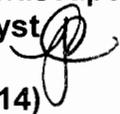


**MOORPARK CITY COUNCIL  
AGENDA REPORT**

**TO:** The Honorable City Council

**FROM:** Jeremy Laurentowski, Parks and Landscape Manager 

**BY:** Jessica Sandifer, Management Analyst 

**DATE:** July 3, 2014 (CC Meeting July 16, 2014)

**SUBJECT:** Consider Authorizing Re-Bid for Construction of Walnut Acres Park (161 Second Street) (Project 5081)

**BACKGROUND**

On February 2, 2011, the Redevelopment Agency of the City of Moorpark approved the acquisition of the property at 161 Second Street for the construction of a pocket park. Staff estimated that the total cost to acquire the property and construct the park was \$1,000,000.00, and that funding for this work would be supplemented from the 2001 and 2006 Tax Allocation Bond Funds.

On June 19, 2013, the City Council approved the Option "C" conceptual design plan for the park and staff entered into Agreements with several consultants to prepare the construction drawings and specifications for the design of the park consistent with the Option "C" layout.

In April 2014, staff advertised for construction bids for the park project. The bids came back approximately \$100,000 higher than the estimated construction costs. The City Council rejected all bids and authorized staff to re-bid the project.

In June 2014, staff advertised for bids and on June 20, 2014, staff received six bids for the construction of the park project. Several bids were comparable to the engineer's estimate, however, the apparent low bid was deemed non-responsive to the bid documents due to the fact that the contractor did not hold a C-27 landscape contractors license or include a C-27 landscape subcontractor in the bid documents, as required by the Statement of Bidders Qualifications and References. On July 2, 2014, the City Council elected to reject all bids and directed staff to come back to the City Council with the re-authorization of the construction bid for Walnut Acres Park.

## **DISCUSSION**

During the July 2, 2014 City Council meeting, there was some concern regarding the licensing requirements for the construction of Walnut Acres Park. The Statement of Bidders Qualifications and References required that the contractor bidding the project either hold an A license or B license with appropriate subcontractors, including a C-27 specialty license, or obtain the services of a subcontractor that holds a C-27 license. An A license, or B license with appropriate subcontractors, is necessary to build the park, due to the street improvements on Second Street, as well as the overall construction of the park flatwork, site features and drainage facilities. An A license is a general engineering license and covers a wide range of disciplines. Since many contractors that carry an A license do not necessarily have landscaping experience, staff required that the contractor either hold a C-27 specialty license, which is a landscaping contractor's license, or subcontract for this work. The following definitions were obtained from the Department of Consumer Affairs, Contractors State License Board:

### **A License – General Engineering Contractor**

*Business & Professions Code*

*Division 3, Chapter 9. Contractors, Article 4. Classifications*

**7056.** *A general engineering contractor is a contractor whose principal contracting business is in connection with fixed works requiring specialized engineering knowledge and skill, including the following divisions or subjects: irrigation, drainage, water power, water supply, flood control, inland waterways, harbors, docks and wharves, shipyards and ports, dams and hydroelectric projects, levees, river control and reclamation works, railroads, highways, streets and roads, tunnels, airports and airways, sewers and sewage disposal plants and systems; waste reduction plants, bridges, overpasses, underpasses and other similar works, pipelines and other systems for the transmission of petroleum and other liquid or gaseous substances, parks, playgrounds and other recreational works, refineries, chemical plants and similar industrial plants requiring specialized engineering knowledge and skill, powerhouses, power plants and other utility plants and installations, mines and metallurgical plants, land leveling and earthmoving projects, excavating, grading, trenching, paving and surfacing work and cement and concrete works in connection with the above mentioned fixed works*

### **B License – General Building Contractor**

*Business & Professions Code*

*Division 3, Chapter 9. Contractors, Article 4. Classifications*

**7057. (a)** *Except as provided in this section, a general building contractor is a contractor whose principal contracting business is in connection with any structure built, being built, or to be built, for the support, shelter, and enclosure of persons, animals, chattels,*

*or movable property of any kind, requiring in its construction the use of at least two unrelated building trades or crafts, or to do or superintend the whole or any part thereof.*

*This does not include anyone who merely furnishes materials or supplies under Section 7045 without fabricating them into, or consuming them in the performance of the work of the general building contractor.*

*(b) A general building contractor may take a prime contract or a subcontract for a framing or carpentry project. However, a general building contractor shall not take a prime contract for any project involving trades other than framing or carpentry unless the prime contract requires at least two unrelated building trades or crafts other than framing or carpentry, or unless the general building contractor holds the appropriate license classification or subcontracts with an appropriately licensed specialty contractor to perform the work. A general building contractor shall not take a subcontract involving trades other than framing or carpentry, unless the subcontract requires at least two unrelated trades or crafts other than framing or carpentry, or unless the general building contractor holds the appropriate license classification. The general building contractor may not count framing or carpentry in calculating the two unrelated trades necessary in order for the general building contractor to be able to take a prime contract or subcontract for a project involving other trades.*

### **C-27 License – Landscaping Contractor**

*California Code of Regulations  
Title 16, Division 8, Article 3. Classifications*

*A landscape contractor constructs, maintains, repairs, installs, or subcontracts the development of landscape systems and facilities for public and private gardens and other areas which are designed to aesthetically, architecturally, horticulturally, or functionally improve the grounds within or surrounding a structure or a tract or plot of land. In connection therewith, a landscape contractor prepares and grades plots and areas of land for the installation of any architectural, horticultural and decorative treatment or arrangement.*

Staff believes that the C-27 licensing requirement should be required for all park projects, or other projects that involve the installation of landscaping and irrigation systems, as there is a certain level of uncertainty related to landscaping experience when the project is bid by a general contractor. In addition to the licensing requirement, staff also required that the contractor bidding the Walnut Acres Park project demonstrate that they have the necessary experience by listing at least three park projects of comparable size and scope that were satisfactorily completed in the last ten years and at least one project that included the installation of California native plant material. However, according to the City Attorney, the City cannot reject a bid as non-responsive due to the contractor's failure to satisfy an experience requirement. The City can only reject the bid if it finds the contractor non-responsive, and finding a contractor non-responsive requires a due process hearing. The City would be required to (a),

hold a hearing to determine whether or not the bidder is responsible, and (b), find, based on evidence, that the bidder is non-responsible. According to the City Attorney, finding a contractor non-responsible because it did not satisfy the experience requirement is very unlikely, particularly when the bidder is otherwise qualified to bid the project. As defined in Public Contract Code § 1103, a responsible bidder is one “who has demonstrated the attribute of trustworthiness, as well as quality, fitness, capacity, and experience to satisfactorily perform the public works contract.” In an effort to ensure that the contractor bidding the project has the necessary landscaping experience, staff recommends that the contractor either hold a C-27 specialty license or subcontract with a contractor that holds a C-27 license.

Per City Council's direction, staff will re-bid the Walnut Acres Park project and has re-submitted the bid manual for the City Council's review. Staff recommends maintaining the requirement that the bidding contractor either hold a C-27 Landscaping Contractor's license or subcontract with a contractor that holds a C-27 license. In addition to several sustainable and water conserving features, the Walnut Acres Park project includes the installation of California native landscaping. Staff believes that the contractor should possess the necessary landscaping experience that is provided under the specialty license to complete this portion of the work. In addition, the project includes a one-year maintenance requirement that is consistent with the maintenance levels at all other City parks. The City requires that all landscape maintenance contractors hold a C-27 contractors license. Staff has revised the bid manual, in legislative format, particularly the Statement of Bidder's Qualifications and References, to include the specific requirement that the C-27 subcontractor shall, at a minimum, complete the installation of the irrigation system, landscaping and one-year maintenance period for Walnut Acres Park. Public Contract Code allows the City to set the licensing requirements for the project based on the plans and specifications. The City is allowed to set more stringent licensing requirements if it deems that it is necessary to do so.

### **FISCAL IMPACT**

There will be minimal fiscal impact related to re-bidding the project. Costs of approximately \$800.00 will be incurred as a result of advertising for the bid in the newspaper.

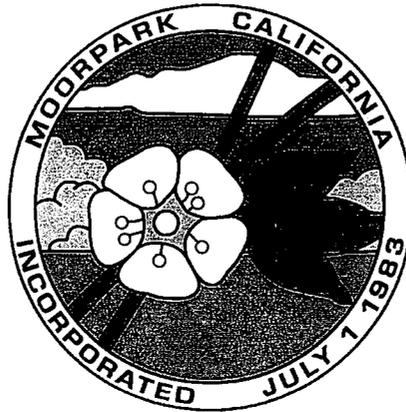
### **STAFF RECOMMENDATION**

Approve the bid manual, and authorize the re-bid of the Walnut Acres Park project.

#### Attachments:

1. Walnut Acres Park – Bid Manual and Project Plans and Specs

# ATTACHMENT 1



**Project Manual**

**and**

**Specifications**

**Parksite at  
161 Second Street  
Moorpark, California**

**Bid Due Date and time:**

**~~Friday, June 20~~ Thursday, August 21, 2014 at 10:00AM**

**Specification No.P&R-14-001-RB**

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## **Instruction to Bidders**

THE CITY OF MOORPARK IS REQUESTING BIDS FOR CONSTRUCTION OF THE PARK SITE AT 161 SECOND STREET, MOORPARK, CA 93021

There will be a **mandatory pre-bid conference and site walk** held on ~~Thursday, June Tuesday, August 5, 2014~~ at 10:00 AM at 161 Second Street, Moorpark CA. Potential bidders are required to attend this meeting. Failure to attend the mandatory pre-bid meeting will result in a bidder's proposal being rejected as non-responsive.

**BID SUBMITTAL:** Each bid must be submitted on the Bid Forms provided in the bid package. All blanks in the Bid Form must be filled in and all prices must be stated in both words and figures. It is the sole responsibility of the bidder to see that the bid is delivered to the proper place and received at the proper time. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened. All bid forms must be sealed and delivered before **10:00AM on ~~June 20~~ August 21, 2014** to the following address (postmarks will not be accepted):

City Clerk's Office  
City of Moorpark  
799 Moorpark Avenue  
Moorpark, CA 93021

NOTE: Please mark the outside of the envelope:

**Sealed Bid for  
Parksite at 161 Second Street  
Moorpark, CA 93021**

**DO NOT OPEN WITH REGULAR MAIL**

**Bidders shall submit one complete set of the Bid Forms and all required attachments.** No proposal received after the time specified or at any place other than the place stated above will be considered. All bids will be opened and declared publicly. The official bid clock, which will establish the official bid time, will be determined by the City Clerk's Division of the City of Moorpark. Bidders or their representatives are invited to be present at the opening of the bids.

No individual or business entity of any kind shall be allowed to make or file, or to be interested in more than one bid, except an alternative bid when specifically requested. An individual or business entity which has submitted a sub-proposal to a bidder submitting a proposal, or who has quoted prices on materials to such bidder, is not thereby disqualified from submitting a sub-proposal or from quoting prices to other bidders submitting proposals.

## **Instructions to Bidders** (continued)

A bidder may withdraw the proposal, without prejudice prior to the time specified for the bid opening, by submitting a written request to the City for its withdrawal, in which event the proposal will be returned to the bidder unopened. Changes in or additions to the Bid Form, recapitulations of the work bid upon, alternative proposals, or any other modification or deviation of the Bid Form which is not specifically called for in the Contract Documents may result in the City's rejection of the bid as being non-responsive. Non-substantial deviations may be permitted provided that the bidder submits a full description and explanation of, and justifications for, the proposed deviations. Final determination of any proposed deviation will be made solely by the City.

**BID FORMS:** The bid must be accompanied by certified check, cashier's check, or bidder's bond, made payable to the City of Moorpark for an amount no less than ten percent (10%) of the total bid amount, as a guarantee that the bidder, if its bid is accepted, will promptly obtain the required bonds and insurance and will prepare the required submittal documents and execute the contract. The Bid Bonds for those bids that were not selected will be returned to the Bidders upon award of the contract by the City Council.

The bidder to whom award is made shall execute a written contract with the City within fourteen (14) calendar days after notice of the award has been sent by mail to the address given in the proposal. The contract shall be made in the form adopted by the City and incorporated in these specifications. The bidder warrants that he/she possesses, or has arranged through subcontracts, all capital and other equipment, labor and materials to carry out and complete the work hereunder in compliance with all applicable Federal, State, City, and Special District laws, ordinances, and regulations.

If the bidder to whom the award is made fails to enter into the contract, the award will be annulled; any bid security will be forfeited; and an award may be made to the next lowest responsible bidder who shall fulfill every term and condition of the bid as if he/she were party to whom the first award was made.

**BIDDER QUESTIONS:** If you discover any error, omission, ambiguity, or conflict, in the plans or specifications or have any questions concerning the bidding documents or proposal forms contact the City's Project Representative via e-mail:

Jessica Sandifer, Management Analyst  
City of Moorpark  
799 Moorpark Avenue, Moorpark, CA 93021  
jsandifer@moorparkca.gov

## **Instructions to Bidders** (continued)

Please do not call other staff members or consultants. If a prospective bidder is in doubt or has any questions as to the true meaning or intent of any part of the Bid package, or discovers discrepancies, errors, or conflicts, or omissions, he/she may submit, to the above Project Representative, a written request for an interpretation or a correction thereof. Interpretations or corrections shall be made only by addendum duly issued by the City. A copy of such addendum will be mailed, faxed, or delivered to each person receiving a set of the Contract Documents and such addendum shall be considered a part of, and incorporated in, the Contract Documents. Questions must be received in writing no later than 96 hours prior to the bid deadline in order to provide the City sufficient time to evaluate the question and respond no later than 72 hours prior to the bid deadline. Questions received after the 96 hour deadline will be deemed not received.

All requests for information (regarding the bid) submitted in writing by the deadline will receive a written response from the City. Telephone communications with City Staff will not be permitted. Any oral communication shall not be binding on the City.

**BIDS QUOTES AND UNIT PRICING:** The individual project prices should be bid as lump sum prices and must be entered in figures in the spaces provided on the Bid Submission Form(s). The total bid sum shall be stated in figures. The Bid Submission Form(s) must be totally completed. Unit prices, if requested, should be added as Appendix A and are to be used only for changes to the contract.

**EVALUATION OF BIDS AND AWARD:** The City reserves the right to retain all bids for a period of 90 calendar days for examination and comparison, and to delete or add any alternates to/from the contract. Bidders shall guarantee the bid prices for said 90 day period to facilitate City evaluation of the bids. Each bidder shall meet all of the specifications and bid terms and conditions. By virtue of the bid submission and acceptance of the bid award, the bidder acknowledges full understanding of, and agreement with, and acceptance of all provisions of the plans, specifications and contract documents. The City reserves the right to waive non-substantial irregularities in any bid, to reject any or all proposals, to reject or delete one part of a proposal and accept the other, except to the extent that the bids are qualified by specific limitations given by the City, and to make award to the lowest responsible bidder as the interest of the City may require.

In addition to the information required by the bid documents, the City may request evidence from a bidder, whose bid is under consideration for award, reasonable evidence showing that bidder's financial resources, construction experience, and organization and plant facilities are sufficient for performance of the contract.

# BID PROPOSAL

TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID

CITY OF MOORPARK  
MOORPARK, CALIFORNIA

Parksite at 161 Second,  
Moorpark, California

Bids to Be Received – ~~Friday, June 20~~ Thursday, August 21, 2014, by 10:00AM

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## CONTRACTOR

Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Telephone Number \_\_\_\_\_  
Contractor's License No \_\_\_\_\_ Class \_\_\_\_\_, Expiration Date \_\_\_\_\_

The undersigned swears under penalty of perjury that the information regarding the Contractor's License is true and correct.

Signature of Bidder \_\_\_\_\_ Title \_\_\_\_\_

### BID SCHEDULE:

It is understood that the lump sum bid includes without limitation, all appurtenant expenses, permits, taxes, royalties, and fees associated with the work described within these bid documents. THE CITY RESERVES THE RIGHT TO INCREASE OR DECREASE THE CONTRACT.

1. 161 Second Street Base Bid (\$ \_\_\_\_\_)
2. One-year Maintenance Item (\$ \_\_\_\_\_)
3. Removal/Replacement Masonry Wall per plans (\$ \_\_\_\_\_)

**TOTAL BID \$** \_\_\_\_\_

\_\_\_\_\_ dollars and \_\_\_\_\_ cents

**WRITE OUT TOTAL BID ON THIS LINE**

Number of calendar days for completion: 75

**BID PROPOSAL (continued)**

TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID

Bid Due Date/Time: ~~Friday, June 20~~Thursday, August 21, 2014 at 10:00AM

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into Contract with the City of Moorpark to perform the Work as specified or indicated in said Contract Documents entitled: *Parksite at 161 Second Street, Moorpark, CA.*

Bidder accepts all of the terms and conditions of the Contract Documents, including without limitations, those in the Notice Inviting Bids, Instructions to Bidders, General Conditions, Special Conditions, and Technical Specifications.

This Bid will remain open for the period stated in the Notice Inviting Bids. By signing this bid proposal, the Bidder agrees to enter into a Contract within the time and in the manner as required in the Notice Inviting Bids. **Bidder understands that by submitting this bid, bidder is agreeing to furnish the insurance certificates, endorsements, and Bonds as required by the Contract Documents. Contractor understands that failure to provide the insurance certificates, endorsements and bonds will cause City to terminate the bid award and award the bid to the next lowest bidder.**

Bidder has examined copies of all the Contract Documents through and inclusive of the following Bid Addenda (receipt of which is hereby acknowledged):

Bid Addenda Number: \_\_\_\_\_ Date: \_\_\_\_\_

Bid Addenda Number: \_\_\_\_\_ Date: \_\_\_\_\_

Bidder has familiarized themselves with the nature and extent of the Contract Documents, the Work, the site together with the surrounding environment and locality, the legal requirements involved (including all applicable federal, state and local laws, ordinances, rules, regulations, codes, etc.) and the conditions affecting costs, progress or performance of the Work and has made such independent investigations as Bidder deems necessary.

To all the foregoing said Bidder further agrees to complete the Work required under the Contract Documents within the Contract Time stipulated within the Contract Documents, and to accept in full payment therefore the Contract Price named in the aforementioned Bid Schedule(s).

The bid must be signed in the name of the bidder and must bear the signature in longhand of the person duly authorized to sign for the Contractor.

Bidder: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature — Authorized Representative)

Title: \_\_\_\_\_

Dated: \_\_\_\_\_

# NON-COLLUSION DECLARATION

TO BE EXECUTED BY  
BIDDER AND SUBMITTED WITH BID

The undersigned declares:

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

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

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

Name of Bidder

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Address of Bidder

ALL SIGNATURES MUST BE WITNESSED BY NOTARY  
(attach appropriate executed form)

**BID BOND**

(in lieu of certified or cashier's check)

*TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID*

KNOW ALL PERSONS BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, acknowledge ourselves jointly and severally bound to the City of Moorpark, the obligee, for ten percent (10%) of the total bid, to be paid to said City if the Proposal shall be accepted and the Principal shall fail to execute the contract tendered by the City within the applicable time specified in the Bid Terms and Conditions, or fails to furnish either the required Faithful Performance or Labor and Material Bonds, or fails to furnish evidence of insurance as required in the Standard Specifications, then this obligation shall become due and payable, and Surety shall pay to obligee, in case suit is brought upon this bond in addition to the bond amount hereof, court costs and a reasonable attorney's fee to be fixed by the court. If the Principal executes the contract and furnishes the required bonds and evidence of insurance as provided in the contract documents, this bond shall be extinguished and released. It is hereby agreed that bid errors shall not constitute a defense to forfeiture.

WITNESS our hands this \_\_\_\_ day of \_\_\_\_\_, 2013.

Contractor \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Surety \_\_\_\_\_

By \_\_\_\_\_

ALL SIGNATURES MUST BE WITNESSED BY NOTARY  
(attach appropriate executed form)

**STATEMENT OF BIDDER'S QUALIFICATIONS AND REFERENCES**

*TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID*

The bidder is required to state the bidder's financial ability and a general description of similar work performed.

Required Qualifications: Bidders must hold a valid State of California Contractor's License at the time the bid is submitted to the City. For this job the City has determined that the bidding Contractor is required to have an (A or B Contractor's license with appropriate subcontractors. A C-27 – Landscape Contractor's specialty license must be held by the prime contractor, or can be held by a listed subcontractor, for the completion of the landscaping and irrigation work and one-year maintenance requirement, including a C-27 subcontractor if the Contractor does not hold that license) at the time the bid is submitted to the City, and Bidder or listed C-27 subcontractor must have satisfactorily completed at least three park projects in the last ten years of comparable size and scope of this project. Bidder or listed C-27 subcontractor must also demonstrate experience with the installation of California native plant material, but not necessarily as part of a park project. In addition to the three projects required, list at least one project that included native plant material installation.

Number of years engaged in business under the present business name: \_\_\_\_\_

Please be sure to indicate whether the reference is for the prime contractor or the subcontractor. Attach additional pages if required to show the necessary experience. The City reserves the right to contact each of the references listed for additional information regarding your firm's qualifications.

**Project 1 Name/ Number** \_\_\_\_\_

Project Description \_\_\_\_\_

Approximate Construction Dates From: \_\_\_\_\_ To: \_\_\_\_\_

Agency Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

Original Contract Amount: \$ \_\_\_\_\_ Final Contract Amount: \$ \_\_\_\_\_

If final amount is different from original amount, please explain (change orders, extra work, etc.)

\_\_\_\_\_  
\_\_\_\_\_

Did you file any claims against the Agency? Circle one: Yes No

Did the Agency file any claims against you? Circle one: Yes No

If you answered yes to either of the above two questions, please explain and indicate outcome of claims.

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**Project 2 Name/ Number** \_\_\_\_\_

Project Description \_\_\_\_\_

Approximate Construction Dates From: \_\_\_\_\_ To: \_\_\_\_\_

Agency Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

Original Contract Amount: \$ \_\_\_\_\_ Final Contract Amount: \$ \_\_\_\_\_

If final amount is different from original amount, please explain (change orders, extra work, etc.)

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Did you file any claims against the Agency? Circle one: Yes No

Did the Agency file any claims against you? Circle one: Yes No

If you answered yes to either of the above two questions, please explain and indicate outcome of claims.

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**Project 3 Name/ Number** \_\_\_\_\_

Project Description \_\_\_\_\_

Approximate Construction Dates From: \_\_\_\_\_ To: \_\_\_\_\_

Agency Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

Original Contract Amount: \$\_\_\_\_\_ Final Contract Amount: \$\_\_\_\_\_

If final amount is different from original amount, please explain (change orders, extra work, etc.)

\_\_\_\_\_  
\_\_\_\_\_

Did you file any claims against the Agency? Circle one: Yes No

Did the Agency file any claims against you? Circle one: Yes No

If you answered yes to either of the above two questions, please explain and indicate outcome of claims.

\_\_\_\_\_  
\_\_\_\_\_

**Native Plant Installation Project**

**Project 4 Name/ Number** \_\_\_\_\_

Project Description \_\_\_\_\_

Approximate Construction Dates From: \_\_\_\_\_ To: \_\_\_\_\_

Agency Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

Original Contract Amount: \$\_\_\_\_\_ Final Contract Amount: \$\_\_\_\_\_

If final amount is different from original amount, please explain (change orders, extra work, etc.)

\_\_\_\_\_  
\_\_\_\_\_

Did you file any claims against the Agency? Circle one: Yes No

Did the Agency file any claims against you? Circle one: Yes No

If you answered yes to either of the above two questions, please explain and indicate outcome

of claims.

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**STATEMENT OF BIDDER'S QUALIFICATIONS AND REFERENCES**

(Cont'd)

STATE OF CALIFORNIA, COUNTY OF \_\_\_\_\_

I am the \_\_\_\_\_

Of \_\_\_\_\_,

the bidder herein. I have read the foregoing statement and know the contents thereof; and I certify that the same is true to my knowledge, except as to those matters which are therein stated upon my information or belief, and as to those matters I believe it to be true.

