing utility locations.

C. Coordinate installation of sprinkler irrigation materials including pipe, so there shall be NO interference with utilities or other construction or difficulty in planting trees, shrubs, and ground covers.

D. The Contractor shall carefully check all grades to satisfy itself that he may safely proceed before starting work on the irrigation system.

3.04 PREPARATION

A. Physical Layout:

1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing and location of sprinkler heads.

2. All layouts shall be reviewed by the Owner's Authorized Representative prior to installation.

B. Water Supply:

1. The irrigation system shall be connected to water supply point(s) of connection as indicated on the Drawings.

C. Connections shall be made at the approximate location(s) shown on the Drawings. The Contractor is responsible for minor changes caused by actual site conditions.

D. Electrical Supply:

1. Electrical connections for any and all automatic controllers shall be made to electrical point(s) of connection as indicated on the Drawings.

2. Connections shall be made at the approximate location(s) shown on the Drawings. The Contractor is responsible for minor changes caused by actual site conditions.

3.05 INSTALLATION

A. Trenching:

1. Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on the Drawings and as noted.

2. Provide for a minimum of twenty-four (24) inches cover for all pressure supply lines of 2 1/2-inch nominal diameter or smaller.

3. Provide for a minimum of thirty-six (36) inches cover for all pressure supply lines of 3-inch nominal diameter or larger

4. Provide for a minimum of twelve (12) inches for all non-pressure lines.

5. Provide for a minimum cover of twenty-four (24) inches for all control wiring.

B. Backfilling:

1. The trenches shall not be backfilled until all required tests are performed. Trenches shall be carefully backfilled with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, or other approved materials, free from large clods of earth or stones. Backfill shall be mechanically compacted in landscaped

areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill will conform to adjacent grades without dips, sunken areas, humps or other surface irregularities.

2. A fine granular material backfill will be initially placed on all lines. No foreign matter larger than one-half (1/2) inch in size will be permitted in the initial backfill.

3. Flooding of trenches will be permitted only with approval of the Owner's Authorized Representative.

4. If settlement occurs and necessitates adjustments in pipe, valves, sprinkler heads, lawn, plantings, or other installed work, the Contractor shall make all required adjustments without cost to the Owner.

C. Trenching and Backfill Under Paving:

1. Trenches located under areas where paving, asphaltic concrete, or concrete will be installed, shall be backfilled with sand (a layer two inches below the pipe and six inches above the pipe) and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in a firm unyielding condition. All trenches shall be left flush with the adjoining grade. The Contractor shall set in place; cap and pressure test all piping under paving prior to the paving work.

2. Generally, piping under existing walks is done by jacking, boring, or hydraulic driving, but where any cutting or breaking of sidewalks and/or concrete is necessary, it shall be done and replaced by the Contractor as a part of the Contract cost. Permission to cut or break sidewalks and/or concrete shall be obtained from the Owner's Authorized Representative. No hydraulic driving will be permitted under concrete paving.

3. Provide for a minimum cover of eighteen (18) inches between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed under asphaltic concrete paving.

D. Plastic Pipe:

1. Install plastic pipe in accord with manufacturer's recommendations.

2. Install sprinkler head on plastic pipe as indicated on Drawings.

3. Prepare all welded joints with manufacturer's primer prior to applying solvent.

(a) Allow welded joints at least 15 minutes set-up/curing time before moving or handling.

(b) Partially center load pipe in trenches to prevent arching and shifting when water pressure is on.

(c) Do not permit water in pipe until a period of at least four hours has elapsed for solvent weld setting and curing, unless recommended otherwise by solvent manufacturer.

4. Attach pipe identification tape directly to pipe where color-impregnated and stenciled pipe is not utilized.

5. Do backfilling when pipe is cool.

   (a) Pipe can be cooled by operating the system for a short time before backfill, or by backfilling in the early part of the morning before the heat of the day.

6. Curing:

   (a) When the temperature is above 80°F., allow soluble weld joints at least 24 hours during the time before water is introduced under pressure.

   (b) When temperature is below 80°F., follow manufacturer's recommendations.

E. Assemblies:

1. Routing of sprinkler irrigation lines as indicated on the Drawings is diagrammatic. Install lines (and various assemblies) in such a manner as to conform to the details per the Drawings.

2. Do not install multiple assemblies on plastic lines. Provide each assembly with its own outlet.

3. Install all assemblies specified herein in accordance with respective detail. In absence of detail drawings or Specifications pertaining to specific items required to complete work, perform such work in accordance with best standard practice with prior approval of Owner's Authorized Representative.

4. PVC pipe and fittings shall be thoroughly cleaned of dirt, dust, and moisture before installation. Installation and solvent welding methods shall be as recommended by the pipe and fitting manufacturer.

5. On PVC to metal connections, the Contractor shall work the metal connections first. Teflon tape or approved equal, shall be used on all threaded PVC to PVC, and on all threaded PVC to metal joints. Light wrench pressure is all that is required. Where threaded PVC connections are required, use threaded PVC adapters into which the pipe may be welded.

F. Conduit and Sleeves:

1. Conduit: Furnish and install conduit where control wires pass under or through walls, walks and paving. Conduits to be of adequate size to accommodate retrieval for repair of wiring and shall extend 12 inches beyond edges of walls and pavement.

2. Sleeving: Install sleeves for all pipes passing through or under walks and paving as shown on the Drawings. Sleeving to be of adequate size to accommodate retrieval of wiring or piping for repair and shall extend 12 inches beyond edges of paving or other construction.

G. Line Clearance:

1. All lines shall have a minimum clearance of six (6) inches from each other and twelve (12) inches vertically and horizontally from lines of other trades.

2. Lines of other trades shall be installed in a separate trench.

3. Parallel lines shall not be installed directly over one another.

H. Automatic Controller Assembly:

1. Install as per manufacturer's instructions.

2. Electric control valves shall be connected to controller in numerical sequence as shown on the Drawings.

I. High Voltage Wiring for Automatic Controller:

1. 120 volt power connection to the automatic controller shall be provided by the Contractor.

2. All electrical work shall conform to local codes, ordinances, and union authorities having jurisdiction.

J. Electric Control Valves:

1. Install each electric control valve in a separate valve box.

2. Install where shown on the Drawings. Where grouped together, allow at least twelve (12) inches between adjacent valve boxes.

3. Each valve number shall be heat branded on valve box lid with 2" tall letters.

4. Control valve shall be installed and adjusted as follows:

(a) Prior to installation, adjust flow control stem clockwise until valve is fully closed

(b) After installation, activate valve and adjust pressure regulator 10 PSI higher than desired pressure.

(c) Adjust flow control stem counter-clockwise until desired pressure is achieved.

(d) Valve stem shall not be fully open per manufacturer recommendations.

(e) Adjust pressure on one valve per controller at a time.

K. Flushing of System:

1. After all new sprinkler pipelines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened and full head of water used to flush out the system.

2. Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Owner's Authorized Representative.

L. Sprinkler Heads:

1. Install the sprinkler heads as designated on the Drawings. Sprinkler heads to be installed in this work shall be equivalent in all respects to those itemized.

2. Spacing of heads shall not exceed the maximum indicated on the Drawings. In no case shall the spacing exceed the maximum recommended by the manufacturer.

3. All sprinkler heads shall be set perpendicular to finish grade of the area to be irrigated unless otherwise designated on the plans.

4. Adjust check valve tension to prevent low head drainage prior to installation of sprinkler heads.

5. Adjust coverage with nozzle screw adjustment to eliminate overspray onto hardscape, walls, sidewalks, roadways, etc.

3.06 TEMPORARY REPAIRS

A. The Owner reserves the right to make temporary repairs as necessary to keep the irrigation system equipment in operating condition. The exercise of this right by the Owner shall not relieve the Contractor of his responsibilities under the terms of the guarantee as herein specified.

3.07 EXISTING TREES

A. Where it is necessary to excavate adjacent to existing trees, the Contractor shall use all possible care to avoid injury to trees and tree roots.

B. Excavation in areas where two (2) inch and larger roots occur shall be done by hand.

C. All roots two (2) inches and larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying.

D. Where a ditching machine is run close to trees having roots smaller than two (2) inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts through.

E. Roots one (1) inch and larger in diameter shall be painted with two coats of Tree Seal, or equal.

F. Trenches adjacent to tree should be closed within twenty-four (24) hours; and where this is not possible, the side of the trench adjacent to the tree shall be kept shaded with burlap or canvas.

3.08 FIELD QUALITY CONTROL

A. Adjustment of the System:

1. The Contractor shall flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways, and buildings as much as possible.

2. If it is determined that adjustment in the irrigation equipment will provide proper and more adequate coverage, the Contractor shall make such adjustments prior to planting. Adjustments may also include changes in nozzle sizes and degrees of arc as required.

3. Lowering raised sprinkler heads by the Contractor shall be accomplished within ten (10) days after notification by the Owner.