\_\_\_\_\_  
\_\_\_\_\_

Executed on \_\_\_\_\_ at \_\_\_\_\_, California.  
(date) (place)

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

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Title

**COMPLIANCE WITH ENVIRONMENTAL, HEALTH  
AND SAFETY STANDARDS**

*TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID*

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) prohibits employers from knowingly discharging or releasing a chemical known to the State of California to cause concern, birth defects or other reproductive harm into water or onto land where such chemical passes or, in all probability, will pass into any source of drinking water. Notwithstanding any provision in this Act exempting Contractor, Contractor hereby agrees to comply with all provisions of the Act relating to the discharge of hazardous chemicals on the job site.

Contractor fully agrees that Contractor, Contractor's employees and subcontractors shall not discharge such chemicals on the job site which will result in the discharge of such chemicals, and shall, upon completion of performance of all other duties under this contract, remove all supplies, materials and waste remaining on the job site which if exposed, could result in the discharge of such chemicals. Contractor shall be financially responsible for compliance with Proposition 65.

Contractor shall also comply with state of California anti-smoking laws which, in part, prohibit smoking in the workplace and enclosed areas.

Should Contractor, Contractor's employees, or subcontractors or their employees fail to comply, within 24 hours from the time City issues and Contractor receives a written notice of noncompliance or within the time of an abatement period specified by any government agency, whichever period is shorter, City may give notice of default to Contractor, and at the City's option, elect any and all rights or remedies set forth in this agreement.

Approved by Contractor: \_\_\_\_\_

Title

Date \_\_\_\_\_

**WORKERS' COMPENSATION INSURANCE CERTIFICATE**

*TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID*

Sections 1860 and 1861 of the California Labor Code require every contractor to whom a public works contract is awarded to sign and file with the awarding body the following statement:

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

By \_\_\_\_\_

Title: \_\_\_\_\_

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

# BIDDER'S STATEMENT OF SUBCONTRACTORS

TO BE EXECUTED  
BY BIDDER AND SUBMITTED WITH BID

Provide a complete list of all Subcontractors who will perform more than 1/2% the value of the total lump sum bid amount<sup>1</sup>. (NOTE: If bidding contractor does not have the appropriate specialty designations as required by these bid documents, than a subcontractor with the appropriate specialty designation must be listed here. Failure to do so may result in the bid being disqualified.)

Subcontractor Name:	License No:
	Classification:
Subcontractor Address:	Subcontractor Phone:
Type of Work:	<b>Percent Work to be done:</b>
Subcontractor Name:	License No:
	Classification:
Subcontractor Address:	Subcontractor Phone:
Type of Work:	<b>Percent Work to be done:</b>
Subcontractor Name:	License No:
	Classification:
Subcontractor Address:	Subcontractor Phone:
Type of Work:	<b>Percent Work to be done:</b>

(attach more sheets if necessary)

**Total Percentage** <sup>2</sup> \_\_\_\_\_

\_\_\_\_\_  
**Signature(s) of Bidder**

\_\_\_\_\_  
**Date**

<sup>1</sup> Based on contract price

<sup>2</sup> May not exceed 50% of contract price. See Greenbook Section 2-3.2

**AGREEMENT TO COMPLY WITH CALIFORNIA LABOR LAW REQUIREMENTS**

**TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID**

[Labor Code §§ 1720, 1775, 1776, 1777.5, 1810, 1813, 1860, 1861, 3700]

The undersigned Contractor certifies that it is aware of and hereby agrees to fully comply with the following provisions of California law:

1. Contractor acknowledges that this contract is subject to the provisions of Division 2, Part 7, Chapter 1 (commencing with Section 1720) of the California Labor Code relating to public works and the awarding Owner ("Owner") and agrees to be bound by all the provisions thereof as though set forth in full herein.

2. Contractor agrees to comply with the provisions of California Labor Code Sections 1774 and 1775 concerning the payment of prevailing rates of wages to workers and the penalties for failure to pay prevailing wages. Contractor shall, as a penalty to Owner, forfeit not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for the work or craft in which the worker is employed for any public work done under the contract by Contractor or by any subcontractor.

3. Contractor agrees to comply with the provisions of California Labor Code Section 1776 which require Contractor and each subcontractor to (1) keep accurate payroll records, (2) certify and make such payroll records available for inspection as provided by Section 1776, and (3) inform Owner of the location of the records. Contractor is responsible for compliance with Section 1776 by itself and all of its subcontractors.

4. Contractor agrees to comply with the provisions of California Labor Code Section 1777.5 concerning the employment of apprentices on public works projects, and further agrees that Contractor is responsible for compliance with Section 1777.5 by itself and all of its subcontractors.

5. Contractor acknowledges that eight (8) hours of labor shall constitute a legal day's work for all workmen employed in the execution of this contract, and the Contractor and any subcontractor under him shall comply with and be governed by the laws of the State of California having to do with working hours set forth in Division 2, Part 7, Chapter 1, Article 3 of the Labor Code of the State of California as amended.

6. Contractor agrees to comply with the provisions of California Labor Code Section 1813 concerning penalties for workers who work excess hours. Contractor shall, as a penalty to Owner, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 of the California Labor Code.

7. California Labor Code Sections 1860 and 3700 provide that every contractor will be required to secure the payment of compensation to its employees. In accordance with the provisions of California Labor Code Section 1861, Contractor hereby certifies as follows:

"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."

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed Name \_\_\_\_\_

Company \_\_\_\_\_

Title \_\_\_\_\_

**AGREEMENT BETWEEN THE CITY OF MOORPARK AND  
\_\_\_\_\_, FOR CONSTRUCTION OF PARKSITE AT 161 SECOND  
STREET, MOORPARK, CA**

**THIS AGREEMENT**, is made and effective as of this \_\_\_\_\_ day of \_\_\_\_\_, 2014, between the City of Moorpark, a municipal corporation ("City") and \_\_\_\_\_, a \_\_\_\_\_ ("Contractor"). In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

**WHEREAS**, City has the need for construction services related to construction of park improvements at Second Street Park; and

**WHEREAS**, Contractor specializes in providing such services and has the proper work experience, certifications, and background to carry out the duties involved; and

**WHEREAS**, the City Council of the City at a meeting held on the \_\_\_\_\_ day of \_\_\_\_\_, 2014, authorized the City Manager to enter into this Agreement after public bidding in accordance with California Public Contract Code Section 20160, et seq.

**NOW, THEREFORE**, in consideration of the mutual covenants, benefits, and premises herein stated, the parties hereto agree as follows:

1. TERM

The term of the Agreement shall be from the date of execution to completion of the work identified in the Scope of Services and in conformance with Exhibit B, unless this Agreement is terminated or suspended as referred to herein.

2. SCOPE OF SERVICES

City does hereby retain Contractor in a contractual capacity to provide construction services related to construction of park improvements at Second Street park, as set forth in Exhibit B: Contractor's Bid Proposal, dated \_\_\_\_\_, which exhibit is attached hereto and incorporated herein by this reference as though set forth in full and hereinafter referred to as the "Proposal" and as set forth in Exhibit C, which include (i) Standard Specifications; (ii) Special Provisions; (iii) Workers' Compensation Insurance Certificate (Labor Code 1860 and 1861); (iv) Payment and Performance Bonds; and (v) Insurance Certificate for General Liability and Automobile Liability, attached hereto and incorporated herein by this reference as though set forth in full and hereinafter referred to as Exhibit C. Where said Scope of Services is modified by this Agreement, or in the event there is a conflict between the provisions of said Scope of Services and this Agreement, the language contained in this Agreement shall take precedence.

Contractor shall perform the tasks described and set forth in Exhibit B and Exhibit

C. Contractor shall complete the tasks according to the schedule of performance which is also set forth in Exhibit C.

Compensation for the services to be performed by Contractor shall be in accordance with Exhibit B. Compensation shall not exceed the rates or total value of \_\_\_\_\_ dollars (\$\_\_\_\_\_) as stated in Exhibit B, without a written amendment to the agreement executed by both parties. Payment by City to Contractor shall be as referred to in this Agreement.

City and Contractor acknowledge that this project is a public work to which prevailing wages apply. Contractor agrees to comply with and be bound by all the terms, rules and regulations described in (a) Division 2, Part 7, Chapter 1 (commencing with Section 1720) of the California Labor Code, including without limitation Labor Code Section 1771 and (b) the rules and regulations established by the Director of Industrial Relations implementing such statutes, as though set forth in full herein, including any applicable amendments made thereto during the term of this Agreement. For every subcontractor who will perform work on this project, Contractor shall be responsible for subcontractor's compliance with (a) and (b), and Contractor shall take all necessary actions to ensure subcontractor's compliance.

### 3. PERFORMANCE

Contractor shall at all times faithfully, competently, and to the best of Contractor's ability, experience, and talent, perform all tasks described herein. Contractor shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing similar services as are required of Contractor hereunder in meeting its obligations under this Agreement.

### 4. MANAGEMENT

The individual directly responsible for Contractor's overall performance of the Agreement provisions herein above set forth and to serve as principal liaison between City and Contractor shall be \_\_\_\_\_, and no other individual may be substituted without the prior written approval of the City Manager.

The City's contact person in charge of administration of this Agreement, and to serve as principal liaison between Contractor and City, shall be the City Manager or the City Manager's designee.

### 5. PAYMENT

The City agrees to pay Contractor monthly, in accordance with the terms and the schedule of payment as set forth in Exhibit B, attached hereto and incorporated herein by this reference as though set forth in full, based upon actual time spent on the above tasks. This amount shall not exceed \_\_\_\_\_ dollars (\$\_\_\_\_\_) for the total term of the Agreement unless additional payment is approved as provided in this Agreement.

Contractor shall not be compensated for any services rendered in connection with its performance of this Agreement, which are in addition to those set forth herein, unless such additional services are authorized in advance and in writing by the City Manager. Contractor shall be compensated for any additional services in the amounts and in the manner as agreed to by City Manager and Contractor at the time City's written authorization is given to Contractor for the performance of said services. The City Manager, if authorized by City Council, may approve additional work not to exceed ten percent (10%) of the amount of the Agreement.

Contractor shall submit invoices monthly for actual services performed. Invoices shall be submitted on or about the first business day of each month, or as soon thereafter as practical, for services provided in the previous month. Payment shall be made within thirty (30) days of receipt of each invoice as to all non-disputed fees. If the City disputes any of Contractor's fees it shall give written notice to Contractor within thirty (30) days of receipt of any disputed fees set forth on the invoice. Contractor shall provide appropriate documentation, as determined by the City, for all reimbursable expenses.

## 5. TRENCHING

If the Project involves an estimated expenditure in excess of twenty-five thousand dollars (\$25,000.00) for the excavation of any trench or trenches five feet or more in depth, the Contractor shall submit to the City Engineer in advance of excavation a detailed plan showing the design shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. The City Engineer shall have authority on behalf of the City to accept and approve the plan. Nothing in this paragraph shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders in accordance with California Labor Code Section 6705.

In accordance with Public Contract Code Section 7104, if the Project involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the City in writing of any (a) material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (b) subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids; (c) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement.

6. TERMINATION OR SUSPENSION WITHOUT CAUSE

The City may at any time, for any reason, with or without cause, suspend, or terminate this Agreement, or any portion hereof, by serving upon the Contractor at least ten (10) days prior written notice. Upon receipt of said notice, the Contractor shall immediately cease all work under this Agreement, unless the notice provides otherwise. If the City suspends or terminates a portion of this Agreement such suspension or termination shall not make void or invalidate the remainder of this Agreement.

The Contractor may terminate this Agreement only by providing City with written notice no less than thirty (30) days in advance of such termination. In the event of such termination, Contractor shall be compensated for such services up to the date of termination. Such compensation for work in progress shall be prorated as to the percentage of progress completed at the date of termination.

If the City Manager or the City Manager's designee determines that the Contractor is in default in the performance of any of the terms or conditions of this Agreement, the City may proceed in the manner set forth in Section 6-4 of the Greenbook.

7. DEFAULT OF CONTRACTOR

The Contractor's failure to comply with the provisions of this Agreement shall constitute a default. In the event that Contractor is in default for cause under the terms of this Agreement, City shall have no obligation or duty to continue compensating Contractor for any work performed after the date of default and can terminate this Agreement immediately by written notice to the Contractor. If such failure by the Contractor to make progress in the performance of work hereunder arises out of causes beyond the Contractor's control, and without fault or negligence of the Contractor, it shall not be considered a default.

If the City Manager or the City Manager's designee determines that the Contractor is in default in the performance of any of the terms or conditions of this Agreement, he/she shall cause to be served upon the Contractor a written notice of the default. The Contractor shall have five (5) working days after service upon it of said notice in which to cure the default by rendering a satisfactory performance. In the event that the Contractor fails to cure its default within such period of time, the City shall have the right, notwithstanding any other provision of this Agreement, to terminate this Agreement without further notice and without prejudice to any other remedy to which it may be entitled at law, in equity or under this Agreement.

8. LIQUIDATED DAMAGES

If the Contractor fails to complete the work, or any portion thereof, within the time period required by this Agreement or as duly extended in writing by the City Manager, Contractor shall forfeit and pay to the City, as liquidated damages, the sum of five

hundred dollars (\$500) per day for each calendar day the work, or portion thereof, remains uncompleted after the above specified completion date. Liquidated damages shall be deducted from any payments due or to become due to the Contractor under the terms of this Agreement [Government Code Sec. 53069.85]. Progress payments made by the City after the above specified completion date shall not constitute a waiver of liquidated damages by the City.

#### 9. OWNERSHIP OF DOCUMENTS

Contractor shall maintain complete and accurate records with respect to sales, costs, expenses, receipts, and other such information required by City that relate to the performance of services under this Agreement. Contractor shall maintain adequate records of services provided in sufficient detail to permit an evaluation of services. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. Contractor shall provide free access to the representatives of City or its designees at reasonable times to such books and records; shall give the City the right to examine and audit said books and records; shall permit City to make transcripts therefrom as necessary; and shall allow inspection of all work, data, documents, proceedings, and activities related to this Agreement. Notification of audit shall be provided at least thirty (30) days before any such audit is conducted. Such records, together with supporting documents, shall be maintained for a period of ten (10) years after receipt of final payment.

Upon completion of, or in the event of termination or suspension of this Agreement, all original documents, designs, drawings, maps, models, computer files, surveys, notes, and other documents prepared in the course of providing the services to be performed pursuant to this Agreement shall become the sole property of the City and may be used, reused, or otherwise disposed of by the City without the permission of the Contractor. With respect to computer files, Contractor shall make available to the City, at the Contractor's office and upon reasonable written request by the City, the necessary computer software and hardware for purposes of accessing, compiling, transferring, and printing computer files.

#### 10. INDEMNIFICATION AND HOLD HARMLESS

Contractor shall indemnify, defend with legal counsel approved by City, and hold harmless City, its officers, officials, employees and volunteers from and against all liability, loss, damage, expense, cost (including without limitation reasonable legal counsel fees, expert fees and all other costs and fees of litigation) of every nature arising out of or in connection with Contractor's negligence, recklessness or willful misconduct in the performance of work hereunder or its failure to comply with any of its obligations contained in this agreement, except such loss or damage which is caused by the sole or active negligence or willful misconduct of the City. Should conflict of interest principles preclude a single legal counsel from representing both City and Contractor, or should City otherwise find Contractor's legal counsel unacceptable, then Contractor shall

reimburse the City its costs of defense, including without limitation reasonable legal counsels fees, expert fees and all other costs and fees of litigation. The Contractor shall promptly pay any final judgment rendered against the City (and its officers, officials, employees and volunteers) with respect to claims determined by a trier of fact to have been the result of the Contractor's negligent, reckless or wrongful performance. It is expressly understood and agreed that the foregoing provisions are intended to be as broad and inclusive as is permitted by the law of the state of California and will survive termination of this Agreement.

Contractor obligations under this section apply regardless of whether or not such claim, charge, damage, demand, action, proceeding, loss, stop notice, cost, expense, judgment, civil fine or penalty, or liability was caused in part or contributed to by an Indemnitee. However, without affecting the rights of City under any provision of this agreement, Contractor shall not be required to indemnify and hold harmless City for liability attributable to the active negligence of City, provided such active negligence is determined by agreement between the parties or by the findings of a court of competent jurisdiction. In instances where City is shown to have been actively negligent and where City active negligence accounts for only a percentage of the liability involved, the obligation of Contractor will be for that entire portion or percentage of liability not attributable to the active negligence of City.

Contractor agrees to obtain executed indemnity agreements with provisions identical to those set forth here in this Section from each and every subcontractor or any other person or entity involved by, for, with, or on behalf of Contractor in the performance of this Agreement. In the event Contractor fails to obtain such indemnity obligations from others as required here, Contractor agrees to be fully responsible according to the terms of this Section.

Failure of City to monitor compliance with these requirements imposes no additional obligations on City and will in no way act as a waiver of any rights hereunder. This obligation to indemnify and defend City as set forth here is binding on the successors, assigns, or heirs of Contractor and shall survive the termination of this Agreement or Section.

This Indemnity shall survive termination of the Agreement or Final Payment hereunder. This Indemnity is in addition to any other rights or remedies that the Indemnitees may have under the law or under any other Contract Documents or Agreements. In the event of any claim or demand made against any party which is entitled to be indemnified hereunder, City may, in its sole discretion, reserve, retain, or apply any monies to the Contractor under this Agreement for the purpose of resolving such claims; provided, however, City may release such funds if the Contractor provides City with reasonable assurance of protection of the Indemnitees' interests. City shall, in its sole discretion, determine whether such assurances are reasonable.

11. INSURANCE

Contractor shall maintain prior to the beginning of and for the duration of this Agreement insurance coverage as specified in Exhibit A attached hereto and incorporated herein by this reference as though set forth in full.

12. INDEPENDENT CONTRACTOR

Contractor is and shall at all times remain as to the City a wholly independent Contractor. The personnel performing the services under this Agreement on behalf of Contractor shall at all times be under Contractor's exclusive direction and control. Neither City nor any of its officers, employees, or agents shall have control over the conduct of Contractor or any of Contractor's officers, employees, or agents, except as set forth in this Agreement. Contractor shall not at any time or in any manner represent that it or any of its officers, employees, or agents are in any manner officers, employees, or agents of the City. Contractor shall not incur or have the power to incur any debt, obligation, or liability against City, or bind City in any manner.

No employee benefits shall be available to Contractor in connection with the performance of this Agreement. Except for the fees paid to Contractor as provided in the Agreement, City shall not pay salaries, wages, or other compensation to Contractor for performing services hereunder for City. City shall not be liable for compensation or indemnification to Contractor for injury or sickness arising out of performing services hereunder.

13. LEGAL RESPONSIBILITIES

The Contractor shall keep itself informed of local, state, and federal laws and regulations which in any manner affect those employed by it or in any way affect the performance of its service pursuant to this Agreement. The Contractor shall at all times observe and comply with all such laws and regulations, including but not limited to the Americans with Disabilities Act and Occupational Health and Safety Administration laws and regulations. The City, and its officers and employees, shall not be liable at law or in equity occasioned by failure of the Contractor to comply with this Section.

14. ANTI DISCRIMINATION

Neither the Contractor, nor any subcontractor under the Contractor, shall discriminate in employment of persons upon the work because of race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or gender of such person, except as provided in Section 12940 of the Government Code. The Contractor shall have responsibility for compliance with this Section [Labor Code Section 1735].

15. UNDUE INFLUENCE

Contractor declares and warrants that no undue influence or pressure is used

against or in concert with any officer or employee of the City in connection with the award, terms, or implementation of this Agreement, including any method of coercion, confidential financial arrangement, or financial inducement. No officer or employee of the City will receive compensation, directly or indirectly from Contractor, or any officer, employee, or agent of Contractor, in connection with the award of this Agreement or any work to be conducted as a result of this Agreement. Violation of this Section shall be a material breach of this Agreement entitling the City to any and all remedies at law or in equity.

16. NO BENEFIT TO ARISE TO LOCAL EMPLOYEES

No member, officer, or employee of the City, or their designees or agents, and no public official who exercises authority over or responsibilities with respect to the Project during his/her tenure or for one (1) year thereafter, shall have any interest, direct or indirect, in any agreement or sub-agreement, or the proceeds thereof, for work to be performed in connection with the Project performed under this Agreement.

17. CONFLICT OF INTEREST

Contractor covenants that neither they nor any officer or principal of their firm have any interests, nor shall they acquire any interest, directly or indirectly, which will conflict in any manner or degree with the performance of their services hereunder. Contractor further covenants that in the performance of this Agreement, they shall employ no person having such interest as an officer, employee, agent, or subcontractor. Contractor further covenants that Contractor has not contracted with nor is performing any services directly or indirectly, with the developer(s) and/or property owner(s) and/or firm(s) and/or partnership(s) and/or public agency(ies) owning property and/or processing an entitlement application for property in the City or its Area of Interest, now or within the past one (1) year, and further covenants and agrees that Contractor and/or its subcontractors shall provide no service or enter into any contract with any developer(s) and/or property owner(s) and/or firm(s) and/or partnership(s) and/or public agency(ies) owning property and/or processing an entitlement application for property in the City or its Area of Interest, while under contract with the City and for a one (1) year time period following termination of this Agreement.

18. NOTICE

Any notice to be given pursuant to this Agreement shall be in writing, and all such notices and any other document to be delivered shall be delivered by personal service or by deposit in the United States mail, certified or registered, return receipt requested, with postage prepaid, and addressed to the party for whom intended as follows:

To: City Manager  
City of Moorpark  
799 Moorpark Avenue  
Moorpark, California 93021

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Either party may, from time to time, by written notice to the other, designate a different address or contact person, which shall be substituted for the one above specified. Notices, payments and other documents shall be deemed delivered upon receipt by personal service or as of the third (3rd) day after deposit in the United States mail.

19. CHANGE IN NAME

Should a change be contemplated in the name or nature of the Contractor's legal entity, the Contractor shall first notify the City in order that proper steps may be taken to have the change reflected in the Agreement documents.

20. ASSIGNMENT

Contractor shall not assign this Agreement or any of the rights, duties, or obligations hereunder. It is understood and acknowledged by the parties that Contractor is uniquely qualified to perform the services provided for in this Agreement.

21. LICENSES

At all times during the term of this Agreement, Contractor shall have in full force and effect, all licenses required of it by law for the performance of the services in this Agreement.

22. VENUE AND GOVERNING LAW

This Agreement is made, entered into, and executed in Ventura County, California, and any action filed in any court or for arbitration for the interpretation, enforcement or other action of the terms, conditions, or covenants referred to herein shall be filed in the applicable court in Ventura County, California. The City and Contractor understand and agree that the laws of the state of California shall govern the rights, obligations, duties, and liabilities of the parties to this Agreement and also govern the interpretation of this Agreement.

23. ENTIRE AGREEMENT

This Agreement contains the entire understanding between the parties relating to the obligations of the parties described in this Agreement. All prior or contemporaneous agreements, understandings, representations, and statements, oral or written, are merged into this Agreement and shall be of no further force or effect. Each party is

entering into this Agreement based solely upon the representations set forth herein and upon each party's own independent investigation of any and all facts such party deems material.

24. CAPTIONS OR HEADINGS

The captions and headings of the various Articles, Paragraphs, Sections, and Exhibits of this Agreement are for convenience and identification only and shall not be deemed to limit or define the content of the respective Articles, Paragraphs, Sections, and Exhibits hereof.

25. AMENDMENTS

Any amendment, modification, or variation from the terms of this Agreement shall be in writing and shall be effective only upon approval by both parties to this Agreement.

26. TIME OF COMPLETION

City and Contractor agree that time is of the essence in this Agreement. City and Contractor further agree that Contractor's failure to perform on or at the times set forth in this Agreement will damage and injure City, but the extent of such damage and injury is difficult or speculative to ascertain. Consequently, City and Contractor agree that any failure to perform by Contractor at or within the times set forth herein shall result in liquidated damages as defined in this Agreement for each and every day such performance is late. City and Contractor agree that such sum is reasonable and fair. Furthermore, City and Contractor agree that this Agreement is subject to Government Code Section 53069.85 and that each party hereto is familiar with and understands the obligations of said Section of the Government Code.

27. PRECEDENCE

Contractor is bound by the contents of City's Bid Package and Proposal, Exhibit B and Exhibit C attached hereto and incorporated herein by this reference as though set forth in full. In the event of conflict, the requirements of the City's Bid Package and this Agreement shall take precedence over those contained in the Proposal.

28. INTERPRETATION OF AGREEMENT

Should interpretation of this Agreement, or any portion thereof, be necessary, it is deemed that this Agreement was prepared by the parties jointly and equally, and shall not be interpreted against either party on the ground that the party prepared the Agreement or caused it to be prepared.

29. WAIVER

No waiver of any provision of this Agreement shall be deemed, or shall

constitute, a waiver of any other provision, whether or not similar, nor shall any such waiver constitute a continuing or subsequent waiver of the same provision. No waiver shall be binding unless executed in writing by the party making the waiver.

30. AUTHORITY TO EXECUTE

The person or persons executing this Agreement on behalf of the Contractor warrants and represents that he/she has the authority to execute this Agreement on behalf of the Contractor and has the authority to bind Contractor to the performance of obligations hereunder.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year first above written.

CITY OF MOORPARK

(Contractor)

By: \_\_\_\_\_  
Steven Kueny, City Manager

By: \_\_\_\_\_  
(contractor signatory, title)

Attest:

\_\_\_\_\_  
Maureen Benson, City Clerk

## EXHIBIT A

### INSURANCE REQUIREMENTS

Prior to the beginning of and throughout the duration of the Work, Contractor will maintain insurance in conformance with the requirements set forth below. Contractor will use existing coverage to comply with these requirements. If that existing coverage does not meet the requirements set forth here, it will be amended to do so. Contractor acknowledges that the insurance coverage and policy limits set forth in this section constitute the minimum amount of coverage required. Any insurance proceeds available to City in excess of the limits and coverage required in this Agreement and which is applicable to a given loss, will be available to the City.

Contractor shall provide the following types and amounts of insurance:

1. Commercial General Liability

Commercial General Liability Insurance shall be provided by an Insurance Services Office "Commercial General Liability" policy form CG 00 01 or the exact equivalent. Defense costs must be paid in addition to limits. There shall be no cross liability exclusion for claims or suits by one insured against another. Limits shall be no less than \$1,000,000 per occurrence for all covered losses and no less than \$2,000,000 general aggregate.

Contractor's policy shall contain no endorsements limiting coverage beyond the basic policy coverage grant for any of the following:

- a. Explosion, collapse or underground hazard (XCU)
- b. Products and completed operations
- c. Pollution liability
- d. Contractual liability

Coverage shall be applicable to City for injury to employees of contractors, subcontractors, or others involved in the project. Policy shall be endorsed to provide a separate limit applicable to this project.

2. Workers' Compensation

Workers' Compensation insurance shall be provided on a state-approved policy form providing statutory benefits as required by law with employers' liability limits no less than \$1,000,000 per accident for all covered losses.

3. Business Auto Coverage

Business Auto Coverage on ISO Business Auto Coverage form CA 00 01 06 92 including symbol 1 (Any Auto) or the exact equivalent shall be provided. Limits shall be no less than \$1,000,000 per accident, combined single limit. If Contractor owns no vehicles, this requirement may be satisfied by a non-owned auto endorsement to the general liability policy described above. If Contractor or Contractor's employees will use personal autos in any way on this project, Contractor shall provide evidence of personal auto liability coverage for each such person.

4. Excess or Umbrella Liability

Excess or Umbrella Liability insurance (Over Primary) if used to meet limit requirements, shall provide coverage at least as broad as specified for the underlying coverages. Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross liability exclusion precluding coverage for claims or suits by one insured against another. Coverage shall be applicable to City for injury to employees of contractor, subcontractors, or others involved in the Work. The scope of coverage provided is subject to the approval of city following receipt of proof of insurance as required herein. Limits are subject to review.

Insurance procured pursuant to these requirements shall be written by insurers that are admitted carriers in the state of California and with A.M. Best rating of A- or better and a minimum financial size of VII.

Contractor and City agrees as follows:

1. Contractor agrees to endorse the third party general liability coverage required herein to include as additional insureds City, its officials, employees, agents, using standard ISO endorsement No. CG 2010 with an edition date of 2004. Contractor also agrees to require all contractors, subcontractors, and any one else involved in any way with the project contemplated by this Agreement to do likewise.
2. Any waiver of subrogation express or implied on the part of the City to any party involved in this Agreement or related documents applies only to the extent of insurance proceeds actually paid. City, having required that it be named as an additional insured to all insurance coverage required herein, expressly retains the right to subrogate against any party for sums not paid by insurance. For its part, Contractor agrees to waive subrogation rights against City regardless of the applicability of any insurance proceeds, and to require all contractors, subcontractors, or others involved in any way with the project contemplated by this Agreement to do likewise.

3. All insurance coverage maintained or procured by Contractor or required of others by Contractor pursuant to this Agreement shall be endorsed to delete the subrogation condition as to the city, or to specifically allow Contractor or others providing insurance herein to waive subrogation prior to a loss. This endorsement shall be obtained regardless of existing policy wording that may appear to allow such waivers.
4. It is agreed by Contractor and City that insurance provided pursuant to these requirements is not intended by any party to be limited to providing coverage for the vicarious liability of City, or to the supervisory role, if any, of City. All insurance coverage provided pursuant to this or any other Agreement (express or implied) in any way relating to City is intended to apply to the full extent of the policies involved. Nothing referred to here or contained in any agreement involving City in relation to the project contemplated by this Agreement is intended to be construed to limit the application of insurance coverage in any way.
5. None of the coverages required herein will be in compliance with these requirements if they include any limiting endorsement of any kind that has not been first submitted to City and approved of in writing.
6. All coverage types and limits required are subject to approval, modification, and additional requirements by the City, as the need arises. Contractor shall not make any reductions in scope of coverage (e.g. elimination of contractual liability or reduction of discover period) that may affect City's protection without City's prior written consent.
7. Proof of compliance with these insurance requirements, consisting of binders of coverage, or endorsements, or certificates of insurance, shall be delivered to City at or prior to the execution of this Agreement. In the event such proof of insurance is not delivered as required, or in the event such insurance is canceled or reduced at any time and no replacement coverage is provided, City has the right, but not the duty, to obtain any insurance it deems necessary to protect its interests under this or any other Agreement and to pay the premium. Any premium so paid by City shall be charged to and promptly paid by Contractor or deducted from sums due Contractor, at City option.
8. Contractor agrees to endorse, and to required others to endorse, the insurance provided pursuant to these requirements, to require 30 days notice to City and the appropriate tender prior to cancellation or reduction of such liability coverage and notice of any material alteration or non-renewal of any such coverage, and to require contractors, subcontractors, and any other party in any way involved with the project contemplated by this Agreement to do likewise.
9. It is acknowledged by the parties of this Agreement that all insurance coverage required to be provided by Contractor or any subcontractor, and any other party

involved with the project who is brought onto or involved in the project by Contractor, is intended to apply first and on a primary non-contributing basis in relation to any other insurance or self insurance available to the City.

10. Contractor agrees to ensure that subcontractors, and any other party involved with the project who is brought onto or involved in the project by Contractor, provide the same minimum insurance coverage required of Contractor. Contractor agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this Agreement. Contractor agrees that upon request, all agreements with subcontractors and others engaged in this project will be submitted to City for review.
11. Contractor agrees that all layers of third party liability coverage required herein, primary, umbrella and excess, will have the same starting and expiration date. Contractor agrees further that all other third party coverages required herein will likewise have concurrent starting and ending dates.
12. Contractor agrees not to self-insure or to use any self-insured retentions or deductibles on any portion of the insurance required herein and further agrees that it will not allow any contractor, subcontractor, architect, engineer, or other entity or person in any way involved in the performance of Work on the project contemplated by this Agreement to self-insure its obligations to City. If Contractor's existing coverage includes a deductible or self-insured retention, the deductible or self-insured retention must be declared to the City. At that time the City shall review options with the Contractor, which may include reduction or elimination of the deductible or self-insured retention, substitution of other coverage, or other solutions.
13. The City reserves the right at any time during the term of this Agreement to change the amounts and types of insurance required by giving the Contractor 90 days advance written notice of such change. If such change results in substantial additional cost to the Contractor, the City will negotiate additional compensation proportional to the increased benefit to City.
14. For purposes of applying insurance coverage only, all contracts pertaining to the project will be deemed to be executed when finalized and any activity commences in furtherance of performance under this Agreement.
15. Contractor acknowledges and agrees that any actual or alleged failure on the part of City to inform Contractor of non-compliance with any insurance requirement in no way imposes any additional obligations on City nor does it waive any rights hereunder in this or any other regard.
16. Contractor will renew the required coverage annually as long as City, or its employees or agents face an exposure from operations of any type pursuant to

this Agreement. This obligation applies whether or not the Agreement is canceled or terminated for any reason. The insurance shall include but not be limited to products and completed operations and discontinued operations, where applicable. Termination of this obligation is not effective until City executes a written statement to that effect.

17. Contractor agrees to waive its statutory immunity under any workers' compensation statute or similar statute, in relation to the City, and to require all subcontractors and any other person or entity involved in the project contemplated by this Agreement to do likewise.
18. Requirements of specific coverage features are not intended as limitations on other requirements or as a waiver of any coverage normally provided by any given policy. Specific reference to a given coverage feature is for purposes of clarification only as it pertains to a given issue, and is not intended by any party or insured to be all-inclusive.
19. Any provision in any of the construction documents dealing with the insurance coverage provided pursuant to these requirements, is subordinate to and superseded by the requirements contained herein. These insurance requirements are intended to be separate and distinct from any other provision in this Agreement and are intended by the parties to be interpreted as such.
20. All liability coverage provided according to these requirements must be endorsed to provide a separate aggregate limit for the project that is the subject of this Agreement and evidencing products and completed operations coverage for not less than two years after issuance of a final certificate of occupancy by all appropriate government agencies or acceptance of the completed work by City.
21. Contractor agrees to be responsible for ensuring that no contract used by any party involved in any way with the project reserves the right to charge City or Contractor for the cost of additional insurance coverage required by this Agreement. Any such provisions are to be deleted with reference to City. It is not the intent of City to reimburse any third party for the cost of complying with these requirements. There shall be no recourse against City for payment of premiums or other amounts with respect thereto.
22. Contractor agrees to obtain and provide to City a copy of Professional Liability coverage for Architects or Engineers on this project through Contractor. City shall determine the liability limit.

## BOND FOR FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS:

That we, \_\_\_\_\_ hereinafter referred to as "Contractor" as principal, and \_\_\_\_\_ hereinafter referred to as "Surety," are held and firmly bound unto the City of Moorpark, California, hereinafter referred to as "City", or "Obligee" in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that:

WHEREAS, said Contractor has been awarded and is about to enter into a Contract with the City of Moorpark, California, for construction of the park site at 161 Second Street, and is required by said City to give this bond in connection with the execution of said Contract.

NOW, THEREFORE, if said Contractor shall well and truly do and perform all the covenants and obligations of said Contract to be done and performed at the time and in the manner specified herein, then this obligation shall be null and void one year after date of recordation of Notice of Completion by City of the completed work; otherwise it shall be and remain in full force and effect, and Surety shall cause the Contract to be fully performed or to pay to obligee the cost of performing said Contract in an amount not exceeding the said sum above specified, and shall also, in case suit is brought upon this bond, pay to obligee court costs and a reasonable attorney's fee, to be fixed by the court.

IT IS FURTHER PROVIDED, that any alterations in the work to be done or the material to be furnished shall not in any way release the Contractor or the Surety thereunder, nor shall any extensions of time granted under the provisions of the Contract release either the Contractor or the Surety; and notice of such alterations or extensions of the Contract is hereby waived by the Surety.

WITNESS our hands this \_\_\_\_\_ day of \_\_\_\_\_, 2014.

Contractor \_\_\_\_\_ By \_\_\_\_\_

Title \_\_\_\_\_ By \_\_\_\_\_

Surety \_\_\_\_\_ By: \_\_\_\_\_

ALL SIGNATURES MUST BE WITNESSED BY NOTARY  
(attach appropriate executed form)

## BOND FOR MATERIAL SUPPLIERS AND LABORERS

KNOW ALL PERSONS BY THESE PRESENTS:

That we, \_\_\_\_\_ hereinafter referred to as "Contractor" as principal, and \_\_\_\_\_ hereinafter referred to as "Surety," are held and firmly bound unto the CITY OF MOORPARK, CALIFORNIA, hereinafter referred to as "City " in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that:

WHEREAS, said Contractor has been awarded and is about to enter into a Contract for the construction of the park site at 161 Second Street and is required by City to give this bond in connection with the execution of said Contract.

NOW, THEREFORE, if the said principal as Contractor in said Contract or subcontractors fails to pay for any subcontractors, materials, provisions, or its other supplies, or items, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code with respect to such work or labor, said Surety will pay for the same in an amount not exceeding the sum specified above, and also, in case suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any and all persons named in Section 3181 of the Civil Code of the State of California. This bond shall remain in full force and effect through the term of the Agreement and beyond as set forth herein. The Contractor may cause the Bond to be exonerated one (1) year after the date of recordation of the Notice of Completion by the City and only with the City's written permission. However, Bond shall not be exonerated if claims or stop notices remain outstanding.

**IT IS FURTHER PROVIDED, that any alterations in the work to be done or the material to be furnished, which may be made pursuant to the terms of said Contract shall not in any way release either the Contractor or the Surety thereunder, nor shall any extensions of time granted under the provisions of said Contract release either the Contractor or the Surety; and notice of such alterations or extensions of the Contract is hereby waived by the Surety.**

**BOND FOR MATERIAL SUPPLIERS AND LABORERS ~  
(continued)**

WITNESS our hands this \_\_\_\_\_ day of \_\_\_\_\_, 2014

Contractor

By \_\_\_\_\_

Title \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

Surety

By \_\_\_\_\_

ALL SIGNATURES MUST BE WITNESSED BY NOTARY  
(attach appropriate executed form)

## **GENERAL CONDITIONS TO THE CONTRACT FOR CONSTRUCTION**

The General Conditions may be supplemented or amended by the Special Conditions in the Contract Documents and other sections of the Project Manual. All provisions which are not so amended or supplemented remain in full force and effect.

Except as hereinafter provided, the provisions of the latest edition of the Standard Specifications for Public Works Construction (SSPWC), and all supplements thereto, prepared and promulgated by the Greenbook Committee of Public Works Standards Inc., formerly the Southern California Chapter of the American Public Works Association and the Associated General Contractors of America, and the following modifications thereto are established as the Standard Specifications for the City. They will be referred to in the General Conditions and contract documents as the "Greenbook". These specifications will prevail as the basic Standard Specifications for this project except as otherwise specifically noted in the General Conditions when reference is made to the State Standard Specifications.

Contractor agrees that if there is a conflict between the documents, or a conflict, repetition, or ambiguity within any of the documents, the City shall be the sole person to decide which document or provision shall govern, to the interest of the City .

The City will make the final decisions based on the recommendations of the City's designated Project Representative. Jeremy Laurentowski, Parks and Recreation Director is the City's project representative assigned to this project and will act as directed by and under the supervision of the City Manager.

In the attached, "City ," and "Owner" shall refer to the City of Moorpark, California.

### **ARTICLE 1**

#### **GENERAL CONDITIONS**

##### **1.1 BASIC DEFINITIONS**

1.1.1 The Contract represents the entire and integrated Agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract shall not be construed to create a contractual relationship of any kind (1) between the City and a Subcontractor or supplier or (2) between any persons or entities other than the City and Contractor.

1.1.2 The term "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 part of the project.

1.1.3 The “project” is the total construction of the work performed under the Contract Documents and may be the whole or a part which may include construction by other Contractors and by the City’s own forces including persons or entities under separate contracts not administered by the City .

1.1.4 The “drawings” are the graphic and pictorial portions of the Contract, wherever located and whenever issued, showing the design, location and dimensions of the work, generally including plans, elevations, sections, details, schedules, and diagrams.

1.1.5 The “specifications” are that portion of the Contract consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the work, and performance of related services.

1.1.6 The Project Manual is the volume assembled for the work which includes without limitation, the bidding requirements and documents, the proposal, sample forms, the contract and conditions of the Contract.

1.1.6.1 The drawings, specifications, project manual, contract and all incorporations by reference comprise the contract documents.

## **1.2 EXECUTION, CORRELATION AND INTENT**

1.2.1 The Contract Documents shall be signed by the City and Contractor as provided in the Contract.

1.2.2 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the work is to be performed and correlated personal observations with requirements of the Contract and agrees to all terms and conditions of the contract documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work by the Contractor. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL.

1.2.4 Organization of the specifications into divisions, sections and articles, and arrangements of drawings shall not control the Contractor in dividing the work among Subcontractors or in establishing the extent of work to be performed by any trade.

1.2.5 Unless otherwise stated in the Contract, words which have well-known technical or construction industry meanings are used in the Contract in accordance with such recognized meanings.

## **1.3 CAPITALIZATION**

1.3.1 Terms capitalized in these General Conditions include those which are (1)

specifically defined and (2) the titles of numbered articles and identified references to Paragraphs, Sub-paragraphs and Clauses in this document.

#### **1.4 INTERPRETATION**

1.4.1 In the interest of brevity the Contract frequently omits modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

#### **1.5 PRECEDENCE**

1.5.1 Precedence shall be as outlined in the latest edition of the Standard Specifications for Public Works Construction (The “Greenbook”).

### **ARTICLE 2**

#### **OWNER**

##### **2.1 DEFINITION**

2.1.1 The City is the person or entity identified as such in the Contract and is referred to throughout the Contract as if singular in number. The terms “City ” and “Owner” mean the City of Moorpark, and it is the owner.

2.1.2 The City upon reasonable written request shall furnish to the Contractor, in writing, information which is necessary and relevant for the Contractor to evaluate, give notice or enforce claim rights.

##### **2.2 INFORMATION AND SERVICES REQUIRED BY THE CITY**

2.2.1 Information or services under the City ’s control shall be furnished by the City with reasonable promptness to avoid delay in orderly progress of the work.

2.2.2 As necessary, the City shall forward all communications to the Contractor through electronic mail, fax and/or first class mail, personal delivery, or overnight delivery service.

##### **2.3 CITY ’S RIGHT TO STOP THE WORK**

2.3.1 If the Contractor fails to correct work which is not in accordance with the requirements of the Contract, in the required time frames, or persistently fails to carry out work in accordance with the Contract, the City, by written order signed personally or by an agent specifically so empowered by the City in writing, may order the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the City to stop the work shall not give rise to a duty on

the part of the City to exercise this right for the benefit of the Contractor or any other person or entity. These remedies are supplemental to remedies found elsewhere in the Contract.

## **2.4 CITY'S RIGHT TO CARRY OUT THE WORK**

2.4.1 Notwithstanding other remedies available to the City, if the Contractor defaults or neglects to carry out the work in accordance with the Contract and fails within a ten calendar day period after receipt of written notice from the City to commence and correct such default or neglect with diligence and promptness, the City, at its sole option and without obligation, may, with their own or outside forces, correct such deficiencies. In such case an appropriate deduction shall be made by the City from payments then, or thereafter, due to the Contractor for the cost of correcting such deficiencies, including compensation for the City's additional services and expenses made necessary by such default, neglect, or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the City. This remedy is cumulative. The City may terminate pursuant to Section 6 of the contract.

## **ARTICLE 3**

### **CONTRACTOR**

#### **3.1 DEFINITION**

3.1.1 The Contractor is the person or entity identified as such in the Contract and is referred to throughout this Contract as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative.

3.1.2 The plural term "Contractors" refers to persons or entities who perform construction under conditions of the Contract that are administered by the City, and that are identical or substantially similar to these conditions.

#### **3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR**

3.2.1 In addition to other investigations required by the contract documents, the Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to City Staff at once.

3.2.2 The Contractor shall perform the work in accordance with the Contract.

#### **3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

3.3.1 The Contractor shall supervise and direct the work, using the Contractor's best

skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and all safety requirements for coordinating all portions of work under this Contract, subject to overall coordination of the Construction, and subject to overall coordination by City Staff as provided in Subparagraphs 4.2.3.

3.3.2 The Contractor shall be responsible to the City for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the work under a contract with the Contractor.

3.3.3 The Contractor shall not be relieved of obligations to perform the work in accordance with the Contract either by activities or duties of City Staff in the administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.3.4 The Contractor shall inspect portions of the project related to the Contractor's work in order to determine that such portions are in proper condition to receive subsequent work.

#### **3.4 LABOR AND MATERIALS**

3.4.1 Unless otherwise provided in the Contract, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated in the work.

#### **3.5 PREVAILING WAGE, PAYROLL RECORDS AND DEBARMENT**

3.5.1 The Contractor is aware of the requirements of California Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Since this Project involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Agreement from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at [www.dir.ca.gov/dlsr/](http://www.dir.ca.gov/dlsr/). Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Project site. Contractor shall defend, indemnify and hold the City of Moorpark, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

3.5.2 The Contractor and each subcontractor shall forfeit as a penalty to the City of Moorpark not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing wage rate for any work done by him, or by any subcontract under him, in violation of the provisions of the California Labor Code. The difference between such stipulated prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.

3.5.3 As a further material part of this Contract, Contractor agrees to hold harmless and indemnify the City, its Board and each member of the Board, its officers, employees and agents from any and all claims, liability, loss, costs, damages, expenses, fines and penalties, of whatever kind or nature, including all costs of defense and attorneys' fees, arising from any alleged failure of Contractor or its subcontractors to comply with the prevailing wage laws of the State of California. If the City or any of the indemnified parties are named as a party in any dispute arising from the failure of Contractor or its subcontractors to pay prevailing wages, Contractor agrees that the City and the other indemnified parties may appoint their own independent counsel, and Contractor agrees to pay all attorneys' fees and defense costs of the City and the other indemnified parties as billed, in addition to all other damages, fines, penalties and losses incurred by the City and the other indemnified parties as a result of the action.

3.5.4 Accurate payroll records shall be kept by the contractor and each subcontractor, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work.

3.5.5 It shall be the responsibility of Contractor to Comply with Labor Code section 1776 as it may be amended by the Legislature from time to time with respect to each payroll record. As of April, 2003, Labor Code section 1776 provides in relevant part:

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

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

(2) The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.

(b) The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the contractor on

the following basis:

(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the body awarding the contract, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

(3) A certified copy of all payroll records enumerated in subdivision (a) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the body awarding the contract, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the contractor.

(c) The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.

(d) A contractor or subcontractor shall file a certified copy of the records enumerated in subdivision (a) with the entity that requested the records within 10 days after receipt of a written request.

(e) Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address, and social security number. The name and address of the contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (Section 175a of Title 29 of the United States Code) shall be marked or obliterated only to prevent disclosure of an individual's name and social security number. A joint labor management committee may maintain an action in a court of competent jurisdiction against an employer who fails to comply with Section 1774. The court may award restitution to an employee for unpaid wages and may award the joint labor management committee reasonable attorney's fee and costs incurred in maintaining the action. An action under this subdivision may not be based on the employer's misclassification of the craft of a worker on its certified payroll records. Nothing in this subdivision limits any other available remedies for a violation of this chapter.

(f) The contractor shall inform the body awarding the contract of the location of the

records enumerated under subdivision (a), including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.

(g) The contractor or subcontractor shall have ten (10) days in which to comply subsequent to receipt of a written notice requesting the records enumerated in subdivision (a). In the event that the contractor or subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit fifty dollars (\$50) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

(h) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section.

(i) A certified copy of all payroll records shall be submitted to the Project Representative no later than the tenth (10<sup>th</sup>) day of each month for the immediately preceding month. This submission shall be a condition precedent for payment to Contractor. Failure to submit payroll records shall be grounds of withholding payment to Contractor until such submission is made.