4. All sprinkler heads shall be set perpendicular to finished grades unless otherwise designated on the Drawings.

3.09 MAINTENANCE

A. The entire irrigation system shall be under full automatic operation for a period of seven (7) days prior to any planting.

B. The Owner's Authorized Representative reserves the right to waive or shorten the operation period.

3.10 CLEAN-UP

A. Clean up shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be broomed or washed down, and any damage occurring to the work of others shall be repaired to original conditions.

3.11 FINAL SITE OBSERVATION PRIOR TO ACCEPTANCE

A. The Contractor shall operate each system in its entirety for the Owner's Authorized Representative at time of final observation. Any items deemed not acceptable by the Owner's Authorized Representative shall be reworked to the complete satisfaction of the Owner's Authorized Representative.

B. The Contractor shall show evidence to the Owner's Authorized Representative that the Owner has received all accessories, charts, record drawings, and equipment as required before final site observation can occur.

3.12 SITE OBSERVATION SCHEDULE

A. The Contractor shall be responsible for notifying the Owner's Authorized Representative in advance for the following observation meetings, according to the time indicated:

1. Pre-Job Conference - 7 days
2. Pressure supply line installation and testing - 48 hours
3. Automatic controller installation - 48 hours
4. Point of connection installation – 48 hours
5. Coverage test - 48 hours
6. Final site observation - 7 days

B. When site observations have been conducted by a party other than the Owner's Authorized Representative, show evidence in writing of when and by whom these observations were made.

C. Prior to walking irrigation system with Owner’s Authorized Representative, the Contractor shall pre-walk irrigation system with its own crew to ensure compliance with plans and specifications.

- END OF SECTION -

SECTION 32 9000
PLANTING

PART 1 – GENERAL

1.1 SCOPE

A. PLANTING WORK includes, but not limited to, the following:

1. Preparing existing topsoil/site soil
2. Soil preparation and fine grading
3. Maintenance of planting areas for 90 days

B. RELATED WORK specified elsewhere:

1. Division 31 - Site Clearing
2. Division 32 - Landscape Grading
3. Division 32 - Landscape Irrigation

C. VERIFICATION OF DIMENSIONS AND QUANTITIES

1. All scaled dimensions are approximate. Before proceeding with any work, the contractor shall carefully check and verify all dimensions and quantities and shall immediately inform the Landscape Architect of any discrepancies between the drawings and/or the specifications and the actual conditions. No work shall be done in any area where there is such discrepancy until approval for same has been given by the Landscape Architect.

D. PLANT AVAILABILITY

The act of providing a bid for this project establishes the Contractor's understanding that the plants specified herein may be unusual and more difficult to locate than the industry standard and that the contractor agrees to the following

1. The contractor shall search for each plant specified. If any California or Arizona nursery has the specified species the Contractor is obligated to purchase healthy containers of the species.
2. Within 60 days after the award of contract, the Contractor shall submit a plant submittal with nursery sources, plant quantities, plant sizes and photos of the plants being supplied. General marketing photos will not be accepted. All photos must be of the actual plants to be purchased.
3. The plant list shall indicate all unavailable plants and which nurseries were contacted during the Contractor's search.
4. **Each plant supplied to the project, must be tagged for accuracy of identification and verification of the correct variety by a Verified Tag or label affixed, no exceptions.**

E. SUBMITTALS

1. Comply with provisions of General Specifications.

2. Submit complete lists of landscape materials and equipment, including manufacturers name and address, specific trade names, catalog numbers complete with illustrations and descriptive literature and clearly mark or underline proposed items; list source of landscape mulch.

3. Shop Drawings: Required for any landscape structure.

F. CERTIFICATIONS

1. Certified label for all plant material marked with a * on the planting plan list of plants. Each plant supplied to the project, and indicated by the * mark must be tagged for accuracy of identification and verification of the correct variety by a Verified Tag or label affixed. This label must display the trademark logo of the aforementioned description, with the botanical name of the correct plant printed on the same label. Any plant varieties marked on the planting plan with the above instruction that does not arrive on-site with the required label will be rejected at the contractor's expense, and cannot be installed on the project. These labels are accessible to any supplier/grower of nursery plants who has the correct varieties requested for this project.

2. In addition to other required certification, furnish a certificate with each delivery of bulk material, including mulch, and mycorrhizal inoculant, stating its source, quantity, type of material furnished and that such item or material conforms to the requirements of this section.

G. MULCH: Supreme Walk-On Bark available from C & M Topsoil (818) 899-5485. Submit mulch sample for approval prior to use.

H. MYCORRHIZAL INOCULUM

1. Tea bags or drench, per manufacturer's specifications per plant size and/or area. Tri-C Products 1-800-927-3311 or equal.

I. HYDROSEED WILDFLOWER, GRASSES, OR NATIVE PLANT MIX OR SINGLE SPECIES SEED

1. Seed as listed on plan.

J. OBSERVATION

1. All observation herein specified shall be made by the County Representative. The contractor shall request observation at least 48 hours in advance of the time observation is required. Observation will be required on the following parts of the work:

   a) During preliminary grading, soil preparation, and initial weeding.
   b) When finish grading has been completed, and prior to the planting of ground cover or seeded turf.
   c) When planting and all other indicated or specified work has been completed but prior to maintenance period.
   d) Final observation at completion of maintenance period.

2. The contractor shall be on the project site at the time of each observation.

K. AGRONOMICAL SOILS REPORT

1. Contractor to provide and pay for three samples of an Agronomical Soils Report and provide amendments to the soil in proposed planting areas per the recommendations of the soils report or the planting notes, whichever requires the most amendment. The addition of "No" soil amendment is not acceptable. Significant amendment costs including extensive soil removal and replacement, soil leaching, etc. to be approved by the County representative prior to purchase and/or application.

L. MAINTENANCE

1. Contractor shall continuously maintain all areas included in the Contract during progress of the work, the 90-day maintenance period, and until final acceptance of the work.
2. If plantings are not acceptable at the end of the maintenance period for the entire work, due to defective maintenance, the maintenance shall be continued by the Contractor until all work meets the Specifications and can be approved.
3. Maintenance shall include continuous operations of watering, weeding, mowing, rolling, trimming, edging, cultivating, fertilizing, spraying, insect and pest control, seeding, and/or other operations necessary to assure good normal growth.
4. All planted areas shall be kept free of debris and shall be weeded at not more than 10-day intervals.
5. During the installation period and maintenance, the Contractor shall be responsible for maintaining adequate protection for all areas. Any damaged planting shall be repaired at the Contractor's expense.
6. At the termination of the maintenance period, all plant materials shall be live, healthy, undamaged, and free of infestations. All lawn areas shall be completely covered at the time of final acceptance. Inferior plantings shall be replaced and brought to a satisfactory condition before final acceptance of the work will be made.

M. GUARANTEE

1. The Contractor, within 15 days of written notification by the County Representative, shall remove and replace all guaranteed plant material that for any reason fails to meet the requirements of the guarantee. Replacement material and plantings shall be to the same specifications as required for the original planting and all replacements shall be guaranteed as specified for the original guaranteed materials and must be obtained for a minimum of a 90-day maintenance period.

PART 2 – PRODUCTS

2.1 MATERIALS

A. AMMONIUM PHOSPHATE

1. Shall be a standard agricultural grade of ammonium phosphate having guaranteed analysis of 16-20-0.

B. ESTABLISH - GENERAL PURPOSE FERTILIZER

1. Shall have a minimum analysis of 1-1.3-5,(N-P-K), derived from rock phosphate, peat moss, chicken manure, sand, sulfate of potash, gypsum, and EDDHA chelate. As manufactured by Earth Works Soil Amendment, Inc., (951) 538-3321, or an approved equal.

C. FEATHER MEAL

1. Shall have a minimum analysis of 12-0-0,(N-P-K), derived from feathermeal. As manufactured by Earth Works Soil Amendment, Inc., (951) 538-3321, or an approved equal.

D. FERTILIZER TABLETS

1. Shall be fertilizer tablets shall be Agriform 21 gram, 20-10-5, available from Nutrien Ag Solutions, (714) 549-2871 or an approved equal.

E. GYPSUM

1. Shall be agricultural grade.

F. MYCORRHIZAL INOCULUM

1. Tea bags or drench, per manufacturer's specifications per plant size. Tri-C Products (909) 590-1790 or equal.

G. HYDROSEED MULCH FIBER

1. Shall consist of virgin wood fiber of Aspen or Alder. It shall not contain any waste paper, newsprint or straw material. The mulch shall contain a green dye to facilitate application. Fiber shall be as manufactured by Conwed Fibers, Silva-Fiber by Weyerhauser Co., or an approved equal, (212-1.2 (e)).

H. HYDROSEED STABILIZER

1. Shall consist of natural muciloid materials supplied by Ecology Controls M-binder, available from S&S Seeds, (805) 684-0436, no equal.