**3.5.6 Debarment.** The Contractor or any subcontractor working under the Contractor may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the California Labor Code. Any contract on a public works project entered into between the Contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred subcontractor by the Contractor on the project shall be returned to the City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

## **3.6 APPRENTICES**

3.6.1 Contractor's attention is directed to the provisions of Sections 1777.5, 1777.6, and 1777.7 of the California Labor Code concerning employment of apprentices by the Contractor or any subcontractor under him. The Contractor shall be knowledgeable of and comply with all California Labor Code sections including 1727, 1773.5, 1775, 1777, 1777.5, 1810, 1813, 1860, including all amendments; each of these sections is incorporated by reference into this Contract. The responsibility for compliance with these provisions for all apprentice able occupations rests with the Contractor. Knowing violations of Section 1777.5 will result in forfeiture not to exceed \$100 for each calendar day of non-compliance pursuant to Section 1777.7.

### **3.6 TAXES**

3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the work or portions thereof provided by the Contractor which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### **3.7 PERMITS, FEES AND NOTICES**

3.7.1 The Contractor shall secure and pay for all necessary permits required for the proper execution and completion of the work in this contract, including a City of Moorpark Business Registration Permit, which can be obtained from the Community Development Department.

3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the work.

3.7.3 If the Contractor performs work knowing it to be contrary to laws, statutes, ordinances, building codes, and rules and regulations, the Contractor shall assume full responsibility for such work and shall bear the attributable costs to remove, correct and/or otherwise comply with the law.

### **3.8 ALLOWANCES**

Not used.

### **3.9 CONTRACTOR'S SUPERVISION/SUPERINTENDENT**

3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in full time attendance at the project site during performance of the work. They shall have extensive experience in projects similar to this one. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case. The Contractor shall give efficient supervision to work, using his/her best skill and attention. He/she shall carefully study and compare all drawings, specifications and other instructions and shall at once report to City Staff any error, inconsistency or omission which he/she may discover.

### **3.10 CONTRACTOR'S CONSTRUCTION SCHEDULE**

3.10.1 The Contractor, promptly after being awarded the Contract, shall submit Contractor's construction schedule for the work. Such schedule shall not exceed time limits current under the Contract, shall be revised at appropriate intervals as required by the contract documents, conditions of the work and progress. The construction schedule

shall provide for expeditious and practicable execution of the work and shall show procurement and submittals. See specifications for further requirements regarding construction schedule.

3.10.2 The Contractor shall cooperate with the City in scheduling and performing the Contractor's work to avoid conflict, delay in, or interference with the work of other Contractors or the construction or operations of the City's own forces.

3.10.3 Contractor shall keep current a Request for Information (RFI) schedule and reply record.

### **3.11 SUBMITTALS**

3.11.1 Contractor to prepare a schedule of required submittals. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to allow for review(s) and to avoid delay.

3.11.2 Specific submittal requirements are described in individual specification sections as required. Do not commence work which requires review of any submittals until in receipt of returned submittals with appropriate final action.

3.11.3 Allow one week for initial review.

3.11.4 Clearly label each submittal for identification including number and title of appropriate specification section, drawing number and detail references as appropriate.

3.11.5 Transmit submittal to City Project Representative via e-mail for dissemination to appropriate design professional. In the transmittal e-mail record relevant information and requests for detail, and record deviations from the contract documents, including variations and limitations. Include certification from Contractor that the information complies with Contract document requirements.

3.11.6 The Contractor shall prepare and keep current, for City staff approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows for a reasonable time for review.

### **3.12 USE OF SITE**

3.12.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, and permits and shall not unreasonably encumber the site with materials or equipment.

3.12.2 The Contractor shall coordinate their operations with, and secure the approval of, the City before using any portion of the site.

### **3.13 ACCESS TO WORK**

3.13.1 The Contractor shall provide the City access to the work in preparation and progress wherever located.

### **3.14 ROYALTIES AND PATENTS**

3.14.1 The Contractor shall pay all royalties and license fees, fees for use of patent rights and shall hold the City harmless from the loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer is required by the Contract.

## **ARTICLE 4**

### **ADMINISTRATION OF THE CONTRACT**

#### **4.1 CITY'S REPRESENTATIVES**

4.1.1 One or more Representatives employed by the City may be assigned to the work. His/her duties shall be defined by the City.

4.1.2 The designated City Project Representative or entity is identified as such in the Contract and is referred to throughout the Contract as if singular in number. The designated staff person will act as directed by and under the supervision of the Parks and Recreation Director, and will confer with the Director and City regarding its actions.

4.1.3 The City's Project Representative shall have full access to all operations involving work under this Contract and shall be provided reasonable advance notice of the time and place of operations which he/she desires to observe.

4.1.4 The Contractor shall furnish City reasonable facilities for obtaining such information as may be necessary to keep them fully informed respecting progress and manner of work and character of materials. Observation of work shall not relieve the Contractor from any obligation to fulfill this Contract. The City Manager shall have authority to stop work whenever provisions of the Contract are not being complied with and the Contractor shall instruct his/her employees accordingly.

4.1.5 Duties, responsibilities and limitations of authority of City's Representative as set forth in the Contract shall not be restricted, modified or extended without written consent of the City and Contractor. Consent shall not be unreasonably withheld.

4.1.6 In case of termination of employment of the designated staff person, the City shall appoint a staff person whose status under the Contract shall be that of the former staff or higher, respectively.

## **4.2 ADMINISTRATION OF THE CONTRACT**

4.2.1 The City's project representative will provide administration of the Contract as described in the Contract under the direction of the Parks and recreation Director, and will advise the City during construction, until all contractual obligations are completed and contract performed or terminated. The Representative will advise and consult with the City and will have authority as stated in the Contract, unless otherwise modified by written instrument in accordance with other provisions of the Contract.

4.2.2 The City's Project Representative will determine that the work is being performed in accordance with the requirements of the Contract, will keep the Parks and Recreation Director informed of the progress of the work, and will endeavor to guard the City against defects, deficiencies in the work and slow progress.

4.2.3 The City's Project Representative will provide for coordination of the activities of other Contractors and of the City's own forces with the work of the Contractor, who shall cooperate with them. The Contractor shall participate with other Contractors and the City in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and as required by the contract documents. The construction schedules, until subsequently revised, shall constitute the schedules to be used by the Contractor, other Contractors, and City.

4.2.4 The City's Project Representative will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, since these are solely the Contractor's responsibility as provided in Paragraph 3.3, and neither will be responsible for the Contractor's failure to carry out the work in accordance with the Contract. The City will not have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the work.

4.2.5 The Contractor shall communicate directly with the City. Communications by and with Subcontractor's and material suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the City's Project Representative.

4.2.6 The Project Representative will review and certify the applications for payment by the Contractor. City staff will assemble the Contractor's application for payment into a project application and request for payment.

4.2.7 Based on the City's observations and evaluations of Contractor's applications for payment, the application will be processed. Final approval for payment rests with the City Manager.

### **4.3 CLAIMS AND DISPUTES**

4.3.1 Definition. A claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, and extension of time or other relief with respect to the terms of the Contract. The term "claim" also includes other disputes and matters in question, between the City and Contractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate claims shall rest with the party making the claim. An unresolved claim is an unresolved dispute.

4.3.2 Time Limits on Claims. Claims by either party must be made within 14 calendar days after occurrence of the event giving rise to such claim or within 14 days after the claimant first recognizes the condition giving rise to the claim, whichever is later. Claims must be made by written notice. An additional claim made after the initial claim has been implemented by Change Order will not be considered unless submitted in a timely manner.

4.3.3 Continuing Contract Performance. Pending final resolution of a claim, answer on change order request, or unresolved dispute, unless otherwise agreed in writing, the Contractor shall proceed diligently with performance of the work and contractual obligations and the City shall continue to make agreed upon payments in accordance with the Contract. (Also see 4.3.5)

4.3.4 Claims for Additional Cost. If the Contractor wishes to make a claim for an increase in the contract lump sum, written notice as provided herein shall be given before proceeding to execute the work as required. Prior notice is not required for claims relating to an emergency endangering life or property arising under Paragraph 9.3. If the Contractor believes additional cost is involved for reasons including but not limited to, (1) an order by the City to stop the work where the Contractor was not at fault, (2) a written order for a minor change in the work issued by the Representative, (3) failure of payment by the City, (4) termination of the Contract by the City, (5) or City's suspension of work, claims shall be filed in accordance with the procedure established herein.

#### 4.3.5 Claims for Additional Time

4.3.5.1 If the Contractor wishes to make a claim for an extension in time to complete the Contract, written notice to the City, shall be given by the Contractor. The Contractor's claim shall include an estimate of probable effect of delay on progress of the work. In the case of a continuing delay only one claim is necessary.

4.3.5.2 If adverse weather conditions are the basis for a claim for additional time, such claim shall be documented in writing substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the scheduled construction. Payment for general condition items, overhead, and profit shall not be made for additional time

granted for adverse weather conditions, vandalism, casualty loss and/or material availability. Contractor expressly waives any rights to such claims. Contractor must have provided required erosion control and access protection as a requirement to making claims for extension of time because of adverse weather conditions.

4.3.5.3 No claims for adverse weather conditions for weekends or holidays will be granted unless contractor specifically requested (in writing) permission to work and was granted such permission by the City. If rain is predicted when the request to work is received by the City, the request to work will be rejected, unless the work is inside and protected access is in place.

4.3.5.4 At no time shall the workload of material manufacturers be considered a reason to claim "inability to obtain materials" for purposes of requesting a time extension.

4.3.6 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, of any of the other party's employees or agents, or of others for whose acts such party is legally liable, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 2 days after initial observance or notification. The notice shall provide sufficient detail to enable the other party to investigate the matter.

#### **4.4 RESOLUTION OF CLAIMS AND DISPUTES**

4.4.1 The City will review claims and disputes, with the City Manager, and take one or more of the following preliminary actions within ten days of receipt of a claim: (1) request additional supporting data from the claimant, (2) submit a schedule to the parties indicating when they expect to take action, (3) recommend rejecting the claim in whole or in part, stating reasons for rejection, (4) recommend approval of the claim by the other party or (5) suggest a compromise. The City may, but is not obligated to, notify the surety, if any, of the nature and amount of the claim.

4.4.2 If a claim has been resolved, the City will notify the parties in writing of the resolution.

4.4.3 An unresolved claim is an unresolved dispute.

4.4.4 If a claim has not been resolved, the party making the claim shall, within ten days after the City's preliminary response, take one or more of the following actions: (1) submit additional supporting data requested, (2) modify the initial claim, (3) notify the City that the initial Claim stands, or (4) withdraw the claim.

4.4.5 Contractor, in the event of any dispute or controversy with the City over any matter whatsoever, shall not cause any delay or cessation in or of work, but shall proceed with the performance of the work in dispute. This includes disputed time extension requests and prices for changes.

4.4.6 The disputed work will be categorized as an “unresolved dispute” and payment, if any, shall be as later determined by mutual agreement or a court of law. Contractor will keep accurate, detailed records on all disputed work, claims and other disputed matters and submit same to City. Public Contract Code 20104 et. seq., shall govern the claim procedure.

4.4.7 In no event will the Contractor be allowed to reserve its rights to assert a claim for time extension, or any other type of claim, later than as required by paragraph 4.3.2 unless the City agrees in writing to allow such reservation.

## **ARTICLE 5**

### **SUBCONTRACTORS**

#### **5.1 DEFINITIONS**

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the work at the site. The term “Subcontractor” is referred to throughout the Contract as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term “Subcontractor” does not include other Contractors or Subcontractors of other Contractors. A Subcontractor shall be considered an employee of the Contractor and the Contractor shall be responsible for his/her work.

5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the work at the site. The term “Sub-subcontractor” is referred to throughout the Contract as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

#### **5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK**

5.2.1 All contracts between the general Contractor and its subcontractors and suppliers shall include a provision that the subcontractors and suppliers shall be bound to the Contractor to the same extent that the Contractor is bound to the City by all terms and provisions of the Contract, and shall incorporate the contract by reference into all subcontracts. If the Contractor shall subcontract any part of this Contract, the Contractor shall be as fully responsible to the City for acts and omissions of Subcontractor and of persons either directly or indirectly employed by Subcontractor, as he/she is for acts and omissions of persons directly employed by himself/herself. Nothing contained in the Contract shall create any contractual relation between any Subcontractor and the City.

5.2.2 Contractor will comply with the bidding requirements, and shall furnish in writing for review by the City, the names of persons or entities including those who are to

furnish materials or equipment fabricated to a special design proposed for each principal portion of the work.

5.2.3 The City's consent to or approval of any Subcontractor under this Contract shall not in any way relieve the Contractor of his/her obligations under this Contract and no such consent or approval shall be deemed to waive any provision of this Contract.

5.2.4 The Contractor shall not contract with a proposed person or entity to whom the City has made reasonable and timely objection. The Contractor shall not contract to any unlicensed or uninsured Subcontractor or supplier.

5.2.5 The Contractor shall not change a Subcontractor, person or entity previously approved if the City makes reasonable objection to such change. Substitution or addition shall be permitted only as authorized in Chapter 2 (commencing at Section 4100) Division 5, Title 1 of California Government Code.

### **5.3 SUBCONTRACTUAL RELATIONS**

5.3.1 Each subcontract agreement shall preserve and protect the rights of the City, under the Contract with respect to the work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by this Contract, has against the City. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement which may be at variance with the Contract. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### **5.4 MUTUAL RESPONSIBILITY**

5.4.1 The Contractor shall afford the City's own forces and other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the City.

5.4.2 If part of the Contractor's work depends for proper execution or results upon construction or operations by the City's own forces or other Contractors, the Contractor shall, prior to proceeding with that portion of the work, promptly report to the City apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to report these discrepancies and defects shall constitute an acknowledgment that the City's own forces or other Contractors' completed or partially completed construction is fit and

proper to receive the Contractor's work.

5.4.3 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the City or other Contractors.

5.4.4 Claims and other disputes and matters in question between the Contractor and other Contractors shall be subject to the provisions of Paragraph 4.4.

## **5.5 CITY'S RIGHT TO CLEAN UP**

5.5.1 If a dispute arises among the Contractor, other Contractors and the City as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the City may clean up and allocate the cost among those responsible as the City determines to be equitable.

## **ARTICLE 6**

### **CHANGES IN THE WORK**

#### **6.1 CHANGES**

6.1.1 Changes in the work may be accomplished after execution of the Contract, and without invalidating the Contract, by change order, construction change directive or order for a minor change in the work, subject to the limitations stated in this Article 6 and elsewhere in the Contract.

6.1.2 A change order shall be based upon prior written agreement among the City, and Contractor; a construction change directive requires prior written agreement by the City and may or may not be agreed to by the Contractor; an order for a minor change in the work may be issued by the City. Final approval for all change orders rests with the City. The City Manager is the final approving authority.

6.1.3 Changes in the work shall be performed under applicable provisions of the Contract, and the Contractor shall proceed promptly, unless otherwise provided in the change order, construction change directive or order for a minor change in the work.

6.1.4 Requests for changes and time extensions may be submitted in letter form with detailed backup and substantiated reasons attached. All requests submitted without detailed backup and substantiated reasons will be returned without action.

#### **6.2 CHANGE ORDERS**

6.2.1 A change order is a written instrument prepared by the City and signed by the City and Contractor, stating their agreement upon all of the following:

1. a subsequent change in the work;
2. the amount of the adjustment in the Contract lump sum, if any; and
3. the extent of the adjustment in the Contract time, if any.

### **6.3 CONSTRUCTION CHANGE DIRECTIVES**

6.3.1 A construction change directive is a written order prepared and signed by the City, directing a change in the work and stating a proposed basis for adjustment, if any; in the Contract lump sum or Contract time, or both. The City may, by construction change directive, without breaching the contract, order changes in the work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract lump sum and Contract time being adjusted accordingly, in accordance with provisions of the contract documents.

6.3.2 A construction change directive shall be used in the absence of total agreement on the terms of a change order or pending change order.

6.3.3 If the construction change directive provides for an adjustment to the Contract lump sum, the adjustment shall be based on one of the following methods, and in accordance with provisions of the contract documents:

1. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
2. Unit prices stated in the Contract or subsequently agreed upon in writing;
3. Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
4. as provided in Subparagraph 6.3.6.

6.3.4 Upon receipt of a Construction change directive, the Contractor shall promptly proceed with the change in the work involved and advise the City of the Contractor's agreement or disagreement with the method, if any, provided in the Construction change directive for determining the proposed adjustment in the Contract lump sum or Contract time.

6.3.5 A Construction change directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract lump sum and Contract time or the method for determining them. Such agreement shall be executed as a change order.

6.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract lump sum, the method and the adjustment shall be

determined by the City on the basis of reasonable expenditures and savings of those performing the work attributable to the change, including, in case of an increase or decrease in the Contract lump sum, the pre-determined percentage for overhead and profit. In such case, the Contractor shall keep and present, in such form as the City may prescribe, an itemized account together with appropriate supporting data. Unless otherwise provided in the Contract, costs for the purposes of this Subparagraph 6.3.6 shall be limited to the following:

1. Costs of labor, including social security, and unemployment insurance, fringe benefits required by agreement or custom, and workers compensation insurance;
2. Costs of materials, supplies and equipment, including cost of delivery by supplier, whether incorporated or consumed;
3. Reasonable, competitive rental costs of equipment over \$75/day, exclusive of hand tools and contractor owned vehicles, whether rented from the Contractor or others;
4. Permit fees, and sales, use or similar taxes related to the work; as limited in the conditions of the Contract.

6.3.7 Pending final determination of cost to the City, amounts not in dispute may be included in applications for payment if a change order to that effect has been signed by the parties. The amount of credit to be allowed by the Contractor to the City for a deletion or change which results in a net decrease in the Contract lump sum shall be actual net cost as confirmed by the City. When both additions and credits covering related work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of increase, if any, with respect to that change.

6.3.8 If the City and Contractor agree with the determination concerning the adjustments in the Contract lump sum and Contract time, or otherwise reach agreement upon the adjustments, such agreement shall be recorded by preparation and execution of an appropriate change order. Change Orders do not become effective until executed by all parties.

6.3.9 If the City and Contractor do not agree on adjustments to the Contract lump sum or Contract time, then this shall be considered a dispute and shall be resolved pursuant to the provisions of Section 4.4 of these General Conditions.

## **ARTICLE 7**

### **TIME**

#### **7.1 DEFINITIONS**

7.1.1 Unless otherwise provided, time for performance is the number of calendar days and/or hours, including authorized adjustments, allotted in the Contract for substantial completion of the work.

7.1.2 The date of commencement of the work is the date stated in the Notice to Proceed issued by the City. The date shall not be postponed by the failure to act of the Contractor or of persons or entities for which the Contractor is responsible.

7.1.3 The date the project is completed is the date so certified by the City.

7.1.4 The term "day" as used in the Contract shall mean calendar day unless otherwise specified.

#### **7.2 PROGRESS AND COMPLETION**

7.2.1 Time limits stated in the Contract are of the essence. By submitting the proposal, the Contractor confirms that the Contract time is a reasonable period for performing the work.

7.2.2 The Contractor shall not knowingly, except by prior consent or direction of the City in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by the Contract to be furnished by the Contractor. The date of commencement of the work shall not be changed by the effective date of such insurance. The date of commencement will be established by a notice to proceed given by the City.

#### **7.3 DELAYS AND EXTENSION OF TIME**

7.3.1 Subject to provisions of the Project Manual, the Contractor may request a time extension to the contract. He/she may request an extension listing reasons for the delay and submitting substantiating evidence. If the City determines the request is reasonable, a change order may be issued for said time extension.

7.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph 4.3 and other appropriate sections of the contract documents.

## **ARTICLE 8**

### **PAYMENTS AND COMPLETION**

#### **8.1 CONTRACT LUMP SUM**

8.1.1 The Contract lump sum is stated in the Contract and, including authorized adjustments, is the maximum amount payable by the City to the Contractor for performance of the work under the Contract.

#### **8.2 APPLICATIONS FOR PAYMENT**

8.2.1 Contractor shall submit to the City an itemized application for payment for work completed in accordance with the schedule of values. The application will be supported by such data substantiating the Contractor's right to payment as the City may require.

8.2.2 Amounts billed by subcontractor or supplier are not a measure of work completed.

8.2.3 The Contractor warrants that upon submittal of an application for payment all work for which recommendation for payment has been requested shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, material or equipment relating to the work. Copies of applicable releases should be submitted with the Contractor's invoice.

8.2.4 Payment shall be made pursuant to payment terms, payment schedule and requirements of the Contract.

8.2.5 Application for payment shall be submitted using the Contractor's own form of invoice.

8.2.6 Payment shall be made as a lump sum pursuant to the Contract provisions.

8.2.7 Substantial completion does not constitute approval for final payment nor final acceptance of the work.

8.2.8 Payment requests will be rejected due to lack of, or improper releases or other improper or incomplete documents required to be submitted with payment requests, as determined by the City.

8.2.9 For all payments made under this contract, there will be no separate "Certificate for Payment." The owner's issuance of a check constitutes a certificate of payment.

### **8.3 RECOMMENDATION FOR PAYMENT**

8.3.1 The Contractor will assemble a project invoice by certifying the amounts due and forwarding them to the Project Representative, along with all required releases and certified payroll documents.

8.3.2 Within ten (10) working days after receipt of the project application for payment, the City will either issue a recommendation for payment, for such amounts as the City determines is properly due, or notify the Contractor in writing of the reasons for withholding certification in whole or in part as provided in Subparagraph 8.4.1.

8.3.3 The issuance of a recommendation for payment will constitute representations made separately to the City, based on individual observations at the site and the data comprising the application for payment submitted by the Contractor, that the work has been completed and that, to the best of the City's knowledge, information and belief, the quality and quantity of the work conforms to the Contract. The foregoing representations are subject to an evaluation of the work for conformance with the Contract upon substantial completion, to results of subsequent tests and inspections, to minor deviations from the Contract correctable prior to completion and to specific qualifications expressed by the City. The issuance of a recommendation for payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the recommendation for payment will not be a representation that the City has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the work, (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the City to substantiate the Contractor's right to payment or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract lump sum.

### **8.4 DECISIONS TO WITHHOLD CERTIFICATION**

8.4.1 The City may decide not to certify payment and may withhold a recommendation for payment in whole or in part, to the extent reasonably necessary to protect the City, if in the City's opinion the representations to the City required by Subparagraph 8.3.3 cannot be made. If the City's Representative is unable to certify payment in the amount of the application, the City will notify the Contractor. If the Contractor and City cannot agree on a revised amount, the City will promptly issue a recommendation for payment for the amount for which the City is able to make such representations. The City may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a recommendation for payment previously issued, to such extent as may be necessary to protect the City from loss because of, but not limited to, the following:

1. Defective work not remedied;

2. Third party claims filed or reasonable evidence indicating probable filing of such claims;
3. Alleged failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
4. Reasonable evidence that the work cannot be completed for the unpaid balance of the Contract lump sum;
5. Damage to the City or another contractor or third party allegedly by Contractor, his/her agent or employee;
6. Reasonable evidence that the work will not be completed within the Contract time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
7. Persistent failure to carry out the work in accordance with the Contract;
8. Re-testing of non-passing tests, reimbursement for inspections, overtime and minimum times not used;
9. Alleged breach of terms and conditions of Contract Documents;
10. Disputed items and issues;
11. Liquidated damages; or
12. Payments which may be past due and payable for just claims against Contractor or any Subcontractor for labor or materials furnished in and about the performance of work on the project under this Contract; and/or
13. Improper, incomplete or unacceptable documents, releases or back up materials.

8.4.2 When the above reasons for withholding certification are removed to the City's satisfaction, certification will be made for amounts previously withheld.

8.4.3 The City may apply such withheld amount or amounts to payment of such claims or obligations at his/her discretion. In so doing, the City shall be deemed the agent of the Contractor and any payment so made by the City shall be considered as a payment made under Contract by the City to the Contractor and the City shall not be liable to the Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. The City will render the Contractor a proper accounting of such funds disbursed on behalf of the Contractor.

## **8.5 FINAL COMPLETION AND FINAL RETENTION PAYMENT**

8.5.1 Upon completion of the work, as specified in the Contract, the Contractor shall notify the City that the work is complete and request final inspection from the building and safety department. Contractor shall also forward to the City a Contractor's application for final retention payment. When the City finds the work to be acceptable under the Contract and the Contract fully performed, the City will approve the recordation of a Notice of Completion based on the recommendation that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the work has been completed in accordance with terms and conditions of the Contract.

8.5.2 In addition to the above, no final retention payment shall be paid until the Contractor submits to the City (1) final certified payroll; (2) release statements or waivers of liens from all subcontractors indicating that they have been paid for their portion of work on this job; and (3) a copy of the building permit showing final sign-off from the City inspector.

8.5.3 Once all documentation has been furnished, the Contractor will not receive payment of final retention until thirty (30) days have passed from the date the Notice of Completion records.

## **ARTICLE 9**

### **PROTECTION OF PERSONS AND PROPERTY**

#### **9.1 SAFETY PRECAUTIONS AND PROGRAMS**

9.1.1 The Contractor shall be responsible for initiating maintaining and supervising all safety precautions and programs in connection with the performance of the Contract including, without limitation, safety, job meetings and training. The Contractor shall submit the Contractor's safety program to the City and coordinate with the safety programs of other Contractors. Contractor will furnish minutes of all safety meetings to the City.

9.1.2 In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless by Contractor's remediation activities as required by this Contract, the Contractor shall immediately stop work in the area affected and report the condition to the City in writing. The work in the affected area shall not thereafter be resumed except by written agreement of the City and Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless, by written agreement of the City and Contractor.

9.1.3 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop work in the affected area and report the condition to the City in writing. The City shall then proceed in the same manner described in Subparagraph 9.1.2.

## **9.2 SAFETY OF PERSONS AND PROPERTY**

9.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

1. Employees on the job and other persons who may be affected thereby;
2. The work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors;
3. Other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
4. Construction or operations by the City or other Contractors.

9.2.2 The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

9.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

9.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

9.2.5 The Contractor shall promptly remedy damage and loss (whether or not insured under property insurance required by the Contract) to property referred to in subparagraph 9.2.1 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, supplier, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under subparagraph 9.2.1. This includes damage or loss caused by unknown persons or causes. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under the indemnity sections of the Contract.

9.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the City.

9.2.7 The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger safety to persons or property.

#### **9.4 PROTECTION OF WORKERS IN TRENCH EXCAVATIONS**

9.4.1 If the Project involves an estimated expenditure in excess of twenty-five thousand dollars (\$25,000.00), for the excavation of any trench or trenches five feet or more in depth, the Contractor shall submit to the City Engineer in advance of excavation a detailed plan showing the design shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. The City Engineer shall have authority on behalf of the City to accept and approve the plan. Nothing in this paragraph shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders in accordance with California Labor Code Section 6705.

9.4.2 In accordance with Public Contract Code Section 7104, if the Project involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the City in writing of any (a) material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (b) subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids; (c) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement.

#### **9.4 EMERGENCIES**

9.4.1 In an emergency affecting safety of persons or property; the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

## ARTICLE 10

### INSURANCE

#### 10.1 CONTRACTOR'S INSURANCE (See Bid Terms and Conditions for additional insurance requirements)

10.1.1 The Contractor shall purchase from and maintain in a company or companies "admitted" by the State of California such insurance in accordance with Exhibit A of the Agreement documents for this project as will protect the Contractor from claims which may arise out of or result from the Contractor's operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

10.1.2 The insurance required by Subparagraph 10.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages must be written on an occurrence basis and shall be maintained without interruption from date of commencement of the work until one (1) year after notice of completion records.

10.1.3 Certificates of Insurance acceptable to the City shall be submitted to the City prior to commencement of the work. Additional certificates evidencing continuation of coverage after final payment shall be submitted with the final Application for Payment as required by Subparagraph 10.1.2.

10.1.4 All certificates must be original. An endorsement, the form of which is specified in the Agreement Documents, naming the City as additional insured must also be submitted before the Notice to Proceed will be issued. City will only accept the endorsement specified in the Agreement documents or an EXACT equivalent. If an EXACT equivalent is proposed, Contractor should submit proposed equivalent form to Project Representative prior to submitting bid to ensure that the equivalent form is acceptable.

10.1.5 The Contractor shall obtain all insurance coverage required by this section. Said insurance coverage is required in addition to all other insurance coverage required by other provisions of the Contract Documents. Contractor to pay all deductibles.

10.1.6 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Paragraph 10.1. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner.

**Scope of Work**  
**Parksite at 161 Second Street**  
**Moorpark, California**

1. Saw cut, demolish and remove existing concrete slab, masonry wall along property line, asphalt paving, concrete walkway and drive apron, signage, chain link fencing, bollards and associated footings, trees, landscaping, shrubs, organic material, large boulders, miscellaneous abandoned items, trash, debris as indicated and as necessary.
2. Construct masonry property line wall including footings and reinforcing. **Contractor shall fully cooperate and communicate with adjacent property owners during demolition and construction of new masonry garden wall. Contractor shall provide temporary fencing as necessary to secure the affected property, repair all damage made to property and return property grades, landscaping, irrigation and site features as found prior to start of construction.**
3. Provide all survey, layout and dimensional control as required to complete entire scope of work.
4. Perform all necessary onsite and offsite rough and fine grading including but not limited to excavation and backfill for utilities, trench drains, storm water infiltration and sump systems, percolation pits, footings, concrete flatwork, curbs, gutters, drive approaches, asphalt paving and landscape features.
5. Layout, form, place, strip and finish including reinforcing all onsite and offsite concrete curbs, gutters, mowstrips, sidewalks, catch basins, drainage channels, masonry footings, fence footings, signage, drinking fountain bases, light pole bases, light fixture bases, electrical equipment pads, truncated domes, irrigation equipment pads, entry columns and monument sign footings.
6. Furnish and install all onsite and offsite asphalt paving and asphalt paving patches, including grade preparation, redwood and or concrete headers and mowstrips.
7. Furnish and install all stormwater infiltration, dry sump and percolations systems complete.
8. Furnish and install all landscape irrigation systems complete including piping, sprinklers, wiring, devices, valves, vaults and equipment.
9. Furnish and install all site plumbing complete.
10. Furnish and install drinking fountains complete including clean out and sump.

11. Furnish and install all electrical, signal and lighting systems complete including but not limited to conduits, meter pedestals, panels, lighting controls, light poles, light fixtures, signal and CCTV equipment and connections to SCE.
12. Coordinate, furnish and install all infrastructure, equipment, vaults, boxes, conduit, pull strings, footings, equipment, devices, etc for underground systems as well as for above grade systems.
13. Furnish and install all landscaping complete including but not limited to materials, equipment, planters, plants, groundcover, turf, decomposed granite paving and pathways, mulch, cobble, boulders and organic lock systems.
14. Furnish and install all park equipment including but not limited to BBQs, picnic tables, benches, bike racks, trash and recycle bins.
15. Furnish and install monument sign complete.
16. Construct park entry columns including stone veneer.
17. Furnish and install all steel fencing, gates and associated hardware complete.
18. Contractor will participate in weekly meetings once construction is underway.
19. Contractor responsible for providing sanitary facilities for all workers.
20. Contractor responsible for providing landscape maintenance services for one-year from project completion. See [Appendix 1](#) for Landscape Maintenance Requirements.
21. City responsible for upsizing the meter and contracting for the any work between the meter and the main line, if required.
22. **Contractor is responsible for pulling permits for this work including those needed from the City of Moorpark Planning Department, Building and Safety Office, and City Engineering. Project will already be plan checked. Contractor will pull permit prior to commencement of construction.**
23. The City of Moorpark has adopted a Construction and Demolition (C&D) ordinance requiring all demolition and city-sponsored projects, regardless of cost; new construction projects valued over \$500,000; or renovation projects valued over \$100,000 to divert a minimum of 65% of material generated during the project from disposal in a landfill (through reuse or recycling). The City has created a Construction and Demolition Materials Management Plan (C&DMMP) form to assist applicants to meet these diversion requirements. You will be required to submit a Diversion Security Deposit of 3% of the project valuation to the City to ensure compliance with the ordinance. The deposit will be returned upon verification that

you met the 65% diversion requirement. Also, a one-time fee for staff time associated with processing your C&D plan will be charged. You have two options to meet this requirement. You may use one of the City's franchised haulers (Waste Management or Moorpark Rubbish Disposal, dependent upon the location of the project) who can provide temporary bins and will dispose of your waste at a city authorized facility. Or you may self-haul your waste to a city authorized certified C&D processing facility. If you self-haul your waste you must use proper hauling vehicles and bins **owned by your company** and those vehicles must be **driven by your employees**. Please remember that because this project is a prevailing wage project, the driver of the self-haul vehicle will need to be paid a prevailing wage rate for driving the C&D materials to the authorized facility. **You will need to submit itemized weigh tickets from each facility documenting your C&D recycling and disposal that indicates the weight and type of material recycled or disposed.** These weigh tickets will need to be turned in to the Solid Waste Division and verified **prior to final payment release** for the job and refund of your C&D diversion security deposit. If diversion requirements are not met, the City will retain the deposit. Please contact the Solid Waste Division at 805-517-6257 with questions about the C&D ordinance or about how to obtain the forms and documentation requirements.

24. **Prior to commencing any work, the Contractor shall contact "Dig Alert" to locate any utilities that may be affected by the work.**
25. Verify that areas to remain unaltered adjacent to areas of demolition, alteration or cutting are completely secured and properly barricaded to ensure separation of such operations with anybody other than who is authorized to be in construction area before beginning such work. Provide barricades and maintenance thereof, in accordance with applicable Federal, State and local codes and their respective requirements. Install temporary barricades, enclosures and protections before demolition work is started.
26. Contractor is responsible for provision of water to the site, whether it is through the use of a water meter on a hydrant, a watering truck, or other method. The City of Moorpark falls within Ventura County Waterworks District No. 1, (805) 378-3000 and water meters can be procured through them.
27. During demolition and grading activities, take all precautions necessary to mitigate blowing dust and dirt. Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. This is particularly important, due to close proximity to residential homes. Contractor must comply with governing regulations and Ventura County Air Pollution Control District pertaining to environmental protection. Do not use water when it may create hazardous or objectionable conditions such as flooding and pollution. Do not allow demolished material and trash to accumulate on site, have debris hauled off at regular intervals using appropriate City franchise waste hauler. *(See requirements within item 3.)*

28. Perform work exercising proper care to prevent injury to the public, workmen and adjoining property. Repair or replace existing work scheduled to remain, which is damaged by these operations. Return elements of construction and surfaces to remain to existing condition prior to start of operations. Repair adjacent construction or surfaces soiled or damaged by work.
29. Limit operations to the immediate property on which the work is to be performed, do not infringe upon the adjoining roads or rights-of-way. Keep all access routes and adjoining roads and rights-of-way clean at all times. The tracking of mud, dirt or any other debris onto the adjacent and surrounding roads will not be permitted at any time. If there is debris tracked onto roads, at no time will the use of water be an acceptable clean-up method.
30. Due to the residential nature of the site, hours of work will be confined to 8 a.m. to 5 p.m. Monday through Friday. Weekend work on a Saturday may be allowed but only with written approval of the City Representative.
31. Limit noise to a reasonable level as related to specific items of equipment used and their hours of use. This does not preclude use of mechanical equipment, i.e. jack hammers, heavy equipment.
32. No blasting will be permitted and burning of rubbish at the site is not allowed.
33. Site and surrounding areas to be left clean and free of any debris or other unsuitable materials.
34. Playground equipment and surfacing for the tot lot is to be installed by a separate playground equipment installer. Contractor shall coordinate activities with installer.
35. Except as otherwise specified, in the event the contractor encounters on the project site material reasonably believed to be Asbestos, Polychlorinated biphenyl (PCB) or other hazardous materials, Contractor shall immediately stop work in the affected area and report the condition to the City's Representative in writing.
36. Submit schedule for approval by the City's Representative indicating proposed methods and sequence of operations for work.
37. Contractor will provide a competent English-speaking Superintendent to oversee the complete project. The Superintendent shall be present at all times work is being performed. The Superintendent shall have the authority to bind Contractor through Superintendents acts. The Superintendent shall represent the Contractor; communications given to the Superintendent shall be binding on the Contractor.

38. Contractor will be responsible for the security of the site. Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in the performance of this contract and all vandalism to the project site. Contractor shall be responsible for the protection of the project site until final acceptance by the City. Graffiti will be removed by Contractor within 8 hours of discovery.
39. Storage of any materials at the project site is at the Contractor's own risk. City is not responsible for theft or vandalism of materials stored on site. Any theft or vandalism of construction materials stored on the project site will be replaced at the Contractor's expense.
40. Contractor shall take all necessary precautions for the safety of workers on the project and shall comply with all applicable federal, state, local and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where work is being performed and to provide a safe and healthful place of employment.
41. It is Contractor's responsibility to comply with all applicable storm water and urban runoff permits, regulations, codes or laws. Upon approval of the contract and prior to the start of the job, Contractor will be responsible for filling out and complying with the SWPCP in the form attached as Appendix 2. If there are questions, Contractor may contact the NPDES Coordinator in the Public Works Department at 805-517-6248

ATTACHMENT 1

APPENDIX – 1

ONE – YEAR  
LANDSCAPE MAINTENANCE  
REQUIREMENTS

ATTACHMENT 1  
APPENDIX – 2  
CITY OF MOORPARK  
SWPPP FORM FOR DEMOLITION

**CIVIL PLANS**

**TECHNICAL SPECIFICATIONS**

**PARKSITE AT 161 SECOND  
STREET**

**TECHNICAL SPECIFICATIONS  
NEIGHBORHOOD PARK  
SECOND STREET, MOORPARK, CA**

SECTION 02050 DEMOLITION

SECTION 02200 SITE PREPARATION

SECTION 02210 SITE GRADING

SECTION 0222 TRENCHING BACKFILLING AND COMPACTION

SECTION 02300 EARTHWORK

SECTION 02510 WATER

SECTION 02526 CONCRETE CURBS & COMBO CURB AND GUTTER

SECTION 02700 SITE UTILITIES

SECTION 02721 STORM DRAINAGE

SECTION 02745 ASPHALT PAVING

SECTION 02755 SITE CONCRETE PAVING

SECTION 02765 PAVEMENT MARKINGS

SECTION 04200 MASONRY

**SECTION 02050  
DEMOLITION**

**1. PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Provide all wrecking and demolition, including the removal and disposal of items, as shown on the drawings and as specified, complete.

**1.2 QUALITY ASSURANCE**

- A. Requirements of Regulatory Agencies:

1. Traffic.

- a. Obstruction. Do not close, obstruct, or store material or equipment in public streets, sidewalks, alleys or passageways and in accordance with the requirements of codes and approval conditions listed in DIVISION 1.
- b. No staging, etc. shall be conducted from City Right of Way (Second Street and Alleys.) without City approval.

- B. Requirement of Owner

1. Work shall be completed in such a way to render safe access and operation of the residents along Second Street and the Alleyways.

**JOB CONDITIONS**

- B. Environmental Requirements:

1. Wrecking and Demolition. Accomplish wrecking and demolition in a manner that provides for the safety of the public and all workmen and provides for the protection of all property not to be wrecked or demolished. Methods shall be subject to approval of the Construction Project Manager.
2. Surface Water. After the existing improvements have been removed, protect the resulting excavation or open area from surface water. Promptly remove any water which accumulates in the excavation or opening. The method of dewatering and the disposal of the water are subject to approval by Construction Project Manager.
- a. Prevent surface water from running into the excavated areas. Water which accumulates in the excavation shall be removed promptly. Provide and maintain all necessary bailing, draining, pumping and sheathing.
- b. Contractor shall be responsible for all additional Work required if ingress of ground or surface water softens excavated areas.

2. **PART 2 - PRODUCTS**

Not Used

3. **PART 3 – EXECUTION**

3.1 **INSPECTION**

- A. Condition of Premises: Accept the premises as found and clear the Project site as specified.

3.2 **PREPARATION**

- A. Utilities: Prior to disrupting, removing, plugging or abandoning existing utilities serving the existing buildings to remain, obtain Construction Project Manager's approval.
- B. Masonry Wall:- Prior to demolition the adjoining property owner shall be notified of wall removal schedule (48 hour advance notice required) a temporary visual and sound barrier must be erected to screen demolition and construction activities.
- C. Protection of existing improvements.
- D. Installation of Erosion measures along the perimeter in accordance with plans.

3.3 **PERFORMANCE**

- A. Performance:
1. Wrecking and Demolition. Dismantle and remove all items and obstructions as shown on the Drawings or called out in these Specifications. Remove all foundations completely. Remove all pavement, curbs and sidewalks and other concrete slabs as required to execute the work. Do not damage adjacent remaining pavement or sidewalks. Make cut in such a manner that a clean vertical joint remains.
  2. The ends of abandoned utilities shall be capped or plugged as approved.
  3. Removal. Unless otherwise specified, all materials removed shall become the property of Contractor and shall be removed completely away from the Project site for disposal at a legal dumping site. Secure and pay for required hauling permits and pay dumping fees and charges.
  4. It is a condition of approval for recycling or salvaging of demolition materials wherever feasible.

### **3.4 FIELD QUALITY CONTROL**

#### **A. Workmanship:**

1. Demolition Work. Execute in an orderly manner with due consideration for agencies and the public. Execute the Work to insure adjacent properties and the public against damages incurred by falling debris or other causes.
2. Burning of Materials. Burn no materials or debris on the premises.
3. Dust Control. Sprinkle all rubbish and debris to keep down the dust.
4. Where Applicable

#### **B. Traffic:**

1. Interference. Conduct operations with minimum interference with roads, streets, driveways, alleys, sidewalks and other facilities. Flagmen must be used for traffic control of construction/demolition vehicles for access or egress from the site. Maintain safe access to public at all time.
2. Interference. Conduct operations with minimum interference with roads, streets, driveways, alleys, sidewalks and other facilities. Flagmen must be used for traffic control of construction/demolition vehicles for access or egress from the site. Maintain safe access to public at all time.
3. It is a condition of approval that all construction/demolition activities may only occur between 7:00am to 5:pm, Monday through Friday and that construction/demolition vehicles may not arrive at site earlier than 6:30am and that the contractor's staff must arrive before 7:15am and leave after 3:45pm to avoid aggravating peak traffic conditions associated with the school.

### **3.5 TITLE TO MATERIALS**

### **3.6 DISPOSAL**

### **3.7 ADJUSTMENT AND CLEANING**

- A. Repairs and Replacements: Clean up, repair, or replace at no cost to Owner all property damaged by reason of required Work, including restoring all disturbed areas, surfaced and unsurfaced, to their original condition on completion of the Work as approved. All patchwork shall match existing. Painted surfaces shall be painted to match the adjacent areas.

**END OF SECTION**

**SECTION 02200**  
**SITE PREPARATION**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. Related Sections:
  - 1. Section 2050 Demolition.
  - 2. Section 02300 - Earthwork.

1.2 SUBMITTALS

- A. General: Submit in accordance with Section 01330.
- B. Permit:
  - 1. Submit copy of executed dumping permit allowing material to be dumped or stored on property other than Owner's.
  - 2. Use of permit for off-site dumping shall absolve Owner from responsibility for, and other activities in connection with, material stored or dumped on that property.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
  - 1. Conform to applicable Tree Permit and Project Recycle requirements for disposal of debris.
  - 2. Coordinate clearing Work with utility companies.

1.4 PROJECT CONDITIONS

- A. Traffic:
  - 1. Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
  - 2. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.
- B. Protection of Existing Improvements:
  - 1. Provide barricades, coverings or other types of protection necessary to prevent damage to existing improvements indicated to remain in place.
  - 2. Protect improvements on adjoining properties as well as those on Owner's property.
  - 3. Restore improvements damaged by Work to their original condition as acceptable to Owners or other parties or authorities having jurisdiction.
- C. Improvements on Adjoining Property: Authority for performing removal and alteration work on property adjoining Owner's property will be obtained by Owner prior to start of site clearing work.

- D. Salvageable Improvements: Carefully remove items indicated to be salvaged, and store on Owner's premises where indicated.

## **PART 2 - PRODUCTS**

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine conditions and proceed with work in accordance with Section 01700.
- B. Existing Utilities to be Removed:
  - 1. Examine utility service prior to cutting or otherwise dismantling.
  - 2. Verify that pipes are not pressurized.
  - 3. Verify the purpose/usage of the utility service and verify the continued operation of the service through construction.

### **3.2 PREPARATION**

- A. Ensure site preparation operations preserve survey staking and bench marks.
- B. At completion of site preparation, check staking and reset missing, damaged or disturbed staking or bench marks.
- C. Use staking to verify that obstructions have been removed within designated construction areas, rights-of-ways or easements.
- D. Protect utilities that remain from damage.
- E. Protect bench marks property line monumentation and existing structures from damage or displacement.
- F. Verify Bench Mark elevation with elevations provided.

### **3.3 SITE CLEARING**

- A. Clearing, Grubbing, and Pruning:
  - 1. Clear Project site areas indicated..
  - 2. Completely remove stumps, roots and other debris protruding through ground surface.
  - 3. Accomplish removal in manner to prevent damage to adjacent properties.
  - 4. On areas required for roadway, sidewalks, or structural excavation, remove stumps and roots, to depth of 2'-0" below lowest elevation of excavation.
  - 5. Blade entire area to prevent ponding of water and to provide drainage, except in areas to be immediately excavated.
- B. Removal of Utility Improvements:
  - 1. Remove sewers in proper sequence for continued full operation of existing businesses.
  - 2. Backfill and tamp holes remaining after removal of obstructions.

3. Complete operation by blading, grading or bulldozing so that prepared area is free of holes, ditches, abrupt changes in elevations, and irregularities of contour and drainage of area are preserved.
4. Plug remaining ends of abandoned sanitary sewers, conduits, and water or gas pipes over 3 inch diameter with concrete to form tight closure when backfilling is required.

C. Removal of Above-Grade Improvements:

1. Remove existing surfacing and pavements, including bases for pavements as necessary to permit construction and other work indicated.
2. Remove concrete slabs, gutters, walks, drives, and other work as specifically indicated.
3. Remove existing curbs to existing joints or neatly cut lines where no joint exists.
4. Remove existing pavement to limits shown on plans. Lines shall be sawcut with neat straight lines.

3.4 DISPOSAL

- A. Burning of combustible cleared and grubbed materials is not permitted on Owner's property.

**END OF SECTION**

## SECTION 02210

### SITE GRADING

#### 1. PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. Provide excavation, fill, finished grading and disposal of surplus earth and debris as shown on the Drawings and as specified, complete.

##### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. All related work specified elsewhere, or in other codes or standards, will be as last revised, unless a specific date of issuance is called out in opposition to later revision date(s).
- B. Other sections of the technical specifications, not referenced below, shall also apply to the extent required for proper performance of this work.
  - 1. Demolition: 02050
  - 2. Clearing and Grubbing: 02200

##### 1.3 QUALITY ASSURANCE

- A. Workmanship: Perform all Work in accordance with requirements of the Drawings and Specifications and in a manner which will preserve the lines and levels shown on the Drawings.
- B. For Owner-furnished testing, refer to DIVISION 1.
- C. Requirements of Regulatory Agencies:
  - 1. Traffic:
    - a. Obstruction: Do not close, obstruct, or store material or equipment in public streets, sidewalks, alleys or passageways and in accordance with the requirements of codes and approval conditions listed in DIVISION 1.

##### 1.4 SUBMITTAL

- A. Refer to DIVISION 1 for procedures.
- B. The following tests shall be performed by Contractor's testing agency:
  - 1. Maximum Density Determination. Tests shall be made on two separate samples to determine maximum density at optimum moisture. Samples shall be taken where approved by the Construction Project Manager.