I. HYDROBLEND SOIL ACTIVATOR

1. Shall have a minimum analysis of 1.2-1.4-5, (N-P-K), derived from rock phosphate, peat moss, chicken manure, sulfate of potash, gypsum. As manufactured by Earth Works Soil Amendment, Inc., (951) 538-3321, or an approved equal.

J. MULCH

1. Shall be Supreme Walk On Mulch, available from C & M Topsoil (818) 899-5485, free of all foreign matter including weed and tree seeds. Mulch chip size shall be minimum one (1) inch in diameter and not more than two (2) inches in diameter. Submit sample of mulch and source to Landscape Architect/Project Manager for approval prior to application. Also may be available from Whittier Fertilizer, (562) 699-3461, or approved equal.

K. NITROFORM UREAFORM

1. Shall be a standard commercial grade of nitroform having a guaranteed analysis of 38-0-0.

L. ORGANIC AMENDMENT

1. Shall be organic soil amendment, see soils report and planting plan notes.

M. OVERSEED TOPDRESSING, EARTH WORKS ORGANIC TOPDRESSING

1. Shall be, derived from composted wood products, peat moss, chicken manure and a wetting agent. As manufactured by Earth Works Soil Amendment, Inc., (951) 538-3321, or an approved equal.

N. POTASSIUM SULFATE

1. Shall be a standard agricultural grade of potassium sulfate having guaranteed analysis of 0-0-50.

O. PRE-EMERGENT HERBICIDE

1. Shall be Balan Granular, by Elanco, or an approved equal. All pre-emergent herbicides, when required, shall be specified and applied by a licensed Pest Control Advisor.

P. ROUNDUP: use per manufacturers requirements on all turf areas for the full three applications.

Q. SOIL (not applicable)

1. Designated as imported soil for pit planting only as specified herein. The soil test will determine the suitability of soil before installation. Transport soil from the source to its final position unless stockpiling is specified.
2. Imported Soil for limited pit planting only:
    a) From a source outside the Project site and in compliance with this section.
    b) Architect may make such inspections and perform such tests as deemed necessary to determine the material meets all requirements.
    c) At least 30 days before scheduled installation, submit the proposed source of soil and a Sample to the Architect. Submit a written request for review, accompanied by a written report of a soils testing laboratory registered by the State of California for agricultural soil evaluation which states that the proposed source complies with these Specifications.
    d) Comply with all recommendations of the soils testing laboratory and provide any soil amendments necessary to achieve proper nutrient levels to support healthy plant growth.
    e) Imported topsoil shall be of a uniform composition and structure, fertile and friable sandy loam garden soil, and be free of roots, clods and stones larger than 1 inch in greatest dimension, pockets of coarse sand, noxious weeds, sticks, brush and other litter and not be infested with nematodes or other undesirable

insects and plant disease organisms. Imported topsoil shall meet the following additional requirements:

(1) Gradation Limits: Sand – 50-80%, clay – 20% maximum, and silt – 30% maximum. The sand, clay and silt gradation limits shall be as defined in ASTM D 422.

(2) Agricultural Suitability and Fertility: The soil shall be fertile and friable garden soil suitable for sustaining and promoting the growth of the specified plants.

R. TURFGRASS SEED

1. Seed for seeding damaged turf areas shall be: Marathon 100% tall fescue.

S. PLANTS

1. All plants are to be nursery grown under similar climatic conditions as the site. Plants shall conform to the American Standard for Nursery Stock, ANSI Z60.1-2004 as published by the American Nursery & Landscape Association, unless specified otherwise in the plans.

2. Plant Acceptance:

a) Sample trees, shrubs and groundcovers, as specified in the plans, shall be approved for use and shall be made available to the Landscape Architect or City Representative for approval, prior to ordering and delivering. Name of the grower, guarantee of availability of quantities and conformance to the specifications must be furnished in writing to the Landscape Architect or City Representative prior to ordering of the approved plant. Digital color photographs may be used for approval.

b) Upon approval of the plant material, ordering may be placed.

c) Plants shall be transported so that they are not exposed to wind, extremes of temperature, or conditions, which would cause them to dry or sunburn.

d) **Plants shall be inspected at time of arrival** to insure they are healthy and in good condition. Any plant found not in conformance with the specifications, shall be rejected. A copy of the shipping bill shall be provided to the inspector at the time of delivery, to insure the proper quantities of plants have been delivered (see Certification requirements above).

e) **Proof of individual hybrids will be required for each specified. Plants must be tagged and proven to be the specified hybrid.**

PART 3 – EXECUTION

3.1 METHODS

A. TOPSOIL PREPARATION – GENERAL

1. The topsoil shall be the existing class "C" on-site topsoil. Remove all stones over 1 inch in greatest dimension, to a depth of 6 inches below finish grade, (308-2.3.1).

2. Prior to planting, the top two (2) inches of all areas (including slopes) shall be free of weeds, stones, and other deleterious matter one (1) inch in diameter and larger.

B. TOPSOIL PREPARATION

1. If not otherwise specified, all turf areas shall receive the following soil preparation. Uniformly broadcast the following materials per 1,000 square feet.:

   a) Yara or Simplot calcium ammonium nitrate (27-0-0) – 4 pounds
   b) Potassium sulfate (0-0-50) – 6 pounds in areas where needed
   c) Triple superphosphate (0-45-0) – 4 pounds in areas where needed such as lower open space
   d) Gypsum – 15 pounds
   e) Organic amendment –3 cubic yards in areas where to be planted, sufficient amount to provide soil organic matter in the range of 4% to 7% on a dry weight basis
   f) The soil preparation materials shall be cultivated into the soil to a depth of 6 inches minimum and thoroughly watered, (308-2.3.1).

C. FINISH GRADING

1. Finish grading of planting areas shall take place after the soil has dried out to a workable condition following the soil preparation operations. The soil shall be remodeled and smoothed to the required grades and contours. Any resulting irregularities in the grade after the initial finish grading shall be re-raked, cut or filled, then re-rolled until the grade is free from irregularities. No heavy objects shall be taken over the areas at any time. The final finish grade shall be uniform, without abrupt changes in grade, within one-tenth of a foot of the grades shown on the plan, and approved by the Project Manager prior to planting.

D. WEED SUPPRESSION (*Non-Herbicide Weed Removal*)

1. Weed suppression, shall apply to all turf and planting areas. The suppression operation shall be commenced only after removals, grading, hardscape construction, installation of irrigation system, soil preparation, and fine grading of turf and planting areas have been completed. Contractor shall thoroughly water all turf and planting areas for a period of two weeks minimum prior to commencing removal. Contractor shall clear site of all dead vegetation and living weeds by hand or mechanical means. All removed vegetation shall be properly disposed of off-site.

E. GENERAL PLANTING

1. If the moisture content of the soil should reach such a level that working it would destroy the soil structure, spreading and grading operations shall be suspended until the moisture content is increased or reduced to acceptable levels and the desired results are likely to be obtained.

2. Actual planting shall be performed during those periods when the weather and soil conditions are suitable in accordance with locally accepted horticultural practice and approved by the project manager.

3. The Contractor shall only install as many plants per day as can be watered on the same day. All plants shall be thoroughly watered into the full depth of each planting hole immediately after planting.

F. TREE AND SHRUB PLANTING

1. Plant pits for all 1 gallon, 5 gallon, 15 gallon, and all boxed size trees, shall be twice the width and equal to the depth of the container rootball. Note that this requirement differs from the SSPWC (308-4.5).

2. Unless otherwise specified, the backfill mix for all plants shall be 70% percent on site soil and 30% percent Type I organic soil amendment and 1 lb. of "Establish," general purpose fertilizer per gallon of container, or 1 lb. per each 4" of box size.

3. Each plant pit shall also receive "Agriform" slow release fertilizer tablets, 21 gram, 20-10-5, as shown in the relevant planting details, and as follows:

   1 gallon – 1 tablet
   5 gallon – 2 tablets
   15 gallon – 6 tablets
   Larger than 15 gallon size – 2 tablets per half inch of trunk diameter

4. Space tablets evenly around the perimeter of the rootball, approximately 3 inches below finish surface. After shrub or tree has been planted, water by hand to hydrate polymer.

5. Remove all watering basins around trees planted in lawn areas at the end of the maintenance period. All trees planted in lawn areas shall have a 36 inch diameter unplanted area around each tree.

G. METHOD "A" TURF PLANTING – REPAIR, SEEDING

1. Irrigation trenches shall be fully compacted and the grade brought flush with the adjacent undisturbed finish grade. Irrigation trench areas and areas where equipment has damaged the existing turf shall have the grade repaired and be seeded per this section.

2. Sow seed at a rate recommended by Marathon Sod Company per 1,000 sq. ft. Mulch all seed with 1/4"(or 3/4 cubic yard per 1,000 sq. ft.) of Bio-organic Finale.

H. METHOD "B" TURF PLANTING, HYDROSEEDING

1. The lawn seed mix for turf planting shall contain the following materials at the rates specified:

   Mulch Fiber – 1,500 lbs./acre (.0345 lbs./sq.ft.)
   Stabilizer – 120 lbs./acre (.0028 lbs./sq.ft.)
   Fertilizer – Hydroblend, at 3,000 lbs./acre (.0688 lbs./sq.ft.)
   Seed by Weight – 500 lbs. per acre / 12 lbs. per 1,000 sq. ft.

2. The Contractor shall supply a delivery receipt to the BCA Inspector certifying conformance with the specified hydroseed mix and indicating that the slurry has not been mixed for longer than two hours. Slurry which has been mixed longer than two hours shall be recharged with 50 percent more of the specified seed mix, at the Contractor's expense, (308-4.8.2(b)). Delivery tickets shall be forwarded to the Project Manager.

I. MULCHING

1. All planting areas except lawn shall receive a minimum three (3) inch deep layer of mulch per the Planting Details and this specification's materials list. Mulch shall be spread evenly throughout planting beds and tree watering basins. Do not bury ground cover. Keep mulch 12" away from tree trunks.

J. MAINTENANCE AND PLANT ESTABLISHMENT

1. The Contractor shall be responsible for maintenance within the area of work throughout the period of construction and the plant establishment period. The maintenance shall include continuous operations of picking up trash and emptying trash cans daily, watering, the removal of all weeds in planting areas and all broad leaf weeds in lawn areas, mowing, rolling, trimming, edging, cultivation, fertilization, spraying, control of pests, insects and rodents, reseeding, plant replacement (irrespective of cause), or any other operations necessary to assure normal plant growth and the collection and removal of all trash daily. Any malfunctions of, or damage to, the irrigation system caused by the Contractor in the prosecution of his work shall be repaired within 24 hours.
2. The plant establishment period shall be for a period of 90 days unless extended as described in this section. The plant establishment period shall be started when all planting and related work has been completed, in accordance with the contract documents. The beginning of the plant establishment period shall be determined by an on-site review by the Project Manager. Trees and shrubs shall be healthy and vigorous at the completion of the maintenance period. Broken or vandalized tree stakes shall be repaired to a condition as initially installed within seven (7) days of damage.
3. All turf areas shall have 95 percent coverage with bare areas not exceeding three square inches. All turf shall be of the grass specified and be free from all broad leaf weeds. The turf shall not be allowed to grow higher than three (3) inches and shall be mowed to a one and one half (1 ½) inch height. The turf shall be mowed at least twice during the plant establishment period.
4. The entire area of work shall be kept free of weeds, trash or other debris during the maintenance period. The Contractor shall maintain the area of work at maximum seven (7) day intervals and perform any needed mowing of existing lawns within the area of work when the grass reaches a four (4) inch height.
5. Five weeks after lawn seeding the Contractor shall apply a slow release 38-0-0 granular fertilizer at a rate of 15 pounds per 1000 sq. ft. to all lawn areas. The fertilizer shall be applied in the presence of the BCA Inspector.
6. The Contractor shall immediately replace any and all plant materials and/or grass which, for any reason dies or is damaged while under the Contractors care. Replacement shall be made with seed and/or plants as indicated or specified for the original planting.
7. All shrubs and ground covers shall be guaranteed for a period of ninety (90) days from the end of the plant establishment period. All trees and shrubs 15 gallon size or

larger shall be guaranteed for a period of one (1) year from the end of the plant establishment period.

8. The designated plant establishment period is part of the total contract time. The plant establishment period will be extended at fourteen (14) day intervals if, at the end of the plant establishment period, the planting, irrigation and other improvements do not reflect the intent of the plans and Notice to Contractors. All extensions of the plant establishment period shall be subject to the assessment of liquidated damages, (308-6).

- END OF SECTION -

SECTION 32 9119
LANDSCAPE GRADING

PART 1: GENERAL

1.1 SUMMARY

A. Section includes final grade topsoil for finish landscaping.

PART 2: PRODUCTS

2.1 MATERIAL

A. Existing site soil preparation.

PART 3: EXECUTION

3.1 EXAMINATION

A. Administrative Requirements: Coordination and project conditions.
B. Verify trench backfilling has been inspected.

3.2 SUBSTRATE PREPARATION

A. Eliminate uneven areas and low spots.
B. Remove debris, roots, branches, stones, in excess of ½ inch in size.
C. Loosen and scarify surface to depth of 24 inches where planting is scheduled. Loosen and scarify in areas where equipment used for hauling and spreading soil has compacted subsoil to a depth of 24 inches.

3.3 PLACING TOPSOIL/SOIL AMENDMENTS

A. Grade soil/soil amendments in areas where seeding, and planting, is required to thickness as scheduled to a nominal depth as per Landscape Planting Plans. Place soil/soil amendments during dry weather.
B. Fine grade existing topsoil/soil amendments to eliminate rough or low areas. Maintain profiles and contour of subgrade.
C. Remove roots, weeds, rocks, and foreign material while spreading.
D. Manually spread topsoil close to plant material.
E. Lightly compact and roll placed topsoil.
F. Remove surplus soil from site.
G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.4 PROTECTION OF INSTALLED WORK

A. Protect landscaping and other features remaining as final Work.
B. Protect existing structures, fences, sidewalks, utilities, paving and curbs.
C. Prohibit construction traffic over topsoil.

- END OF SECTION -

SECTION 33 05 28
UNDERGROUND UTILITIES MARKING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Underground warning tape for:

1. Electrical power duct banks.
2. Common user duct banks.
3. Potable and nonpotable water.
4. Reclaimed water.
5. Irrigation mainline piping.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Division 31 Section "Excavation and Fill for Utilities".

B. Division 33 Section “Site Water Distribution System”.

C. Division 33 Section “Sanitary Sewer System”.

D. Division 33 Section “Storm Drainage System”.

1.04 QUALITY ASSURANCE

A. Reference specifications and standards:

1. ANSI: Z53.1 Safety Color Code for Marking Physical Hazards.

1.05 SUBMITTALS

A. Procedures: In accordance with Division 01 Sections.

B. Product data:

1. Manufacturer's detailed technical materials data, including technical bulletins, drawings, guides, and manuals, as applicable to the work of this Project.
2. For color coding of specific utilities not indicated on Drawings or not specified herein, submit samples of color coding tape markings for selection by Owner.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Marking tape:

1. Empire Level Manufacturing Corporation (Thor Enterprises), Mukwonago, WI. Tel: (800) 558-0722.
2. Mutual Industries North, Inc., Philadelphia, PA. Tel: (215) 927-6000, (800) 523-0888.
3. Reef Industries, Inc., Houston, TX. Tel: (713) 507.4250, (800) 231-6074.
4. Stranco Inc., Michigan City, IN. Tel: (219) 874-5221, (800) 348-3217.
5. T. Christy Enterprises, Inc. 655 E. Ball Road, Anaheim, CA. Tel: (714) 507-3300, (800) 258-4583.

2.02 MATERIALS

A. Marking tape: Reinforced or unreinforced type, 6 inches wide, inert, virgin resin, plastic film formulated for extended use underground, imprinted with an appropriate legend to define type of utility line it identifies.

1. Nondetectable: Minimum 4 mils overall thickness.
    a. DuraTec or ShieldTec by Empire Level Manufacturing Corporation (Thor Enterprises).
    b. Underground Tape (UT series) by Harris Industries, Inc.
    c. Non-Detectable Underground Marking Tape (No. 17783) by Mutual Industries North, Inc.
    d. Underground Warning Tape (PUWT-XXX series) by Stranco, Inc.
    e. Underground marking tape (No. TA-ND-6-GI) 6 inches non-detectable green irrigation marking tape by T. Christy Enterprises.
2. Detectable: Double-lamination/sandwich with continuous aluminum core, minimum 5 mils overall thickness. Provide manufacturer's splice clips or other accessory materials to maintain conductivity throughout entire length of tape installation.
    a. ThorTec or MagnaTec by Empire Level Manufacturing Corporation (Thor Enterprises).
    b. Underground Tape (DU series) by Harris Industries, Inc.
    c. Underground Detectable Tape (No. 17774) by Mutual Industries North, Inc.
    d. Detect-A-Line Detectable Underground Warning Tape (PUWT-XXXD series) by Stranco, Inc.
    e. Terra Tape Sentry Line 1350 by Reef Industries, Inc.
3. Color code: Black lettering on color backgrounds in accord with APWA/ULCC Uniform Color Code and ANSI Z53.1, except as follows.
    a. Red: Electric power ductbanks other than high voltage (e.g., 12 kV) electric power ductbanks.
    b. Yellow: Natural gas distribution and transmission.
    c. Orange: Common user ductbanks.
    d. Black or white lettering on blue background: Potable water systems.
    e. Yellow lettering on purple background: Reclaimed water lines.
    f. Black lettering on green background: Irrigation mainline piping reading "CAUTION IRRIGATION LINE BELOW".