2. Compaction Tests. Compaction or in-place density tests shall be taken at location and time approved by the Construction Project Manager. Fill not meeting the required compaction shall be removed, replaced, recompact and retested at the expense of Contractor. Contractor shall give 72 hours advance written notice to Construction Project Manager when rework is to be accomplished.
- C. Contractor's testing agency will report all results of the tests to Construction Project Manager who will approve or disapprove Contractor's work.

## 1.5 JOB CONDITIONS

- A. Pre-Grading: Immediately after the removal Work, specified in Section 02050 and Section 02200 is completed, grade all areas within the construction area so drainage will be provided at all times. Bring all low sections, holes or depressions to the level by filling and compacting as specified in Standard Specifications for Public Works Construction Clause 300-4 Unclassified Fill. (SSPWC-CL300-4).
- B. Water and Erosion Control:
  1. Newly Graded Areas. Prevent damage from erosion of freshly graded areas. Repair any settlement or washing that may occur prior to acceptance of the Work and re-establish the grades to the required elevations and slopes at no additional cost to Owner or Construction Project Manager. This shall include damage to the newly graded areas within the construction limits and damage to adjacent properties by eroded materials.
  2. Surface Water. After the existing buildings or structures have been removed, protect the resulting building excavation or open area from surface water. Promptly remove any water which accumulates in the excavation or opening. The method of dewatering and the disposal of the water is subject to approval by Construction Project Manager. See Section 02050.
    - a. Prevent surface water from running into the excavated areas. Water which accumulates in the excavation shall be removed promptly. Provide and maintain all necessary bailing, draining, pumping and sheathing.
    - b. Contractor shall be responsible for all additional Work required if ingress of ground or surface water softens excavated areas.

## 2. PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Granular fill used as backfill for concrete retaining walls is as specified in Standard Specifications for Public Works Construction Clause 300-3.5.2 Pervious Backfill (SSPWC-CL 300-3.5.2).
- B. Topsoil:
  1. Topsoil shall be natural, fertile, agricultural soil, capable of sustaining vigorous plant growth. It shall be of uniform composition throughout, without admixture of subsoil. It shall be free of stones, lumps, live plants and their roots, sticks, and other extraneous matter.

2. Topsoil shall have acidity range of ph 5.0 to ph 7.0 and shall contain not less than 3% organic matter.
  - a. When the ph value of the topsoil is less than 5, it shall be increased by applying ground limestone at a rate necessary to attain a ph value of 6.
  - b. When the ph value of the topsoil is greater than 7, it shall be decreased by applying soil sulphur at a rate necessary to attain a ph value of 6. Application shall be followed immediately by a thorough watering.
3. The gradation of the topsoil furnished shall be determined by a laboratory using the bouyoucos hydrometer analysis conforming to the requirements of current AASHTO designation T-88. The gradation of the topsoil shall be within the following ranges:
  - a. Sand (2 millimetres to 50 micrometres) 40 to 80%
  - b. Silt (50 micrometres to 5 micrometres) 10 to 30%
  - c. Clay (5 micrometres and smaller) 10 to 30%
4. In all planting beds the topsoil shall be to a minimum depth of 12 inches and shall be worked up into planting condition, eliminating all foreign material prior to any planting.

### 3. PART 3 - EXECUTION

#### 3.1 PERFORMANCE

##### A. Grading:

1. Stripping. When fills are to be constructed over cultivated or fallowed land, the entire area upon which the fill is to be constructed shall first be cleared of vegetation and then smoothed with a blade grader. When fills are to be constructed over sodded surfaces, the sod shall be stripped to a depth of 2 inches. These smoothed or stripped surfaces shall then be rolled to the specified density required for fill prior to the fill material placement. Dispose of stripped material as waste and completely remove from the Project site.
2. Conservation of Topsoil. Deposit topsoil in storage piles convenient to the areas which are subsequently to receive application of topsoil. Stockpile topsoil free of roots, stones and other undesirable material as specified in Paragraph 2.1 B above. Keep topsoil, when stored, separate from other excavated materials. Cover storage piles as required to prevent wind blown dust.
3. Excavation. Perform excavation of every description and of whatever substances encountered within the grading limits of the project to the lines and grades indicated on the Drawings. If rock is encountered during excavation, rock shall be excavated to a depth at 6 inches below elevation for the finished subgrade. All excavated material shall be transported to and placed in the fill areas within the limits of the Work as specified and as shown on the Drawings. All excavated materials, including weeds, sod, trash, logs, or stumps, and any surplus of excavated material which is not required for fill, shall be removed from Project site and disposed of by Contractor. Perform excavation and filling in a manner and sequence that will provide drainage at all times.

4. Borrow Material: All borrow material is subject to approval by Construction Project Manager and the material shall be selected to meet the requirements and conditions of the particular fill for which it is to be used.
5. Preparation of Ground Surface for Fill. Sloped ground surfaces steeper than 5 to 1 upon which fill is to be placed shall be plowed, stepped or broken up in such a manner that fill material will bond with the existing surfaces. Prepared surfaces shall be wetted and compacted as specified.
6. Fills: Construct fills at the locations and to the lines and grades indicated on the Drawings. Insure that the completed fill corresponds to the shape of the typical sections shown on the Drawings or meets the requirements of the particular case. Use all approved material removed from the excavation in forming the necessary fill. All fill material shall be free from logs, stumps, sod, weeds, trash or other perishable material, and from all stones having a maximum dimension greater than 6 inches. No stones shall be permitted in the top 12 inches of fills. Place the material in successive horizontal layers not exceeding 8 inches in loose depth. Use a blade grader to keep fill material spread uniformly. Remove any soft sections, holes or depressions to required grades and refill with material as approved, and shape the entire area to line, grade, and cross section and thoroughly compact as specified. Contractor is responsible for adjustment of the moisture content of the fill material so that the specified compaction can be obtained. See Paragraph 3.2 below. The rough grade for the entire Project site or portion thereof shall be approved by Construction Project Manager before placement of any topsoil.
  - a. Subgrade Preparation. Subgrades for all drives, parking areas, sidewalks and other structures shall be shaped, dressed, moistened and compacted as specified. Test the subgrade for crown, elevation and density in advance of placing pavement.
  - b. Spreading of Topsoil: Upon completion of rough grading, spread the stockpiled topsoil for a uniform depth of 6 inches, after settlement, over all areas graded not receiving other surfacing, just prior to the sodding or landscaping operation. Before spreading the topsoil, scarify the graded areas for a depth of 3 inches and repair all settlements and washes.
7. Finished Grading: Accomplish uniformly smooth grading of all areas covered within the limits of the work, including excavated and filled sections and adjacent transition areas so that the finished surface is smooth, compacted and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from blade-grader operations except as otherwise specified. The finished surface shall be not more than 2 inches (50 mm) above or below the established grade or approved cross section. Finish all swales so as to drain readily.
8. Backfill material shall be the same as specified for fill and shall be placed and compacted as specified for fill unless otherwise noted.

### 3.2 COMPACTION AND DENSITY

- A. Compaction: Compact each layer of fill by rolling to at least the following percentages of maximum density at moisture content no less than 3% above to 3% below optimum moisture as specified by ASTM D 1557.

Minimum Percent of Maximum Density Material	Percent
Fill	90
Subgrade (top 12 inches) beneath pavements	95
Subgrade (top 6 inches) beneath walks	95

**3.3 ADJUSTMENT AND CLEANING**

- A. Repair: Clean up, repair, or replace at no cost to the Owner, all property damaged by reason of required Work, including restoring all disturbed areas, surfaced and unsurfaced, to their original condition on completion of the Work. All patchwork shall match existing. Painted surfaces shall be painted to match the adjacent areas.

END OF SECTION

## SECTION 02223

### TRENCHING, BACKFILLING AND COMPACTION

#### 1. PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. The Contractor shall comply with the requirement of this section which includes materials, testing and performance of trench excavation, backfilling and compacting, complete.

##### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02300 Earthwork
- B. Section 02700 Site Utilities.

##### 1.3 SUBMITTALS

- A. Submit drawings showing excavation and shoring, bracing, or sloping for worker protection in accordance with the Special Provisions Section if required.
- B. Submit three copies of a report from a testing laboratory verifying that material conforms to the specified gradations or characteristics for granular material or imported sand.

##### 1.4 MEASUREMENT AND PAYMENT

- A. Payment for the work in this section will be included as part of the Contractor's unit price per linear foot for the various types of pipe.

#### 2. PART 2 - MATERIALS

##### 2.1 PAVEMENT ZONES

- A. The pavement zone includes the asphaltic concrete and aggregate base pavement or concrete pavement section placed over the trench backfill.

##### 2.2 TRENCH ZONE

- A. The trench zone includes the portion of the trench from the top of the pipe zone to the bottom of the street zone in paved areas or to the existing surface in unpaved areas.

##### 2.3 PIPE ZONE

- A. The pipe zone shall include the full width of trench from the bottom of the pipe or conduit to a horizontal level 12 inches above the top of the pipe, as specified below. Where multiple pipes or conduits are placed in the same trench, the pipe zone shall extend from the bottom of the lowest pipes to a horizontal level 12 inches above the top of the highest or topmost pipe.

##### 2.4 PIPE BASE

- A. The pipe base shall be defined as a layer of material immediately below the bottom of the pipe or conduit and extending over the full trench width in which the pipe is

bedded. Thickness of pipe base shall be four inches (4") below the lowest point of the pipe or bell.

**2.5 BACKFILL-PIPE ZONE AND PIPE BASE**

- A. For PVC pipe the pipe base and pipe zone backfill material shall be imported sand as specified herein. Type B material for L.F. = 1.7 and Type A material for L.F. 1.5.

**2.6 IMPORTED OR NATIVE SAND--PIPE ZONE AND PIPE BASE**

TYPE "A" MATERIAL: Shall be well graded imported sand with varying sizes within the following range:

Sieve Size	Percent Passing
No. 4	100
No. 8	80 – 95
No. 200	0 – 10

TYPE "B" MATERIAL: Shall have a sand equivalent of not less than 30 and be an imported sand/gravel mixture as follows:

Sieve Size	Percent Passing
¾"	100
No. 4	35 - 65
No. 200	0 - 10

**2.7 WATER FOR COMPACTION**

- A. Water used in compaction shall have a maximum chloride concentration of 500 mg/l, a maximum sulfate concentration of 500 mg/l, and shall have a pH of 7.0 to 9.0. Water shall be free of acid, alkali or organic materials injurious to the pipe coatings.

**3. PART 3 - EXECUTION**

**3.1 TESTING FOR COMPACTION**

- A. The Contractor will test for compaction as described below.
- B. Determine the density of soil in place by the sand cone method, ASTM D 1556.
- C. Determine the laboratory moisture-density relations of soils per ASTM D 1557.
- D. Determine the relative density of cohesionless soils by ASTM D 2049.
- E. Sample backfill materials by ASTM D 75.
- F. Express "relative compaction" as the ratio, expressed as a percentage; of the in place dry density to the laboratory maximum dry density.
- G. Compaction shall be deemed to comply with the specifications when no test falls below the specified relative compaction. The Contractor shall pay all associated costs of any re-testing of work not conforming to the specifications.

**3.2 COMPACTION REQUIREMENTS**

- A. Unless otherwise shown on the Drawings relative compaction in pipe zone shall be

95 percent relative compaction unless shown otherwise on the Drawings.

### 3.3 MATERIAL REPLACEMENT

- A. Remove and replace any trenching and backfilling material, which does not meet the specifications, at the Contractor's expense.

### 3.4 SHEETING, SHORING AND BRACING OF TRENCHES (As Required)

#### A. GENERAL

1. Trenches shall have sheeting, shoring and bracing conforming to CAL/OSHA requirements and General Provisions. Lateral pressures for design of trench sheeting, shoring and bracing shall be based on type of soil exposed in the trench, groundwater conditions, surcharge loads adjacent to the trench and type of shoring that will be used in the trench.
2. The banks of trenches, where required to control trench width and protect adjacent structures, shall be sheeted and braced at no additional expense to the District. Where shoring, sheeting, bracing or steel strutted trench boxes are necessary, they shall be furnished, placed, maintained and, except as shown or specified otherwise, removed. Where damage is liable to result from the removal of the sheeting, then the sheeting will be required to be left in place and cut off if required or directed.
3. The design, planning, installation and removal, if required, of steel strutted trench boxes or sheeting, shoring, lagging, and bracing shall be accomplished in such a manner as to maintain the required excavation or trench section and to maintain the undisturbed state of the soils below and adjacent to the excavation.
4. The use of horizontal strutting below the barrel of the pipe or the use of the pipe as support for trench bracing will not be permitted. Sheet piling and timbers in trench excavations shall be withdrawn in a manner so as to prevent subsequent settlement of the pipe or additional backfill loading which might overload the pipe.
5. Following removal of shoring, bracing or steel strutted trench boxes, the space left due to such removal shall be backfilled immediately and the backfill compacted.

### 3.5 TRENCH EXCAVATION

#### A. GENERAL

1. Excavation of every description and of whatever substance encountered shall be performed, to the depths, lines and grades indicated or specified. It may be necessary to increase or decrease the quantity of excavation because of unknown factors. The Engineer reserves the right to change the trench alignment from that indicated by 10 feet horizontally without additional expense to the District. If additional piping is required, this will be at the expense of the District.

#### B. TRENCH WIDTHS

1. Minimum trench width in the pipe zone shall be 16" + O.D. of pipe. Excavations that might extend below an imaginary plane inclined at 45 degrees below the edge of an existing foundation shall be properly shored to maintain foundation support of the existing structure.

**C. GRADE**

1. Excavate the trench to the lines and grades shown on the Drawings with allowance for pipe thickness and for pipe base or special bedding. If the trench is inadvertently excavated below the required grade, refill with imported sand any part of the trench excavated below the grade at no additional cost to the District. Place the refilling material over the full width of trench in compacted layers not exceeding six inches (6") to the established grade with allowance for the pipe base or special bedding.

**D. EXCAVATION**

1. Unless otherwise indicated, excavation shall be open cut. During excavation, material shall be stockpiled in an orderly manner, a distance back from the edges of the excavations specified by the governing safety agency before being wasted as specified. Caution shall be exercised in operating heavy equipment over pipelines. Leaks or breaks caused by the Contractor's operations shall immediately be repaired at no additional expense to the District and in a manner acceptable to the Engineer. The banks of excavated areas shall be controlled as is necessary to prevent movement of soil in areas supporting existing foundations, slabs, pole lines, underground power or telephone cables, trees, pipelines or other structures. If, as a result of the excavation or through fault or neglect of the Contractor, the earth or ground under or around such foundations, slabs, pole lines, underground power or telephone cables, trees, pipelines or other structures, slips or is otherwise disturbed, corrective measures shall be taken as directed at no additional expense to the District.
2. In the event the maximum allowable trench width is exceeded, the Contractor may be required, depending on the depth of trench, to improve the pipe bedding by utilizing concrete or other bedding materials as necessary to assure that the type of pipe installed can withstand the loads imposed by the backfill due to the depth of the trench.
3. The bottom of the trench shall be excavated to the lines and grades shown with proper allowance for pipe thickness, and for foundation stabilization and special bedding when required. Material containing rocks or cobbles larger than 2 inches in maximum dimension shall not be permitted within 6 inches of the pipe. Material of this type shall be removed from the bottom of the trench and replaced with backfill material. Parts of the trench excavated below grade shall be corrected with backfill as specified. The depth of trenches shall be as indicated.

**3.6 DEWATERING**

- A. Provide and maintain means and devices to remove and dispose of all water entering the trench excavation during the time the trench is being prepared for the pipe-laying, during the laying of the pipe, and until the backfill at the pipe zone has been completed. These provisions shall apply during 24 hours per day, seven days a week. Dispose of the water in a manner to prevent damage to adjacent property. Do not drain trench water through the pipeline under construction. Do not allow groundwater to rise around the pipe until jointing compound has set hard or where such groundwater could result in the floatation of the pipe thus disturbing its line and level.
- B. Contractor shall notify District 48 hours prior to commencement of dewatering.

**3.7 LOCATION OF EXCAVATED MATERIAL**

Second Street Neighborhood Park  
Moorpark, CA

Trenching, Backfilling and Compaction  
M3 Civil, Inc.  
April 11, 2014

- A. During trench excavation, place the excavated material only within the working area. Do not obstruct any roadways or streets. Conform to federal, state and local regulations governing the safe loading of trenches with excavated material.

### 3.8 TRENCH BACKFILLING

- A. Backfill per the detailed piping specification for the pipe and per the following.
- B. Place the specified thickness of pipe base material over the full width of trench. Grade the top of the pipe base ahead of the pipe-laying to provide firm, uniform support along the full length of pipe.
- C. After pipe has been bedded, place pipe zone material simultaneously on both sides of the pipe, keeping the level of backfill the same on each side. Carefully place the material around the pipe so that the pipe barrel is completely supported and that no voids or uncompacted areas are left beneath the pipe. Use particular care in placing material on the underside of the pipe to prevent lateral movement during subsequent backfilling.
- D. No mechanical compaction of material placed within 12 inches of the outer surface of the pipe will be allowed.
- E. Push the backfill material carefully onto the backfill previously placed in the pipe zone. Do not permit free fall of the material until at least two feet (2') of cover is provided over the top of the pipe. Do not drop sharp, heavy pieces of material directly onto the pipe or the tamped material around the pipe.

### 3.9 BACKFILL COMPACTION

- A. Compact per the detailed specification.
- B. Compact trench backfill to the specified relative compaction. Compact by using mechanical compaction or hand tamping. Consolidation by jetting or flooding will be permitted at the District's discretion. Maximum backfill lifts shall not exceed six inches (6").

### 3.10 IMPORT OR EXPORT OF BACKFILL MATERIAL

- A. Excess excavation soil material shall be removed and disposed of by the Contractor off the project site at the Contract's expense. Excess soil material shall be disposed of in accordance with local regulations.
- B. Contractor shall be responsible, at no additional cost to the District, to import any required additional backfill material necessary to return all grades to the grade encountered at the beginning of construction or as shown on the contract Drawings.

END OF SECTION

## SECTION 02300

### EARTHWORK

#### 1. PART 1 - GENERAL

##### 1.1 SUMMARY

A. Section Includes (but Is Not Necessarily Limited to):

1. Rough grading earthwork.
2. Excavating, trenching, and backfill.

##### 1.2 UNIT PRICES

A. Rock Measurement: Volume of rock actually removed, measured in original position, but not to exceed the following:

1. 24 inches outside of concrete forms other than at footings.
2. 12 inches outside of concrete forms at footings.
3. 6 inches outside of minimum required dimensions of concrete cast against grade.
4. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
5. 6 inches beneath bottom of concrete slabs on grade.
6. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

B. Unit prices for rock excavation include replacement with approved materials.

##### 1.3 DEFINITIONS

A. Backfill: Soil materials used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe or conduit in a trench, including haunches to support sides of pipe or conduit.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Layer placed between the subbase course and asphalt paving

C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.

- E. Drainage Course: Layer supporting slab-on-grade used to minimize capillary flow of pore water.
- F. Engineered Fill: Fill material placed at the direction of the soils engineer.
- G. Excavation: Removal of material encountered above subgrade elevations.
  - 1. Additional Excavation: Excavation below subgrade elevations as directed by the Engineer. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  - 2. Bulk Excavation: Excavations more than 10 feet in width and pits more than 30 feet in either length or width.
  - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by the Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- H. Fill: Soil materials used to raise existing grades.
- I. Rock (project definition): Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cu. yd. for bulk excavation or 3/4 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering or ripping, when permitted:
  - 1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch-wide, short-tip-radius rock bucket; rated at not less than 120-hp flywheel power with bucket-curling force of not less than 25,000 lbf and stick-crowd force of not less than 18,700 lbf; measured according to SAE J-1179.
  - 2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 45,000-lbf breakout force; measured according to SAE J-732.
- J. Rock (ASTM definition): Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material 3/4 cu. yd. (0.57 cu. m) or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2 inches (97 blows/50 mm).
- K. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- L. Subbase Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed between the subgrade and a concrete pavement or walk.
- M. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

- N. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

#### 1.4 SUBMITTALS

- A. Product Data: For the following:
  - 1. Each type of plastic warning tape.
  - 2. Drainage fabric.
  - 3. Separation fabric.
- B. Samples: For the following:
  - 1. 10-lb. samples, sealed in airtight containers, of each proposed soil material from on-site or off-site borrow sources.
  - 2. 12-by-12-inch sample of drainage fabric.
  - 3. 12-by-12-inch sample of separation fabric.
- C. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance with the following requirements:
  - 1. Classification according to ASTM D 2487 of each on-site or off-site borrow soil material proposed for fill and backfill.
  - 2. Laboratory compaction curve according to ASTM D 1557 for each on-site or off-site borrow soil material proposed for fill and backfill.
  - 3. Laboratory compaction curve according to ASTM D 1557 for each on-site or off-site borrow soil material proposed for fill and backfill.
- D. Blasting will not be permitted.

#### 1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.

#### 1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities on site occupied by the Owner, public or other utility services unless permitted in writing by the Agency of jurisdiction or the Construction Project Manager, as appropriate, and then only after arranging to provide temporary utility services according to requirements indicated. :
  - 1. Notify Construction Project Manager or agency of jurisdiction not less than two weeks in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without the Construction Project Manager's written permission.
  3. Contact utility-locator service for area where Project is located before excavating.
  4. All connections or adjustments to public or other utility services shall be undertaken strictly to permit approval conditions.
  5. All work in the public Street shall have appropriate traffic accommodation and/or strictly to permit approval conditions.
- B. Cooperate with the Owner and utility companies in maintaining respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
- C. Demolish and completely remove from site existing underground utilities to be removed. Coordinate with utility companies or Owner to shut off services if lines are active.

## 2. PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations on site.
- B. Satisfactory Soils: Satisfactory soils are those soils that are suitable for their intended use.
- C. Unsatisfactory Soils: Unsatisfactory soils are those soils that are unsuitable for their intended use as per Standard Specifications for Public Works Construction Clause 300-2.2 (SSPWC 300-2.2) "Greenbook". Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction. (SSPWC 300-2.2.2)
- D. Backfill and Fill: Satisfactory soil materials.
- E. Subbase: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; with at least 90 percent passing a 1 - 1/2- inch sieve and not more than 12 percent passing a No. 200 sieve. Must meet Caltrans standards.
- F. Base: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve for Class II Base.
- G. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve. Must meet Caltrans standards.
- H. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

- I. Drainage Fill: Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2- inch sieve and 0 to 5 percent passing a No. 8 sieve.
- J. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

## 2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:

- 1. Red: Electric.
- 2. Yellow: Gas, and dangerous materials.
- 3. Orange: Telephone and other communications.
- 4. Blue: Water systems.
- 5. Green: Sewer systems.
- 6. Purple: Reclaimed Water System

2.3 Detectable Wire: Tracer wire shall be provided for plastic piping. Insulated No. 12 copper tracer wire shall be buried with the pipe and ends brought to surface

2.4 Drainage Fabric: Non-woven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:

- A. Grab Tensile Strength: 110 lbf; ASTM D 4632.
- B. Tear Strength: 40 lbf; ASTM D 4533.
- C. Puncture Resistance: 50 lbf; ASTM D 4833.
- D. Water Flow Rate: 150 gpm per sq. ft.; ASTM D 4491.
- E. Apparent Opening Size: No. 50; ASTM D 4751.

2.5 Separation Fabric: Woven geotextile, specifically manufactured for use as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:

- A. Grab Tensile Strength: 200 lbf; ASTM D 4632.

- B. Tear Strength: 75 lbf; ASTM D 4533.
- C. Puncture Resistance: 90 lbf; ASTM D 4833.
- D. Water Flow Rate: 4 gpm per sq. ft.; ASTM D 4491.
- E. Apparent Opening Size: No. 30; ASTM D 4751.

### 3. PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

#### 3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

#### 3.3 EXPLOSIVES

- A. Explosives: Do not use explosives.