PART 3 - EXECUTION

3.01 INSTALLATION

A. Marking tape:

1. Nondetectable tape: Install over metallic utility lines.
2. Detectable tape: Install over nonmetallic utility lines.
3. For trenches which contain only one utility line, install one marking tape directly on top of each utility line (at the 12 o'clock position), install one additional tape 12 inches above the centerline of the utility line, and install one additional marking tape 18 inches to each side of centerline of utility line, a total of four utility marking tapes for a single common utility line in a single trench.
4. For trenches in common which contain more than one utility line, install one marking tape directly on top of each utility line (at the 12 o'clock position), install one additional tape for the proper utility 12 inches above the center of the utility line, and one additional marking tape for each utility in the common trench, installed 18 inches to each side of the edge of each of the outboard utility lines, a total of 8 utility marking tapes for 2 utility lines in a single common trench; a total of 12 utility marking tapes for 3 utility lines in a single common trench; a total of 16 utility marking tapes for 4 utility lines in a single common trench, etc.

-END OF SECTION-

SECTION 33 1000
SITE WATER DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. On-site potable water water distribution systems, including connections to existing systems, sterilization, testing of water mains, and all appurtenances required for the complete systems. Private fire hydrant and valve.

B. Systems design pressure is 125 psig.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Division 03 Section "Cast-In-Place Concrete".

B. Division 31 Section "Excavation and Fill for Utilities".

C. Division 33 Section "Underground Utilities Marking".

1.04 REQUIREMENTS

A. Comply with all requirements of the governing authority, including:

1. No connection shall be made to potable, fire and industrial water lines without written approval from the governing authority.
2. When construction water is needed by Contractor, no connection to the existing main shall be used until an approved backflow prevention device is installed by Contractor.
3. Valves of existing public systems shall not be operated by any person other than Water Department personnel.
4. No connections will be allowed from new to existing water mains until pressure test has been accomplished.
5. All new potable water and/or fire systems shall be sterilized (chlorinated) by Contractor.

1.05 SUBMITTALS

A. Procedures: In accordance with Division 01 Sections.

B. Submit brochures and shop drawings with such promptness as will allow ample time for review and corrections procedures.

1. Approval will not relieve Contractor of the sole responsibility for the correctness of the work.

C. Shop drawings: Shop drawings and detailed descriptions for items which are not manufactured, and which have to be specially fabricated for work of this Contract.

D. Product data: Give name or other identification of each item to be provided as part of work of this Contract. The assembled brochures shall show cuts and fully detailed descriptions of all manufactured items furnished.

1. Presentation: Arrange materials in the same sequence as the Specifications and mark each item in the lower right-hand corner with Section, Article, and Sub-Article number.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Ductile Iron Pipe: US pipe as specified or equivalent by American.

B. Shut-off valves: Mueller as specified or equivalent by Clow, Dresser, Kennedy or Stockham.

2.02 MATERIALS AND METHODS

A. Water piping:

1. 4 inches and larger: Polyvinyl chloride (PVC) pipe in conformance with all requirements of AWWA C900, Class 200; use purple pigmented for reclaimed water.

2. 3 inches and smaller: Schedule 80 PVC conform to requirements of ASTM D 1785, Type 1, Grade 1.

B. Fittings:

1. For all ductile iron pipe and PVC pipe 4 inches and larger: Cement-lined ductile or cast iron, 250 lb.

a. Use tapped tees or flanged adapters at connections of copper piping to ductile iron or PVC piping.

2. For PVC pipe 3 inches and smaller: PVC socket fittings for solvent welding.

C. Joints for pipe and fittings:

1. PVC piping:

a. 4 inches and larger: Integral bell containing a lock-in ring and spigot.

1) Pipe joints shall be push on as specified in ASTM D 3139.
2) Provide each joint connection with an elastomeric gasket suitable for the bell or coupling installation.
3) Gaskets for push on joints for pipe shall conform to ASTM F 477.
4) Gaskets for push on joints and compression type joints or mechanical joints for connections between pipes and metal fittings, valves, and other accessories shall be as specified in AWWA C111/A21.11.

b. Poly Vinyl Chloride (PVC) Water Main Fittings shall be gray-iron or ductile iron conforming to AWWA C110/A21.10 or AWWA C153/A21.53 and shall have cement mortar lining conforming to AWWA C104/A21.4, standard thickness unless otherwise indicated on Drawings. Fittings shall be mechanical joints.

c. 3 inches and smaller: Solvent welded per manufacturers recommendations.

D. Flanges:

1. For ductile iron pipe: 125 lb., ductile or cast iron, threaded, ASTM A 126 and ANSI B16.1.
2. Gaskets: Non-asbestos type composition, 1/16 inch thick, equivalent to Garlock Style 3000.
3. Bolting materials: Carbon steel Heavy Hex bolts and nuts, ASTM A 307, Type B.

E. Valves and accessories:

1. Shut-off valves: Mueller as specified or equivalent by Clow, Dresser, Kennedy, or Stockham.

    a. Valves 4 inches and larger: AWWA approved, 200 lb.
    b. Valves 14 inches and larger: AWWA approved, 150 lb.

        1) Buried: Mueller #A-2360-23, with 2 inch square operating nut, and mechanical joint ends provided with retainer glands as specified under paragraph "Joints" for ductile iron piping. Provide concrete support block under buried valve.

            a) Provide Bingham and Tylor or equivalent by Alhambra foundry - cast iron adjustable type valve box with proper extension to 6 inches below bottom of grade, and cast iron collar and cover. Cast "WATER" in cover.

        2) Above grade: Mueller #A-2380-6, with wheel handles and flanged ends.

    c. Valves less than 4 inches size: Federal Specifications WW-V-54, Class A, Type III, bronze, double wedge, non-rising stem, screwed bonnet, 200 psi W.O.G. working pressure, stuffing box repackable under pressure, all parts renewable, ends as indicated.

2. Backflow preventers: Provide where indicated on the plans.
3. Pressure regulating valve: Pressure reducing, pressure sustaining and check valve. Size 8 inch, 125 lb. Class, flanged, ratings: Downstream 15 to 75 psi, upstream 20 to 200 psi, equivalent to G.A. Industries Figure No. 4700.

F. Fire hydrants:

1. Fire hydrant: Jones wet barrel, two 2-1/2 inch hose outlets and one 4-1/2 inch pumper connection, complete with caps and chains. Threads for outlets and pumper connection shall meet local Fire Department requirements.
2. Provide with manufacturer's standard prime finish. Final finish will be provided under Division 09 Section "Painting (Professional Line Products)".
3. All branches to fire hydrants shall be made with restrained joints.
4. Provide shut-off valves and valve boxes.

G. Pipe guards: Provide where indicated. Guards shall be 4 inch Schedule 40 galvanized steel pipe filled with concrete. Guards shall be 7 feet long, extending 4 feet above finished grade and set in a concrete footing (1 foot - 6 inches diameter by 3 feet - 6 inches deep).

H. Corrosion protection: All buried uncoated and/or otherwise unprotected valves, clamps, flanges, bolts, nuts, etc., shall be cleaned, primed and coated with a coal tar base protective

coating (1/32 inch thick) equivalent to Carboline (Kop-Coat) Bitumastic 50. Apply in accord with manufacturer's instructions.

I. Pipe wrapping where indicated: Polyethylene wrap, ANSI A21.5 (AWWA C105) 8 mils thick.

PART 3 - EXECUTION

3.01 EXCAVATING, TRENCHING, BACKFILLING, AND COMPACTING

A. Perform in accord with requirements of Division 31 Section "Excavation and Fill for Utilities".

3.02 INSTALLATION

A. Coordinate the installation of this part of the work with the overall construction schedule.

B. Provide concrete thrust blocks at all buried fittings and stub ends on 4 inch and larger PVC lines, and as indicated on Drawings.

C. Repair all damaged lining according to AWWA C104 and according to

D. Connect to existing system where indicated.

E. Tests: In accord with the following:

1. Test entire system at 1.5 times system design pressure. Maintain test pressure for at least 4 hours or longer as directed by Owner to prove tightness without leaks.

F. Install pipes and fittings in accord with manufacturer's recommendations. Provide 30 inches cover from top of pipe to finish grade.

3.03 DISINFECTION

A. Thoroughly clean, chlorinate, drain, and flush all pipe, fittings, valves, and appurtenances which have been exposed to contamination by the construction, in accord with the AWWA Specification C601-68.