#### 3.4 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.
  - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
- B. Classified Excavation: Excavation to subgrade elevations classified as earth and rock. Rock excavation will be paid for by adjusting the Contract Sum according to unit prices included in the Contract Documents.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.
  - a. Intermittent drilling; ram hammering; or ripping of material not classified as rock excavation is earth excavation.
2. Rock excavation includes removal and disposal of rock.
  - a. Do not excavate rock until it has been classified and cross-sectioned by the Construction Project Manager.

### 3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  1. Excavation for Mechanical or Electrical Utility Structures: Excavate to required elevations and dimensions within a tolerance of plus or minus 1 inch (25 mm). Do not disturb bottom of excavations intended for bearing surface.

### 3.6 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to required cross sections, elevations, and grades.
- B. Excavations shall be in accordance with the Standard Specifications for Public Works Construction Clause 300-3 Structure Excavations and Backfill (SSPWC-300-3) "Greenbook".

### 3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to required gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise required to meet minimum cover.
  1. Clearance: 12 inches on each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
  1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.

2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
  3. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Trench Depth: Excavate trenches 4 inches deeper than bottom of pipe elevation to allow for bedding course. Hand excavate for bell of pipe.
1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

### 3.8 APPROVAL OF SUBGRADE

- A. Notify the Construction Project Manager when excavations have reached required subgrade.
- B. If the Construction Project Manager determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
  1. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- C. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades.
- D. Reconstruct subgrades damaged by rain, accumulated water, or construction activities, as directed by the Construction Project Manager.

### 3.9 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill may be used when approved by the Construction Project Manager.
- B. Fill unauthorized excavations under other construction or utility pipe as directed by the Construction Project Manager.

### 3.10 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  1. Stockpile soil materials away from edge of excavations a minimum distance equal to the depth of excavation. Do not store within drip line of remaining trees.

### 3.11 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, damp proofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for record documents.
3. Inspecting and testing underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

### 3.12 UTILITY TRENCH BACKFILL

- A. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- B. Backfill trenches excavated under footings and within 18 inches of bottom of footings; fill with concrete to elevation of bottom of footings.
- C. Provide 4-inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.
- D. Place and compact initial backfill of subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit.
  1. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.
- E. Coordinate backfilling with utilities testing.
- F. Fill voids with approved backfill materials while shoring and bracing, and as sheeting is removed.
- G. Place and compact final backfill of satisfactory soil material to final subgrade.
- H. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

### 3.13 FILL

- A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.
- B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

- C. Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory soil material.
  - 2. Under walks and pavements, use satisfactory soil material.
  - 3. Under steps and ramps, use engineered fill.
  - 4. Under building slabs, use engineered fill.
  - 5. Under footings and foundations, use engineered fill.

### 3.14 MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill material on surfaces that are muddy, or contain frost or ice.
  - 2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.15 COMPACTION OF BACKFILLS AND FILLS

- A. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
  - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material at 90 percent.
  - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 90 percent.
  - 3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material at 85 percent.

### 3.16 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  - 1. Provide a smooth transition between adjacent existing grades and new grades.

2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
  3. Stripping. When fills are to be constructed over cultivated or fallowed land, the entire area upon which the fill is to be constructed shall first be cleared of vegetation and then smoothed with a blade grader. When fills are to be constructed over sodded surfaces, the sod shall be stripped to a depth of 2 inches. These smoothed or stripped surfaces shall then be rolled to the specified density required for fill prior to the fill material placement. Dispose of stripped material as waste and completely remove from the Project site.
  4. Conservation of Topsoil. Deposit topsoil in storage piles convenient to the areas which are subsequently to receive application of topsoil. Stockpile topsoil free of roots, stones and other undesirable material as specified in Paragraph 2.1 B above. Keep topsoil, when stored, separate from other excavated materials. Cover storage piles as required to prevent wind blown dust.
  5. Fills. Construct fills at the locations and to the lines and grades indicated on the Drawings. Insure that the completed fill corresponds to the shape of the typical sections shown on the Drawings or meets the requirements of that particular case. Use all approved material removed from the excavation in forming the necessary fill. All fill material shall be free from logs, stumps, sod, weeds, trash or other perishable material, and from all stones having a maximum dimension greater than 6 inches. No stones shall be permitted in the top 12 inches of fills. Place the material in successive horizontal layers not exceeding 8 inches in loose depth. Use a blade grader to keep fill material spread uniformly. Remove any soft sections, holes or depressions to required grades and refill with material as approved, and shape the entire area to line, grade, and cross section and thoroughly compact as specified. Contractor is responsible for adjustment of the moisture content of the fill material so that the specified compaction can be obtained. The rough grade for the entire Project site or portion thereof shall be approved by District's Representative before placement of any topsoil.
    - a. Subgrade Preparation. Subgrades for all drives, parking areas, sidewalks and other structures shall be shaped, dressed, moistened and compacted as specified. Test the subgrade for crown, elevation and density in advance of placing pavement.
    - b. Spreading of Topsoil: Upon completion of rough grading, spread the stockpiled topsoil for a uniform depth of 6 inches, after settlement, over all areas graded not receiving other surfacing, just prior to the sodding or landscaping operation. Before spreading the topsoil, scarify the graded areas for a depth of 3 inches and repair all settlements and washes.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
1. Lawn or Unpaved Areas: Plus or minus 1 inch.
  2. Walks: Plus or minus 1 inch.

3. Pavements: Plus or minus 1/2 inch.
- C. Finished Grading. Accomplish uniformly smooth grading of all areas covered within the limits of the work, including excavated and filled sections and adjacent transition areas so that the finished surface is smooth, compacted and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from blade-grader operations except as otherwise specified. Finish all swales so as to drain readily.
1. Backfill material shall be the same as specified for fill and shall be placed and compacted as specified for fill unless otherwise noted.
- D. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot (3-m) straightedge.

### 3.17 SUBSURFACE DRAINAGE

- A. Drainage Piping: Drainage pipe is specified in Section 2721 "Storm Drainage."
- B. Subsurface Drain: Place a layer of drainage fabric around perimeter of drainage trench as indicated. Place a 6-inch course of filter material on drainage fabric to support drainage pipe. Encase drainage pipe in a minimum of 12 inches of filter material and wrap in drainage fabric, overlapping sides and ends at least 6 inches.
1. Compact each course of filter material to 90 percent of maximum dry unit weight according to ASTM D 1557.
- C. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade. Overlay drainage backfill with one layer of drainage fabric, overlapping sides and ends at least 6 inches.
1. Compact each course of filter material to 90 percent of maximum dry density according to ASTM D 1557.
  2. Place and compact impervious fill material over drainage backfill to final subgrade.

### 3.18 BASE COURSES

- A. Under pavements and walks, place base course on prepared subgrade and as follows:
1. Place base course material over subgrade.
  2. Compact base courses at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 90 percent of maximum dry unit weight according to ASTM D 1557.
  3. Shape base to required crown elevations and cross-slope grades.
  4. When thickness of compacted base course is 6 inches or less, place materials in a single layer.

5. When thickness of compacted base course exceeds 6 inches, place materials in equal layers, with no layer more than 8 inches thick loose material or less than 4 inches thick when compacted.

### 3.19 DRAINAGE COURSE

- A. Under slabs-on-grade, install drainage fabric on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
- B. Under slabs-on-grade, place drainage course on prepared subgrade and as follows:
  1. Compact drainage course to required cross sections and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.
  2. When compacted thickness of drainage course is 6 inches or less, place materials in a single layer.
  3. When compacted thickness of drainage course exceeds 6 inches, place materials in equal layers, with no layer more than 6 inches thick or less than 3 inches thick when compacted.

### 3.20 FIELD QUALITY CONTROL

- A. Testing Agency: The Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design-bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by the Construction Project Manager.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556 and ASTM D 2922 as applicable. Tests will be performed at the following locations and frequencies:
  1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
  2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for each 100 feet or less of wall length, but no fewer than two tests.
  3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet or less of trench length, but no fewer than two tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and

replace soil to depth required; recompact and retest until specified compaction is obtained.

### 3.21 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by the Construction Project Manager; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

### 3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off site at Contractor's expense.

END OF SECTION

**SECTION 02510**  
**WATER DISTRIBUTION**

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes domestic water distribution piping and specialties as shown on the plans.
  - 1. Water service to drinking fountain.
  - 2. Fire hydrant Relocation.
- B. Fire hydrant shall be salvaged and relocated per Water Works District requirements.

1.3 DEFINITIONS

- A. Fire-Service Main: Exterior fire-suppression-water piping.
- B. Water Service: Exterior domestic-water piping.
- C. The following are industry abbreviations for piping materials:
  - 1. PVC: Polyvinyl chloride plastic.
  - 2. DIP: Ductile Iron pipe.

1.4 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of piping and specialties and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
- B. Regulatory Requirements:
  - 1. Comply with the Ventura County Waterworks District, Water Service Design and Construction Standards and Specifications.
  - 2. Comply with Standards of AWWA Specifications, Department of Health Services, State of California, and State of California, Department of Industrial Relations, Division of Industrial Safety "Construction Safety Orders".
  - 3. Comply with Ventura County Fire Protection District, Fire Prevention Standard 14.7.2

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
  - 1. Ensure that valves are dry and internally protected against rust and corrosion.
  - 2. Protect valves against damage to threaded ends and flange faces.
  - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. During Storage: Use precautions for valves, including fire hydrants, according to the following:
  - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
  - 2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- C. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.
- D. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- E. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.
- F. Protect flanges, fittings, and specialties from moisture and dirt.
- G. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

## 1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Owner's written permission.

## 1.7 COORDINATION

- A. Coordinate connection to water main with California Water Service Company.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Require approval from the California Water Service Company.

### 2.2 PIPING MATERIALS

Second Street Neighborhood Park  
Moorpark, CA

Water Distribution  
M3 Civil, Inc.  
April 11, 2014

- A. Underground fire supply piping shall be PVC AWWA C900, Class 200.
- B. Underground domestic supply piping shall be PVC AWWA C900, Schedule 80.
- C. Aboveground pipe shall be ductile iron and shall conform to AWWA 151.

2.3 FITTINGS, VALVES, DOUBLE DETECTOR CHECK VALVE ASSEMBLY, WATER METER BOX

- 1. Comply with the City of Thousand Oaks, California Water Service Company Design and Construction Standards and Specifications.
- 2. Comply with AWWA Specifications.
- 3. Comply with the Standards of the Department of Health Services, State of California, and State of California, Department of Industrial Relations, Division of Industrial Safety "Construction Safety Orders".
- 4. Comply with Ventura County Fire Protection District, Fire Prevention Standard 14.7.2

2.4 WATER METERS

- A. Water meter is in place.

3 EXECUTION

3.4.1.1 EARTHWORK

- 1. Refer to Division 2 Section "Earthwork" for excavating, trenching, and backfilling.

3.4.1.2 PIPING APPLICATIONS

- 1. Comply with the City of Thousand Oaks, California Water Service Company Design and Construction Standards and Specifications.
- 2. Comply with Standards of AWWA Specifications, Department of Health Services, State of California, and State of California, Department of Industrial Relations, Division of Industrial Safety "Construction Safety Orders".
- 3. Comply with Ventura County Fire Protection District, Fire Prevention Standard 14.7.2

3.4.1.3 PIPING, VALVES, FITTINGS, THRUST BLOCK, METER, METER BOX INSTALLATION

- 1. Comply with the City of Thousand Oaks, California Water Service Company Design and Construction Standards and Specifications.
- 2. Comply with Standards of AWWA Specifications, Department of Health Services, State of California, and State of California, Department of Industrial Relations, Division of Industrial Safety "Construction Safety Orders".
- 3. Comply with Ventura County Fire Protection District, Fire Prevention Standard 14.7.2
- 4. Bury piping with depth of cover over top at least 36 inches.

Second Street Neighborhood Park  
Moorpark, CA

Water Distribution  
M3 Civil, Inc.  
April 11, 2014

5. Extend water-service piping and connect to water-supply source and building water piping systems at 5' outside face of building wall in locations and pipe sizes indicated.
6. Terminate water-service piping at 5' outside building wall until building water piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building water piping systems when those systems are installed.
7. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.

#### 3.4.1.4 IDENTIFICATION

1. Install continuous underground warning tape during backfilling of trench for underground water-service piping. Locate below finished grade, directly over piping. See Division 2 Section "Earthwork" for underground warning tapes.

#### 3.4.1.5 CLEANING

1. Clean and disinfect water-distribution piping as follows:
  2. Purge new water-distribution piping systems and parts of existing systems that have been altered, extended, or repaired before use.
  3. Use purging and disinfecting procedure prescribed by authorities having jurisdiction or, if method is not prescribed by authorities having jurisdiction, use procedure described in AWWA C651.
4. Prepare reports of purging and disinfecting activities.

END OF SECTION 02510

## SECTION 02526

### CONCRETE CURBS & COMBINATION CURB AND GUTTER

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION OF WORK

- A. Provide the construction of concrete curbs and combination curb and gutter when not integral with the pavement slab, as shown on the Drawings and as specified, complete.

##### 1.02 QUALITY ASSURANCE

- A. Material Testing: For Owner-furnished testing, refer to Section 01400, QUALITY CONTROL.
  - 1. The following tests will be performed by Owner-furnished testing agency.
    - a. Concrete and concrete materials tests conforming to the requirements of Section 03300, CAST-IN PLACE CONCRETE.
- B. Test Reports: Owner's testing agency will report all results of the tests to the Construction Project Manager who will approve or disapprove Contractor's work.

##### 1.03 SUBMITTALS

- A. Refer to Section 01340, SHOP DRAWINGS, PRODUCT DATA & SAMPLES for procedures.
- B. Miscellaneous Materials: Furnish mill tests or manufacturer's certification of compliance with the specifications for materials when requested by Construction Project Manager. Use no membrane curing compounds until they have been approved by the Construction Project Manager.
- C. Types of forms for approval.
- D. Proposed curing compound.

## 1.04 JOB CONDITIONS

### A. Placing Temperature:

1. Warm Weather. Concrete placement will be subject to approval by Construction Project Manager when weather conditions or limitations of facilities reported by Contractor would prevent correct finishing and curing of the concrete in accordance with the requirements of these Specifications.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Concrete is specified in Section 03300, CAST-IN PLACE CONCRETE, and shall be Class N-6.0 air-entrained. Minimum compressive strength at 28 days shall be 3500 psi.
- B. Expansion Joint Filler: Preformed nonextruding bituminous-treated fiberboard conforming to ASTM D 1751.
- C. Joint Sealer: Hot poured type consisting of a resilient and adhesive plastic. The material shall be in accordance with ASTM D 1190.
- D. Curing Materials:
  1. Burlap. Conform to AASHTO M-182. Burlap shall be free from holes, dirt, clay or any other substance that would have a deleterious effect on concrete. Burlap shall absorb water readily when dipped or sprayed and shall weigh not less than 7 ounces per square yard when clean and dry.
  2. Waterproof Paper. Conform to ASTM C 171.]
  3. Membrane curing compound shall be water soluble emulsion type linseed oil base compound and conform to the requirements for Type 2 compound as specified in ASTM C 309, except that requirements for the sag test and the drying time shall not apply.
- E. Forms: Form coating is specified in Section 03100, CONCRETE FORMWORK.
  1. Forms shall be of wood or steel, straight, and shall be fastened to prevent springing during depositing and consolidating the concrete.
  2. The outside forms shall have a height equal to the full depth of the curb.
  3. The width of outside forms for gutters shall equal the full thickness of the gutter.

4. For straight runs, forms of wood shall be surfaced plank, 2-inch nominal thickness, straight and free from warp, twist, loose knots, splits, or other defects. Wood forms shall have a nominal length of 10 feet, staked to prevent distortion of the form.
5. Steel forms shall be channel-formed sections with a flat top surface and with welded braces at each end and at not less than two (2) intermediate points. Form ends shall be interlocked and self-aligning.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

#### **A. Concrete:**

1. General. Use metal forms unless otherwise specifically authorized by Construction Project Manager, except that on curves having a radius of 150 feet or less, wood forms may be used. All forms shall be approved by Construction Project Manager.
  - a. Form Setting. The subgrade under the forms shall be compact and cut true to grade, so that the forms will be firmly in contact with it for their entire length. Join each form section tightly by locked joints, free from play or movement in any direction. Check conformity to the alignment and grade elevation shown on the Drawings and make necessary corrections prior to placing the concrete.
  - b. Coating. Oil forms each time they are used.
  - c. Removal. Keep forms in place at least 12 hours after concrete has been placed against them or for a longer period if requested by Construction Project Manager. Do not use crowbars or other heavy tools against green concrete in removing the forms. Clean forms completely before re-oiling and reuse.
2. Finishing. Test the subgrade for elevation and density in advance of placing concrete. Correct any discrepancies in accordance with the requirements for subgrade preparation.
  - a. Tamp and space the concrete so as to produce a dense concrete in which the mortar has been worked to the surface. Strike off the concrete to the required cross section and smooth the upper face of the gutter slab and the front face and top of the curb with a wood float. Use an edging tool on all exposed corners. When completed, the surface of the curb and gutter shall be straight and true, and shall conform to the shape and dimensions shown on the Drawings and shall have a first-class float finish of sandy or gritty texture as shown.

3. Joints.
  - a. General. Provide contraction and expansion joints in all curb and gutters. Place and finish joints per Section 303-5.4 of the Standard Specifications for Public Works Construction and as approved by Construction Project Manager. All joints shall be perpendicular to the finished grade.
  - b. Contraction Joint. Place contraction joints so that monolithic sections shall be in 8 foot sections. Separate each section by a 1/8 inch thick steel template. Remove templates as soon as practicable after the concrete has been struck off, and set to preserve the shape of the joint.
  - c. Expansion Joint. Form expansion joints by a preformed filler material cut and shaped to the cross section of the curb and gutter. Provide expansion joints at the ends of all return radii. Expansion joints shall be provided 1/2 inch in width at intervals not exceeding 48 feet.
  - d. Sealing. Fill the joints with sealing material, specified in Paragraph 2.1 C above, as shown on the Drawings and as approved by Construction Project Manager. Joints shall be cleaned, dried and poured as soon after the end of the curing period as weather conditions permit. Perform the work in a neat workmanlike manner without spilling and remove all excess material. For joints butting sidewalks at back of curb, see Section 02513, CONCRETE WALKS.
4. Patching. After removal of forms, fill all damaged and honeycombed areas with mortar, one part cement to two parts sand. No patching is allowed on the surface.
5. Curing.
  - a. General. Cover and protect all concrete from moisture evaporation, rapid temperature change and from rain, flowing water, and mechanical injury during a period of at least 72 hours immediately following the finishing. The use of a covering material which contains, or becomes contaminated with sugar in any form, tannic acid, or any other substance considered detrimental to portland cement, will not be permitted. The initial curing medium shall be applied so as to prevent checking, cracking, and the appearance of dry spots in the surface of the concrete. Protect the sides of concrete slabs exposed by the removal of forms immediately to provide continuance of curing and prevent injury of the curb and gutter edges and the underlying subgrade. When it is expected during the progress of the work, and

before all concrete has attained final set, that the temperature may fall below 35°F, supply straw, hay or other material approved by Construction Project Manager to cover the concrete and to protect its surface and edges against freezing until it is at least ten (10) days old.

- b. **Mat Curing.** Mats of burlap, cotton, or other fibrous material having similar water absorptive properties shall be wet when applied and kept continuously wet and in intimate contact with the covered surface, for the duration of the curing period. Mats shall be uniform in thickness, shall weigh not less than 20 ounces per square yard when dry, and shall be capable of absorbing at least one and one-half times their weight of water. If burlap is used, it shall be used in two or more, not single, layers. All mats shall be approved by Construction Project Manager.
- c. **Membrane Curing Compound.** No compound shall be used until it has been approved by Construction Project Manager.
  - 1) **Application.** Agitate curing compounds continuously during use, and spray uniformly, in a single coat, by spraying equipment, on all concrete surfaces, at a rate recommended by the manufacturer and based on moisture retention tests. Application will be made immediately following the final finishing operation.
  - 2) **Protection of Treated Surfaces.** Keep concrete surfaces to which membrane compounds have been applied free from all foot and vehicular traffic and all other sources of abrasion for a minimum period of 14 days.
  - 3) **Protection.** Protect the curb and gutter against all damage prior to final acceptance of the work. Exclude the traffic from the pavement by erecting and maintaining barricades and signs until the concrete is at least fourteen (14) days old, or for a longer period if requested by Construction Project Manager. Refer to Section 01014, CONTRACTOR'S USE OF THE PROJECT SITE.

### 3.02 FIELD QUALITY CONTROL

- A. **Workmanship:** Construct all curbs at the location and to the lines and levels shown on the Drawings.

END OF SECTION

## SECTION 02700

### SITE UTILITIES

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION OF WORK

- A. Provide lines for domestic water service and fire hydrant as shown on the Drawings and as specified herein, and as needed for a complete and proper installation. Include adapters, fittings, and appurtenances; provide fire hydrants; make connections to existing lines and existing or proposed meters; and coordinate the connections with building plumbing.
- B. Work Specified in Other Sections:
  - 1. Section 02721: STORM DRAINAGE
  - 2. Section 02510: WATER PIPING AND APPURTENANCES

##### 1.02 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of domestic and fire water system products of types, materials, and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Installer's Qualifications: Firm with at least 3 years of successful installation experience on projects with domestic and firewater work similar to that required for work of this Project.
- C. Codes and Standards:
  - 1. NFPA Compliance: Install fire water systems in accordance with the NFPA 24 "Standard for the Installation of Private Fire Service Mains and Their Appurtenances".
- D. Material Testing: For Owner-furnished testing, refer to Section 01400, QUALITY CONTROL.
- E. Allowable Tolerances: The allowable dimensional alignment for site utilities shall be as follows.
  - 1. Vertical:  $\pm 0.10$  feet.
  - 2. Horizontal:  $\pm 0.50$  feet.

##### 1.03 SUBMITTALS

- A. Refer to Section 01340, SHOP DRAWINGS, PRODUCT DATA & SAMPLES for procedures.
- B. Certificates: Furnish manufacturer's certificates of compliance and testing reports for all pipe, valves, pumps, controls, and castings.
- C. Tests: Contractor shall perform and submit copies of the following tests.
  - 1. Water Lines.

- a. Pressure Test. After the pipe is laid, the joints completed and the trench partially backfilled, leaving the joints exposed for examination, the newly laid pipe or any valved section of piping shall be subjected to a pressure test of 50% in excess of the expected operating static pressure at the points of reading (250 psi, 4 hours, using a Bristol recording device). Perform pressure test in accordance with the requirements of AWWA Standard C-600.
  - b. Leakage Test. Perform the leakage test in accordance with the requirements of AWWA Standard C-600.
2. Underground Circuit. All lines shall be tested at 150 psig hydrostatic pressure for 24 hours before application of insulation and backfilling.
  3. Test of Gas Service Lines. Service lines shall be tested with the gas mains or may be tested separately with soapsuds applied at the pipe joints.
  4. Backfill.
    - a. Compaction Tests. Owner's soils inspector will take compaction or in-place density tests at location and time approved by Construction Project Manager. Backfill not meeting the requirements specified shall be removed, replaced, re-compacted and retested for compaction at Contractor's expense. Findings of these tests shall be filed with Construction Project Manager in triplicate. The Contractor will receive copies of all tests.

D. Shop Drawings and Product Data:

1. The following list includes the required shop drawings that shall be submitted.
  - a. Submit shop drawings which shall include complete system layout and details, indicating the amount of expansion and provisions for system fittings, including anchors, end seals, gland seals, and field closures. Drawings shall further show location of all field joints.
  - b. Submit bituminastic coating material to be used for coating tie rods, clamps, brackets, or other below-grade or supporting devices for Construction Project Manager's approval.
  - c. Water Lines.
    - 1) Submit separate shop drawings for domestic and fire water systems, showing piping, materials, size, locations and elevations.
    - 2) Submit two (2) copies of Contractor-furnished laboratory report on water conformance to the U.S. Public Service Drinking Water Standards. Should the initial treatment fail to produce satisfactory disinfection of the piping and pipelines as determined by the bacteriological tests, the chlorination procedure shall be repeated until acceptance results are obtained, at no additional cost to Owner.
    - 3) Furnish manufacturer's certificate of compliance or certified analysis with each shipment of material used. Certificate shall show conformance with the requirements of ANSI A21.6 or 21.8.