B. Owner should be notified 24 hr. in advance of disinfection of all new potable water lines.

1. Flush line prior to disinfection. Flushing shall produce minimum velocity of 2.5 feet per second in pipe.
2. Disinfect pipe using sodium hypochlorite to produce a dosage of 50 mg/l for a 24-hr. contact period.
3. Open and close all valves several times during disinfection period.
4. After 24-hour retention period, flush chlorinated water from the line until chlorine concentration of water leaving the main is no higher than that generally prevailing in the existing system, or less than 1.0 mg/l.
5. Provide corporation stop or similar connection and obtain sample for bacteriological analysis.
6. Repeat disinfection procedure until bacteriological analysis results are acceptable to Owner.

3.04 CLEANING

A. Restoration: Any settlement of pavement or backfill, or erosion over or in the trenches shall be replaced or repaired by Contractor and the surface brought to grade. Special precautions shall be taken to prevent storm water erosion of trenching. Storm water culverts and structures shall be kept clean of mud, debris, and silt caused by the construction.

3.05 PIPELINE IDENTIFICATION

A. Provide in accord with Division 33 Section "Underground Utilities Marking".

-END OF SECTION-

SECTION 33 3000
SANITARY SEWAGE SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Gravity sanitary sewerage collection system including:

1. Gravity sanitary sewer pipe.
2. Cleanouts.
3. Alteration of existing sewerage structures.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Division 03 Section "Cast-In-Place Concrete".

B. Division 31 Section "Excavation and Fill for Utilities".

C. Division 33 Section “Underground Utilities Marking”.

D. Division 33 Section “Site Water Distribution System”.

E. Division 33 Section "Storm Drainage System".

1.04 QUALITY ASSURANCE

A. Tests and inspections:

1. Procedure: In accordance with Division 01 Sections.
2. Required tests:

a. After alignment tests have been completed, and before flows are allowed in the line, conduct leakage tests.

b. Test entire system for exfiltration in presence of engineer. Limit leakage to 100 gallons per inch of pipe diameter per mile of length per 24 hour.

c. Limit leakage to stated maximum limit, except that an allowance of an additional 10 percent of gallonage will be allowed for each additional 2 feet of head over a basic 2 feet minimum above all pipe soffits.

d. Pay for all leakage tests and required repairs and reconstruction.

B. Reference specifications and standards:

1. AASHTO: Specifications for Highway Bridges.
2. AASHTO: M 198 Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets
3. ASTM: A 48 Gray Iron Castings.
4. ASTM: A 746 (ANSI/AWWA C151/21.51) Ductile Iron Pipe.
5. ASTM: C 94 Ready-Mix Concrete.

6. ASTM: C 150 Portland Cement.
7. ASTM: C 443 Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
8. ASTM: C 478 Precast Reinforced Concrete Manhole Sections.
9. ASTM: C 923 Watertight Resilient Connectors for Manhole to Pipe Seal.
10. ASTM: D 1248 Polyethylene Plastics Molding and Extrusion Materials.
11. ASTM: D 1784 Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds.
12. ASTM: D 2122 Determining Dimension of Thermoplastic Pipe and Fittings.
13. ASTM: D 2321 Underground Installation of Flexible Thermoplastic Sewer Pipes.
14. ASTM: D 2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
15. ASTM: D 3034 Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.
16. ASTM: D 3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
17. ASTM: F 477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
18. ANSI/AWWA: C105/A21.5 Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids.
19. ANSI/AWWA: C111/A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
20. ANSI/AWWA: C150/A21.50 Thickness Design of Ductile-Iron Pipe.
21. ANSI/AWWA: C151/A21.51 Ductile-Iron Pipe, Centrifugally Cast for Water or Other Liquids.

C. Allowable tolerances for manhole frames/drainage inlets and cleanouts:

1. Horizontal location: Within ±3 inches, in any direction, of horizontal location indicated on Drawings.
2. Vertical alignment: Not greater than 1/8 inch maximum tolerance for 6 feet of depth.

1.05 SUBMITTALS

A. Procedure: In accordance with Division 01 Sections.

B. Product data: Manufacturer's detailed technical materials, fabrication, and installation data, including technical bulletins, drawings, guides, and manuals, as applicable to the work of this Project.

C. Certifications: Manufacturer's certification that pipe and fittings have been inspected and tested at the point of origin, and are in compliance with specified requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe and fittings:
1. Polyvinyl chloride (PVC) pipe and fittings for mainlines 15 inches and smaller: Conform to ASTM D 3034, Schedule 40 DWV.
    a. Manufacture pipe from approved, Type 1, Grade 1, PVC 12454-C conforming to ASTM D 1784 and meeting requirements of ASTM D 2122 and ASTM D 2412.
    b. Pipe shall be UL/FM approved.

c. Fittings shall conform to the same specifications as pipe in which they are to be installed.
d. Pipe shall be identified on the exterior of the pipe with the following information:

1) Nominal pipe size and o.d. base.
2) Material code designation number (12454C).
3) Dimension ratio number (SDR 35).
4) Pipe Stiffness Designation (PS46).
5) ANSI/ASTM Designation (D3034).
6) Pipe manufacturer's name and production code.

2. Cast iron soil pipe and fittings: Conform to ASTM A 74, service weight bell and spigot pipe with the following acceptable gasket types:

a. Dual Tite.
b. Rich-Seal.
c. Ty-Seal.

PART 3 - EXECUTION

3.01 INSTALLATION/PERFORMANCE

A. Excavating, trenching, backfilling, and compacting: In accord with Division 31 Section "Excavation and Fill for Utilities".

B. Pipe laying: Lay pipe as indicated on Drawings, as specified herein, and in compliance with applicable portions of ASTM D 2321.

1. Grade trench bottom to indicated elevation of pipeline and shape bottom to fit lower quadrant of pipe. Excavate holes at each bell hub such that pipe will be uniformly supported along entire length of barrel only.
2. Pipe installation and jointing shall be in accord with pipe manufacturer's specifications and instructions for type of pipe used and applicable requirements specified herein. All pipe having a defective joint, bell, or spigot is unacceptable, shall be rejected, removed from site, and replaced with an acceptable unit.
3. Commence pipe laying in finished trench at lowest point, or from a point designated by Owner, and lay upgrade from point of connection with all bell ends forward.
4. Install pipe to homing mark on spigot. On field cut pipe, provide a homing mark on spigot end in accord with manufacturer's recommendations.
5. Maintain pipe alignment and joint closure until sufficient haunching and backfill is in place to adequately hold pipe in position.
6. Prevent foreign materials from entering pipe while it is being placed in trench. Do not place debris, tools, articles of clothing, or other materials in pipe at any time.
7. As each length of pipe is placed in trench, assemble joints and bring pipe to intended line and grade. Bed and secure pipe in place.
8. When pipe laying is delayed for 10 min. or more, close open ends of pipe using a watertight plug or other approved means to ensure that absolute cleanliness is maintained inside pipe.

9. At penetrations of manhole and similar structures, smoothly cut penetrating ends of pipe parallel to interior surface of structure. Maximum interior protrusion of pipe shall be the minimum necessary for proper sealing of pipe connection to structure. Use resilient connector when indicated on Drawings.

C. Pipe jointing:

1. Pipe installation and jointing shall be in accord with pipe manufacturer's specifications and instructions for type of pipe used and applicable requirements specified herein.

2. Ensure that interior of pipe and jointing seal is free of sand, dirt, trash, or other foreign materials before installation. All pipe or fitting that has been installed containing dirt or other deleterious material shall be removed, cleaned, and re-laid. Extreme care shall be taken to keep bells of pipe free from sand, dirt, or rocks so that joints may be properly assembled without overstressing bells.

3.02 FIELD QUALITY CONTROL

A. Alignment: Inspect sanitary sewerage lines to determine if displacement of pipe has occurred during backfilling and compaction.

B. Correct, at no additional cost, sections of piping that are deficient in material, alignment, grade, or joints.

-END OF SECTION-

SECTION 33 4000
STORM DRAINAGE SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Storm drainage system includes:

1. Storm drainage pipe.
2. Catch basins.
3. Manholes.
4. Alteration of existing storm drainage structures.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Division 03 Section "Cast-In-Place Concrete".

B. Division 31 Section "Excavation and Fill for Utilities".

C. Division 33 Section “Underground Utilities Marking”.

D. Division 33 Section “Site Water Distribution System”.

E. Division 33 Section "Sanitary Sewage System".

1.04 QUALITY ASSURANCE

A. Tests and inspections:

1. Procedure: In accordance with Division 01 Sections.
2. Required tests:

a. Conduct leakage tests subsequent to alignment inspections and prior to flows being allowed in the line.
b. Test entire system for exfiltration in the presence of Owner. Limit leakage to 200 gallons per inch of pipe diameter per mile of length per 24 hours. Actual duration of test will be 4 hours.
c. Limit leakage to stated maximum limit, except that an allowance of an additional 10 percent of gallonage will be allowed for each additional 2 feet of head over a basic 2 feet minimum above pipe soffits.
d. Contractor shall be responsible to pay for leakage tests and required repairs and reconstruction.

B. Requirements of regulatory agencies: In addition to complying with other legal requirements, comply with CALTRANS Standard Specifications.

C. Reference specifications and standards:

1. AASHTO: Specifications for Highway Bridges.

2. AASHTO: M198 Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets
3. ASTM: A 48 Gray Iron Castings.
4. ASTM: A 74 Cast Iron Soil Pipe and Fittings.
5. ASTM: C 76 Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
6. ASTM: C 94 Ready-Mix Concrete.
7. ASTM: C 150 Portland Cement.
8. ASTM: C 443 Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
9. ASTM: C 478 Precast Reinforced Concrete Manhole Sections.
10. ASTM: C 923 Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes and Laterals.
11. ASTM: D 1248 Polyethylene Plastics Molding and Extrusion Materials.
12. ASTM: D 1784 Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds.
13. ASTM: D 2122 Determining Dimension of Thermoplastic Pipe and Fittings.
14. ASTM: D 2321 Underground Installation of Thermoplastic for Sewers and Other Gravity Flow Applications.
15. ASTM: D 2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
16. ASTM: D 3034 Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.
17. ASTM: D 3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
18. ASTM: F 477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
19. ANSI/AWWA: C105/A21.5 Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids.
20. ANSI/AWWA: C111/A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
21. ANSI/AWWA: C150/A21.50 Thickness Design of Ductile-Iron Pipe.
22. ANSI/AWWA: C151/A21.51 Ductile-Iron Pipe, Centrifugally Cast for Water or Other Liquids.
23. CALTRANS: Standard Specifications.
24. Fed. Spec. SS-S-210a Preformed Plastic Sealing Compound for Expansion Joints and Pipe Joints.
25. SSPWC (Standard Specifications for Public Works Construction).

D. Allowable tolerances for manhole frames/drainage inlets and cleanouts:

1. Horizontal location: Within ±3 inches, in any direction, of horizontal location indicated on Drawings.
2. Vertical alignment: Not greater than 1/8 inch maximum tolerance for 6 feet of depth.

1.05 SUBMITTALS

A. Procedure: In accordance with Division 01 Sections.

B. Product data: Manufacturer's detailed technical materials, fabrication, and installation data, including technical bulletins, drawings, guides, and manuals, as applicable to the work of this Project.

C. Certifications: Manufacturer's certification that pipe and fittings have been inspected and tested at the point of origin and are in compliance with specified requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe and fittings:

1. Polyvinyl chloride (PVC) pipe and fittings for main lines 15 inches and smaller: Conform to ASTM D 3034, SDR 26.

a. Manufacture pipe from approved, Type 1, Grade 1, PVC 12454-C conforming to ASTM D 1784 and meeting requirements of ASTM D 2122 and ASTM D 2412.
b. Pipe shall have integral wall thickened bells or extruded couplings with gasket seals. Solvent weld joints will not be permitted.
c. Pipe joints shall be gasket push-on type complying with ASTM D 3212 and ASTM F 477.
d. Pipe shall be UL/FM approved.
e. Fittings shall conform to same specifications as pipe in which they are to be installed.
f. Pipe shall be identified on exterior with the following information:

1) Nominal pipe size and o.d. base.
2) Material code designation number (12454C).
3) Dimension ratio number (SDR 35).
4) Pipe stiffness designation (PS46).
5) ANSI/ASTM designation (D3034).
6) Pipe manufacturer's name and production code.

B. Manhole frame, cover, and adjustment rings: Gray iron castings conforming to ASTM A 48 Class 30 and ASTM C 478.

1. Frames and covers shall be traffic bearing and capable of supporting H-20 loadings in accord with AASHTO Specifications for Highway Bridges.
2. Manhole frame, cover, and adjustment rings shall be as indicated on Drawings.
3. Concrete in-fill manhole covers, as indicated on Drawings.

PART 3 - EXECUTION

3.01 INSTALLATION/PERFORMANCE

A. Excavating, trenching, backfilling, and compacting: In accord with Division 31 Section "Excavation and Fill for Utilities".

B. Pipe laying: Lay pipe as indicated on Drawings, as specified herein, and in compliance with applicable portions of ASTM D 2321.

1. Grade trench bottom to indicated elevation of pipeline and shape bottom to fit lower quadrant of pipe. Excavate holes at each bell hub such that pipe will be uniformly supported along entire length of barrel only.
2. Pipe installation and jointing shall be in accord with pipe manufacturer's specifications and instructions for type of pipe used, and applicable requirements specified herein. Any pipe having a defective joint, bell, or spigot is unacceptable, shall be rejected, removed from site, and replaced with an acceptable unit.

3. Commence pipe laying in finished trench at lowest point, or from a point designated by Owner, and lay upgrade from point of connection with bell ends forward.
4. Install pipe to homing mark on spigot. On field cut pipe, provide a homing mark on spigot end in accord with manufacturer's recommendations.
5. Maintain pipe alignment and joint closure until sufficient haunching and backfill is in place to adequately hold pipe in position.
6. Prevent foreign materials from entering pipe while it is being placed in trench. Do not place debris, tools, articles of clothing, or other materials in pipe at any time.
7. As each length of pipe is placed in trench, assemble joints and bring pipe to intended line and grade. Bed and secure pipe in place.
8. When pipe laying is delayed for 10 minutes or more, close open ends of pipe using a watertight plug or other approved means to ensure that absolute cleanliness is maintained inside pipe.
9. At penetrations of manhole and similar structures, smoothly cut penetrating ends of pipe parallel to interior surface of structure. Maximum interior protrusion of pipe shall be the minimum necessary for proper sealing of pipe connection to structure. Use resilient connector when indicated on Drawings.

C. Pipe jointing:

1. Pipe installation and jointing shall be in accord with pipe manufacturer's specifications and instructions for type of pipe used and applicable requirements specified herein.
2. Ensure that interior of pipe and jointing seal is free of sand, dirt, trash, or other foreign materials before installation. Remove, clean, and re-lay pipe or fittings that have been installed containing dirt or other deleterious material. Extreme care shall be taken to keep bells of pipe free from sand, dirt, or rocks so that joints may be properly assembled without overstressing bells.
3. Reinforced concrete pipe:

    a. Rubber gaskets:

        1) At all joints, except at penetrations of manhole and similar structures.
        2) Immediately prior to joining pipe sections, lubricate rubber gaskets using Owner-approved lubricant.

    b. Mortar joints: At all joints in accord with SSPWC Section 306 1.2.4 that fail initial leakage tests.

        1) Pipe larger than 27 inches diameter: Inner and outer surfaces of joints.
        2) Pipe 27 inches and less diameter: Outer surfaces of joints only.

3.02 FIELD QUALITY CONTROL

A. Alignment: Inspect storm drainage lines to determine if displacement of pipe has occurred during installation of bedding and compaction.

B. Leakage: Conduct initial leakage tests. Failure to pass leakage test requirements shall require mortaring suspect joints as directed by Owner and subsequent leakage retests. Continued failure to pass leakage retests shall require removal and reinstallation of suspect pipe sections and replacement of suspect joint seals with new gaskets.

C. Correct, at no additional cost to Owner, sections of piping that are deficient in material, alignment, grade, or joints.

END OF SECTION 334000

Attachment 1

LOS ANGELES REGIONAL

CONTRACTOR DEVELOPMENT AND BONDING PROGRAM











The Contractor Development and Bonding Program assists contractors with their contracting capacity and business growth.

THE FOUR PILLARS OF CONTRACTOR DEVELOPMENT



Assessment & Technical Assistance

- Enrollment in our Contractor Development and Bonding Program.
- Personal Account Manager to provide a professional assessment of your current capacity and growth needs.
- One-on-one consultation to develop a work plan aligned with your business needs and goals.
- Facilitated referrals to Program Partners and resources.
- Contracting opportunities and industry-related workshops and events sent via our *LA Contractor Weekly* bulletin.
- Referrals to specific project opportunities.

Bonding, Contract Financing & Project Assistance

- Assistance with obtaining or increasing bonding.
- Access to collateral support for bid performance and payment bonds for qualified contractors.*
- Contract review, project assessment, and field support for Program-bonded or financed contracts.
- Assistance with project risk identification and mitigation.
- Access to contract cash flow funding.
- Accounting cost subsidy for CPA-prepared financial statements.

**L.A. County has limited capacity.*

Education, Training & Contract Support

- Group Classes on public construction best practices led by industry experts.
- Contract-specific support on Regional Bond Program-supported contracts.
- Creation of individualized Contractor Profile to assist with business marketing.

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- Strategic alliances with Program Prime contractors including matchmaking and referrals.
- Networking with public agency staff and peer contractors.

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Los Angeles County
Contractor Development and Bonding Program

FREQUENTLY ASKED QUESTIONS

"An inclusionary program to build a stronger region"

What services does the County's Contractor Development and Bonding Program (CDABP) provide?

The County's CDABP extends comprehensive capacity building, technical, bonding and contract financing assistance to small and diverse contractors seeking to pursue County construction-related contracts. Starting with a thorough assessment of your current business status, we identify areas of opportunity in order to help you better position your firm to successfully compete for and complete County contracts.

After your assessment, you'll be assigned a dedicated Account Manager who will work closely with you to tailor a technical assistance work plan and financial resources specific to your needs, which may include:

- ✓ One-on-one consultations
- ✓ Training clinics and learning immersion academies
- ✓ Help with prime contractor pre-qualifications
  - » Facilitation of prime or prime-sub contractor introductions
  - » Project/bid matches
- ✓ Assistance obtaining bonding, including bonding collateral support, if needed, and contract financing
- ✓ If you are awarded a County-related contract with bonding support, you will also receive on-going project assistance to help you successfully complete your contract.

Who is eligible to participate in the CDABP? Eligible firms include local small and diverse businesses who are certified or eligible for certification within one of the County's business enterprise categories. For detailed information on the County's certification programs, visit their Small Business Certifications webpage (https://iddweb.isd.lacounty.gov/DCA_eComplaint/SmallBusinessCertifications).

Why should small and diverse businesses enroll in the CDABP? LA County's CDABP provides game-changing resources for small and diverse businesses who want to expand their capacity and improve their opportunities for winning County contracts. For example, the inability to secure or increase bonding often impedes small and diverse contractors from bidding and/or pre-qualifying with prime firms and participating on public works projects. This program helps reduce such barriers, even offering bonding collateral support (standard surety bond premiums and commissions charged are not covered by the CDABP).

Similarly, not having access to the capital needed to fund the cost of doing the contract work that you've been awarded can be a major challenge, and little to no assistance is available through traditional lending sources. Through the CDABP, the County provides for up to $250,000 of contract-based financing with a low origination fee and very low interest rate, and not tied to your financials or credit.

This is a particularly good time to enroll, because in November 2021, President Joe Biden signed a $1.2 trillion infrastructure investment plan supporting a range of construction projects in localities across the nation, including Los Angeles County. If you are a small or diverse local business, the CDABP can assist you in competing for upcoming construction contracts!

My subcontracted work hasn't required bonding in the past, so how would I benefit from participating in the CDABP? While you may not always need to provide a bond for some subcontracted work, a bond will always be required if you want to bid directly with the County on small prime contracts – and being "bondable" is a significant competitive advantage when bidding on many subcontracting opportunities. Becoming "bondable" demonstrates that your company's capacity to perform work has been assessed and vetted by a third party, which is then reflected in the dollar amount for which you can bond. Even when a bond for subcontract work is not required, it is quite common to be asked to demonstrate that your company is "bondable" in order to meet contract owner or prime requirements. Pre-qualification requirements often include demonstrating your bond underwriting and/or financial capacity to perform work. The CDABP will assist you in meeting advance requirements with primes or prime-sub contractors pursuing or performing County work.

What is the cost to participate in the CDABP? The CDABP is sponsored by the County of Los Angeles, so, with one exception, all services are offered at no cost to participating contractors! If needed, the only cost you may incur is for having a Certified Public Accountant (CPA) prepare a financial statement for your company, a requirement for bonding. For those who qualify, the program even provides a one-time subsidy toward this CPA-prepared company financial statement. If the subsidy is provided to you, you will be asked to pay the first $500 toward the preparation of your financial statement and any costs in excess of what the $3,200 subsidy covers.

The CDABP is one of the County's tools to effectively support and increase the inclusion and participation of small and diverse contractors on County projects. Because barriers impede access, CDABP is intended to reduce and eliminate barriers wherever possible.

When should I look to enroll in the County's program? Should I wait until I've identified a County project for which I want to bid? Don't wait, enroll now! The earlier you enroll and have your company assessed, the sooner you'll be able to receive expert guidance and support in bidding suitable County projects. For example, getting pre-approved for a specific bonding amount will not only boost your company's credentials, but will also help you confidently identify and pursue County contracting opportunities within that range. Your CDABP Account Manager will be helping you every step of the way, including steering you toward opportunities with CDABP program prime partners. By planning ahead, your firm will be better positioned for consideration by the County's prime and larger contractors, who are always seeking qualified and certified firms to meet their project participation goals.

How long will it take for me to get approved for bonding or contract financing? The timing of the bonding or contract financing process depends mostly on you. The initial steps of preparing an underwriting package for bonding or prequalifying you for contract financing require gathering information about your company. If you have the necessary documentation and information complete and readily available, then the next steps of the process can move quickly. Your CDABP Account Manager is always on hand to answer questions and help guide you through the process.

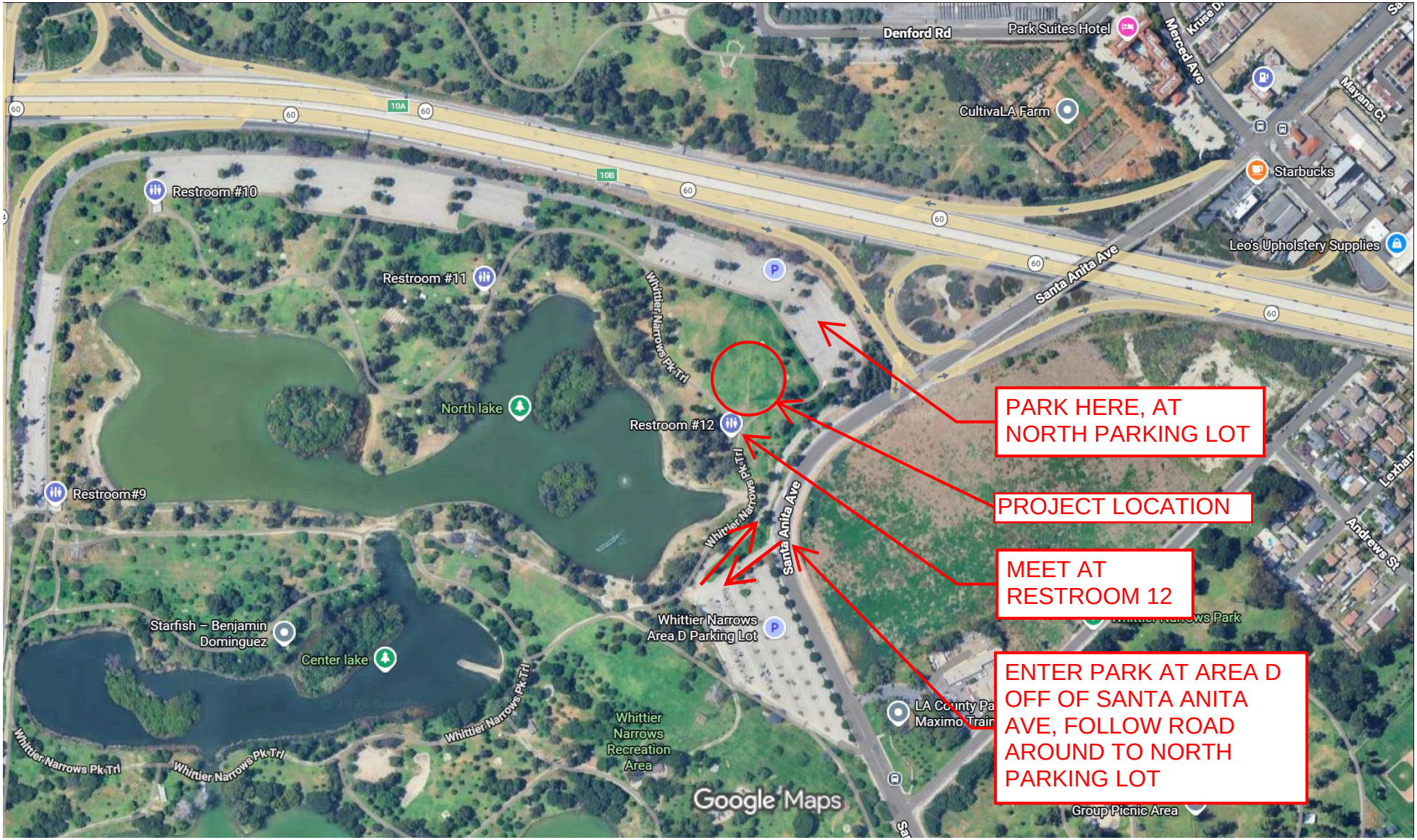
Must I already be working with a bonding broker in order to participate? You do not already need to be working with a bonding broker. The CDABP will work with any bonding broker with whom you've already established a relationship that you wish to continue. In fact, the program can also work with your current surety agent to increase your existing bonding capacity with them as well. However, if you do not have a current broker, the program can provide for your consideration a list of brokers who work with smaller contractors and with program surety partners.

We look forward to hearing from you! Reach us at:

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Attachment 2

Google Maps



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