- E. Record Drawings: At closeout, submit Record Drawings of installed utility piping and products, in accordance with requirements of Section 01720.
- F. Submit manufacturer's qualifications per Article 1.2.A above, and installer's qualifications per 1.3.A above.

#### 1.04 JOB CONDITIONS

- A. All Work shall be in conformance with the requirement of the governing codes as listed in Section 01060, REGULATORY REQUIREMENTS.
- B. Removal of Utilities: All utilities indicated to be removed or abandoned shall be removed or abandoned in accordance with the requirements of the governing codes as listed in Section 01060, REGULATORY REQUIREMENTS.
- C. The Drawings are diagrammatic, but shall be followed as closely as actual construction permits. All deviations from the Drawings required to make work conform to the site conditions, and to the Work of others, shall be made only as necessary as approved by the Engineer.

### PART 2 - PRODUCTS

#### 2.01 LOCATOR TAPE

- A. Locator tape shall be color coded and labeled, acid and alkali-resistant polyethylene film. The tape shall be manufactured with integral wires, foil backing, metallic core, or other means to enable detection by a metal detector when tape is buried up to 6 feet deep, and specifically manufactured for marking and locating underground utilities.
  - 1. Water: Not less than 6" wide X 4 mils. thick. Provide blue tape with black printing reading "CAUTION: WATER LINE BURIED BELOW". Terra Tape, Paul Potter #AL-6100BW; Seton No. 210WAT, or equal.

#### 2.02 PIPE AND PIPE FITTINGS

- A. Domestic and Fire Line Water Service (see drawings for type of pipe):
  - 1. Ductile Iron Pipe Class 350 rated working pressure, thickness Class 50. Conform to AWWA Standard C150 and C151. Pipe and fittings shall be cement lined in accordance with AWWA standard C104. Pipe joints shall be mechanical or push-on type. Rubber gaskets shall conform to AWWA Standard C111 and installation to AWWA Standard C600. Fittings shall conform to AWWA Standard C110, 350 psi rated working pressure, standard outside coating and cement mortar lining. Polyethylene encasement shall be double layer, half lapped, 10 mil and material, installation and backfill shall conform to AWWA Standard C105.
    - a. Manufacturers: Pacific States, U.S. Pipe, American Pipe, or equal.
  - 2. Polyvinyl Chloride Plastic (PVC) Pipe for water distribution, sizes 4 inches through 12 inches shall meet the requirements of AWWA Standard C900, and shall be DR 18, Pressure Class 150. Pipe sizes for 14 inches through 36 inches shall meet the requirements of AWWA Standard C905, and shall be DR 18, Pressure Rating 235 (size of pipe and rating to be provided shall be as shown on the Drawings). PVC pipe shall

meet the requirements of ASTM D1784 and D2241. Provide written certification that all PVC pipe meets the specification requirements.

3. PVC Pipe shall have elastomeric seals (gaskets) for joining plastic pipe and shall conform to ASTM D3139 and ASTM F477.
  - a. Manufacturers: J.M. Manufacturing Inc. (Ring-Tite); Vinyltech; Pacific Western; or equal
4. Valves. Gate valves shall have joint ends to fit the type of pipe used and be opened by turning to the left. Valves shall conform to the latest revision of AWWA Resilient Seated Gate Valve Standard C509 and be UL listed, FM approved. The wedge shall be cast iron and covered with resilient sealing material bonded to meet ASTM D429. The non-rising stem, NRS, shall be cast bronze with integral collars in compliance with AWWA. The body and bonnet shall be coated both interior and exterior with a fusion bonded heat cured thermo setting material per AWWA C550. Valves shall be hydrostatically tested to meet requirements of both AWWA and UL/FM and be rated for 250 psi AWWA service for 2"-12" sizes and 200 psi for 14" – 24" sizes. For Indicator Posts, provide vertical type, inside screw, iron body bronze mounted, non-rising stem, resilient seated wedge gate valves of the same construction as other UL/FM valves except fitted with a 12" diameter bonnet flange onto which the Indicator Post bolts.
  - a. Manufacturers: Clow #2630; Kennedy Valve; Mueller; Stockham Valves & Fittings; or equal.
5. Valve boxes shall be cast iron of extension type with slide-type adjustment and with flared base. The minimum thickness of metal shall be 3/16 inch. The cover shall have the word "water" cast in the metal. Install boxes over each outside gate valve.
6. Fire Hydrants. Fire hydrants shall have a 6 inch inlet connection to the main and shall have one 2-1/2 inch hose connection and one 4 inch pumper connection. The hose threads shall conform to the local fire department standards. Contractor shall be responsible for securing the required thread specifications.
  - a. The hydrants shall be Clow Model 850 to match existing hydrants and shall conform to AWWA C503. Paint hydrants one coat of red lead paint and two finishing coats of paint of the color and type selected by Construction Project Manager. Hydrants shall have 6 hole flange and a 1-1/8 inch operating nut. Hose nipples shall be bronze with connections compatible to those of local fire department.

### **PART 3 - EXECUTION**

#### **3.01 EXCAVATION**

- A. General: Perform all excavation of every description and of whatever substances encountered, to the depths indicated on the Drawings. During excavation, deposit fill material for backfill in an orderly manner a distance from the excavation banks to prevent overloading and to prevent slides or cave-ins. Waste material not approved for backfill shall be removed from the Project site. Grade as necessary to prevent surface water from flowing into trenches or other excavations, and remove any water accumulating therein by pumping or by other method as approved. Unless otherwise specified, all excavation shall be by open cut. Keep the banks of trenches and excavation for structures vertical and sheet and brace as required. Refer to Section 01500, CONSTRUCTION FACILITIES & TEMPORARY CONTROLS, for sheeting, shoring and bracing requirements. Fill any unauthorized excess excavation below

the levels indicated for structures or pipe with sand, gravel or concrete, as approved and at Contractor's expense.

- B. Trench Excavation: Excavate true to line to an elevation at least 2 feet above the top of pipe to provide a clear space of not less than 6 inches nor more than 8 inches on either side of the pipe. Grade the bottom of the trenches accurately to provide uniform bearing and support for each section of the pipe on undisturbed soil at every point along its entire length, except for the portions of the pipe sections where it is necessary to excavate for the sealing of pipe joints. Bell holes and depressions for joints dug after the trench bottom has been graded, and in order that the pipe will rest upon the prepared bottom for as nearly its full length as is practicable, shall be only of such length, depth and width as required for making the particular type of joint. Replace any material excavated beneath pipe entering and leaving manholes with concrete and extend such concrete fill to the center of pipe for a distance of at least 3 feet from face of manhole and terminate at a joint.
- C. Rock Excavation: Where rock is encountered, carry the excavation to a depth of at least 6 inches below the bottom of the pipe. No part of trench excavations shall be carried more than 12 inches below the bottom of the pipe. Backfill the trench with specified fill materials and compact to provide specified bedding for the pipe. Backfill shall conform to fill requirements under Section 02300, EARTHWORK, and shall be subject to approval by Construction Project Manager.
- D. Shoring Requirements: Perform all shoring and sheeting as specified in Section 02210, SITE GRADING, that is required to protect the excavation and to safeguard employees. Widen excavation to provide for space occupied by shoring and sheeting.

### 3.02 INSTALLATION

#### A. Below Grade Domestic and Fire Water Service:

- 1. Pipe. Install ductile-iron pipe in accordance with all applicable requirements of AWWA Standard C600 and PVC pipe shall meet requirements of AWWA C900 or C905. See drawings for pipe type.
- 2. Setting Valves and Valve Boxes. Install valves and valve boxes in the lines, plumb and centered with valve boxes placed directly over the valves. Tamp earth fill around the valve box to a distance of 4 feet on all sides of the box, or to the undisturbed trench face if less than 4 feet. Clean valve interiors before installation. Inspect the valve in opened and closed positions and insure it is working correctly.
- 3. Thrust Restraint.
  - a. Install concrete thrust blocks at all tees, crosses and elbows in water service lines to prevent the fittings from being blown off the lines when under pressure. Retainer glands will not be accepted. For details, see Drawings and NFPA Standard 24, Outside Protection, Appendix B.
  - b. Reinforcing steel tie-down rods shall be used on all line valves. All tie-rods, clamps, brackets or other below grade support or restraining devices shall be galvanized and in addition shall be coated with heavy duty bituminous mastic material.
  - c. Concrete for thrust blocks shall be Class "B" in conformance with Division 3, Section 03305.
- 4. Disinfecting of Domestic and Laboratory Hot/Cold Water Systems and Fire Lines.

- a. General: All newly installed water systems and lines shall be disinfected by a Contractor-furnished commercial water line chlorinator. The commercial chlorinator shall also take water samples for bacteriological analysis. These samples shall be submitted to a California state licensed testing laboratory by the chlorinator.
- b. Incurred Costs: All expenses that may result from the disinfection and testing of water systems and lines, and the taking and analysis of water samples shall be borne by Contractor.
- c. Advance Notice: Contractor shall notify College's Representative at least 72 hours in advance of all disinfection and testing procedures. All disinfection and testing procedures shall occur in the presence of an EH&S representative. Notification shall include location, number of chlorinations and tests, day and time.
- d. Labor and Materials: Contractor's chlorinator shall furnish labor, equipment, materials and transportation needed to correctly disinfect and test domestic and laboratory hot/cold water systems and fire lines and to take water samples for bacteriological analysis. This includes all items needed to facilitate the introduction of the disinfecting agent into the water systems/lines such as service cocks and valves.
- e. Disinfecting Agents: Chlorine is approved for water system disinfection and may be used in gaseous or liquid form. Other types of disinfecting agents may be used only with the prior approval of College's Representative.
- f. Disinfecting Procedure: The disinfection of water systems and lines shall be in accordance with the requirements of Title 22, California Code of Regulations (CCR) and the American Water Works Association (AWWA) standards. The disinfecting procedure shall include the following:
  - 1) Post signs on all water outlets of the system being disinfected reading "Water System Being Chlorinated - Do Not Drink" or a similar warning.
  - 2) With system full of water and under "main" pressure, open all faucets to permit simultaneous trickle flow.
  - 3) Introduce the disinfectant into the system until a test of the water at each outlet shows a free chlorine residual concentration which does not exceed 100 parts per million (ppm).
  - 4) Close all outlets and valves to retain chlorinated water. Maintain this condition for 24 hours.
  - 5) Tests made of the water at the water outlets after 24 hours shall indicate a chlorine residual concentration of not less than 50 ppm. Repeat the disinfection procedure until this standard is attained.
  - 6) After satisfactory completion of the above test, flush out system until diethyl-p-phenylenediamine (DPD) tests at the water outlets reveal that the free chlorine residual is less than 0.5 ppm or equal to the flushing water chlorine residual.
- g. Water Samples for Bacteriological Analysis:
  - 1) Water samples for bacteriological analysis shall be collected by chlorinator in sample bottles prepared as required by Title 22, CCR and AWWA standards.

Samples shall be taken from a representative number of water outlets so as to ensure an accurate sampling of the water system/line. Water samples shall be taken in the presence of the Construction Project Manager.

- 2) The water samples shall be delivered to the chlorinator in a timely manner to a California state approved water analysis laboratory. The samples must test negative for coliform organisms and less than 500 for a Standard Plate Count (HPLC).
  - 3) If the results are positive, the above steps specified in Paragraphs 3.2.A.4(f)1 through 3.2.A.4(f)6 shall be repeated. Two consecutive negative tests must be obtained prior to using the water system.
- h. Final Results: If the analysis results do not meet the standards specified, the disinfecting procedure shall be repeated until the specified standards are met, at no additional cost to the Owner. The complete procedure may take up to 4 days if negative results are obtained. This procedure will be longer if the results are positive.

### 3.03 BACKFILL

- A. General: Do not backfill until all required inspections are made and tests are performed. Backfill with the excavated materials specified for fill in Section 02300, EARTHWORK. Adjust the moisture content of the backfill material if required for specified compaction. Reopen any trenches not backfilled to specified density, or where settlement occurs, to the depth required for specified compaction, refill and compact to specified density at Contractor's expense. Compact all backfill for structures to the specified density.
- B. Around Pipe: Deposit specified backfill material under the haunches of the pipe in 6 inch layers and compact backfill to at least 90% of maximum density at optimum moisture content determined by ASTM D 1557 until the pipe has a minimum cover of 1 foot for water and gas mains. The moisture content of the soil at time of compaction shall be not more than 3% above or 3% below the optimum. Do not disturb the pipe while backfilling. Carry backfilling on simultaneously on both sides of the pipe to eliminate lateral displacement.
- C. Remainder of Trench: Deposit the remainder of the backfill material in layers not exceeding 12 inches in loose depth and compact layers to at least 90% of maximum density at optimum moisture content determined by ASTM D 1557, except compact the top 1 foot of backfill below the paving base or subgrade in areas to be paved to at least 95% of maximum density at optimum moisture content determined by ASTM D 1557. The moisture content of the soil at time of compaction shall be not more than 3% above or 3% below the optimum.
- D. Crushed Rock Bedding: Where bedding material is approved by the Construction Project Manager during construction to replace foundation material, crushed rock bedding shall be used. The bedding material shall consist of crushed rock mechanically or naturally combined with screenings from crusher operations or other finely divided mineral matter having similar physical properties. The composite material shall be free from organic or other unspecified matter and shall consist of angular, sound and durable fragments, uniform in density and quality, and free from thin and elongated pieces. The minimum depth between the bottom of the trench and the lowest point of pipe shall be 4 inches or one-eighth of the outside diameter of pipe, whichever is greater.
  1. The crushed rock shall be graded with a maximum size of 2 inches. Not more than 20% by weight shall pass a No. 4 sieve and shall not contain more than 3% by weight of particles smaller than 20 micrometre grain size as determined by ASTM Standard D 422.

- E. Improved bedding where required by the Drawings shall consist of granular material, sand, crushed rock, etc., or a concrete cradle as indicated by the Drawings. Granular material shall be free from organic or other unspecified material and shall conform to the grading requirements for either fine or coarse aggregate as specified in Section 03300, CAST-IN-PLACE CONCRETE.

END OF SECTION 02700

**SECTION 02721**  
**STORM DRAINAGE**

**1. PART 1 - GENERAL**

**1.1 DESCRIPTION OF WORK**

- A. Provide all storm drains, subdrains, infiltration pits, and infiltration trenches as shown on the Drawings and as specified herein, complete.

**1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Work Specified in Other Sections:
1. Trenching, Backfilling and Compaction: 02223
- C. Contractor shall refer to American Public Works Standards Plans and Specifications, most current edition.

**1.3 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of the specified materials, quantity and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Material Testing: Refer to Division 1 for Quality Control.
- C. Allowable Tolerances: The allowable dimensional alignment for gravity storm sewers shall be as follows:
1. Vertical: + 0.02 feet
2. Horizontal: + 0.50 feet

**1.4 SUBMITTALS**

- A. Refer to Division 1 for procedures.
- B. Record Documents: At closeout, submit Record Drawings of installed utility piping and appurtenant structures.

**1.5 JOB CONDITIONS**

- A. Protection of Existing Utilities Structures: Protect the existing utilities shown on the Drawings, or the locations of which are known prior to excavation, from damage during excavation and backfilling of trenches and, if damaged, repair them at Contractor's expense.
- B. The Drawings are diagrammatic, but shall be followed as closely as actual construction permits. All deviations from the Drawings required to make work

conform to the site conditions, and to Work of others, shall be made only as necessary as approved by the Construction Project Manager. The Contractor shall verify all dimensions and discharge elevations along Second Street and the alleyways prior to starting work.

## 2. PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. The following shall be used as shown on the Drawings.
- B. Inlet Covers and Grates: Unless otherwise specified on the Drawings, drainage grates per Brooks Products or NDS Products or equal. Size as shown on Drawings. All grates shall be handicap and pedestrian compatible. All Grates in street areas shall be pedestrian and traffic compatible.
- C. Backfill: Granular fill used as backfill shall conform to fill requirements specified in Section 02223.
- D. Reinforcing Steel: Reinforcing steel shall be deformed bars except where otherwise noted on Drawings and conform to ASTM A 615, Grade 40.
- E. Storm Drain:
  - 1. Pipe. Use one of the following as shown on the Drawings:
    - a. Polyvinyl Chloride Plastic (PVC) Pipe shall meet the requirements of ASTM D3034 and have a rating of either SDR 26 or SDR 35 (size of pipe and rating to be provided shall be as shown on the Drawings). Provide written certification that all PVC pipe meets the specification requirements in accordance with Subsection 207-17.4.1 of the Standard Specifications and as specified in the Section.
  - F. Subdrains shall be as specified on the Drawings.
    - a. 4 " Perforated Pipe with ½" holes
  - G. Infiltration Pits and Trenches shall be as specified on the Drawings.
  - H. All products or structures not included herein shall be as specified on the Drawings.
  - I.

## 3. PART 3 - EXECUTION

### 3.1 SYSTEM LAYOUT

- A. Layout the system determining proper elevations for all components from the lines and grades shown on the Drawings. Verify no conflict with other proposed or existing utility services.

### 3.2 EXCAVATING, BACKFILLING, AND COMPACTING

- A. Perform excavating, backfilling, and compacting for the pipe and structures in accordance with the provisions of Section 02223.

### 3.3 INSTALLATION

#### A. Pipe:

1. Laying Pipe. Shape the bottom of the trench by hand to give uniform circumferential support to the lower fourth of each pipe. Where applicable, pipe laying shall proceed upgrade with the tongue or spigot ends pointing in the direction of the flow. Each pipe shall be laid true to line and grade indicated on the Drawings and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the low line. As the work progresses, clean the interior of the pipe of all dirt and superfluous materials. Where cleaning after laying is difficult because of small pipe size, keep a swab or drag in the pipe and pull forward past each joint immediately after the joining has been completed. If the maximum width of the trench at the top of the pipe as specified is exceeded, install such concrete cradling, pipe encasement or other bedding as approved by University's Representative to support the added load of the backfill. Keep trenches for all sections of the pipe free from water until the pipe-jointing material has set and the trench has been backfilled. Do not lay pipe when the condition of the trench or the weather is unsuitable for such work. At times when the work is not in progress, keep open ends of pipes and fittings securely closed so that no trench water, earth or tamped backfill, can enter. Encase the pipe in concrete or support it on a concrete cradle as approved.
2. Pipe Joints.
  - a. PVC Pipe. Pulling of joints or beveling pipe ends to achieve curvature will not be permitted.

### 3.4 FIELD QUALITY CONTROL

#### A. Contractor Checking and Inspection:

1. Storm Drains
  - a. General. Work performed and materials furnished and installed, as shown on the Drawings or required by the Specifications, shall be subject to review by the Construction Project Manager. Provide Construction Project Manager with unrestrictive access to the Work during construction to allow him the opportunity to review materials and workmanship.
  - b. The storm drain pipe shall be checked by the Campus Project Manager when backfill has reached the top of the pipe. Both internal and external inspections for alignments shall be made at this time. The Contractor shall correct at his expense, to the Construction Project Manager's satisfaction, any section of the line found to be unsatisfactory in material, alignment, grade, or joints.

### 3.5 ADJUSTMENT AND CLEANING

#### A. Pavement Repair:

1. Where necessary to cut pavements, drives, sidewalks or other permanent surfaces, the cuts shall be made with neat lines at least 1 foot wider than the trench. Cut material shall be disposed of by Contractor.

- a. The surfaces that are cut shall be restored to the condition specified before the cut was made. Keep streets open for use and also keep portions of driveways open for use.
2. Concrete and Asphalt concrete shall be finished to match surrounding surfaces.

**3.6 FINAL ACCEPTANCE**

- A. Final acceptance of the project shall be contingent upon the satisfactory completion of backfilling, surface repairs, passage of final tests and furnishing "as-builts" Record Drawings showing any deviations from the Drawings.
- B. The Contractor shall be liable for any failure of storm drain or sanitary sewer facilities installed by them for a period of one year after the date of final acceptance.

END OF SECTION

## SECTION 02745

### ASPHALT PAVING

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes:
  - 1. Hot-mix asphalt paving.
  - 2. Hot-mix asphalt patching.
  - 3. Hot-mix asphalt overlays.
- B. Related Sections:
  - 1. Section 02300 - Earthwork: Aggregate subbase.
  - 2. Section 02765 - Pavement Marking.

##### 1.2 SYSTEM DESCRIPTION

- A. Provide hot-mix asphalt pavement according to the materials, workmanship, and other applicable requirements of the standard specifications "Greenbook".
  - 1. Standard Specification: As indicated and Soils Engineer's recommendations.

##### 1.3 SUBMITTALS

- A. General: Submit in accordance with Section 01330.
- B. Product Data:
  - 1. Submit product data for each product specified.
  - 2. Include technical data and tested physical and performance properties.
- C. Design Data: Submit job-mix designs for each job mix proposed for the Work.
- D. Test Reports: Submit material test reports indicating and interpreting test results for compliance of materials with requirements indicated.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Certified in writing by system manufacturer as qualified for installation of specified systems.
- B. Manufacturer Qualifications:
  - 1. Firm experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with record of successful in-service performance.
- C. Regulatory Requirements: Conform to applicable standards of authorities having jurisdiction for asphalt paving work on public property.
- D. Standards: Comply with Asphalt Institute's "The Asphalt Handbook," except where more stringent requirements are indicated.

## **PART 2 - PRODUCTS**

### **2.1 AGGREGATES**

- A. All Aggregates shall be in compliance with Project Engineer.

### **2.2 ASPHALT MATERIALS**

- A. Asphalt Cement shall be as defined by City Engineer.
- B. Tack Coat: ASTM D977, emulsified asphalt or ASTM D2397, cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.
- C. Fog Seal: ASTM D977, emulsified asphalt or ASTM D2397, cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.

### **2.3 AUXILIARY MATERIALS**

- A. Sand: ASTM D1073, Grade Nos. 2 or 3.
- B. Pavement Marking Paint: Refer to Section 02765.

### **2.4 MIXES**

- A. Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction; designed according to procedures in AI's "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types"; and complying with the following requirements:
  - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
  - 2. Mix Shall be per Soils Engineer's recommendations.
- B. Emulsified-Asphalt Slurry: ASTM D3910, consisting of emulsified asphalt, fine aggregates, and mineral fillers and as follows: Mix shall be per Soils Engineer's (AGS) recommendations.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Notify Soils Engineer in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

### **3.2 COLD MILLING**

- A. Clean existing paving surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement, including hot-mix asphalt and, as necessary, unbound-aggregate base course, by cold milling to grades and cross sections indicated.

- B. Repair or replace curbs, manholes, and other construction damaged during cold milling.]

### 3.3 PATCHING AND REPAIRS

- A. Patching: Saw cut perimeter of patch and excavate existing pavement section to sound base. Recompact new subgrade. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically.
  - 1. Tack coat faces of excavation and allow to cure before paving.
  - 2. Fill excavation with dense-graded, hot-mix asphalt base mix and, while still hot, compact flush with adjacent surface.]
  - 3. [Partially fill excavation with dense-graded, hot-mix asphalt base mix and compact while still hot. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.]
- B. Tack Coat: Apply uniformly to existing surfaces of previously constructed asphalt or portland cement concrete paving and to surfaces abutting or projecting into new, hot-mix asphalt pavement. Apply at a uniform rate of 0.05 to 0.15 gallons/square yard. of surface.
  - 1. Allow tack coat to cure undisturbed before paving.
  - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

### 3.4 SURFACE PREPARATION

- A. General:
  - 1. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.
  - 2. Ensure that prepared subgrade is ready to receive paving.
  - 3. Sweep loose granular particles from surface of unbound-aggregate base course.
  - 4. Do not dislodge or disturb aggregate embedded in compacted surface of base course.
- B. Prime Coat: Apply uniformly over surface of compacted-aggregate base at a rate of [0.15 to 0.50 gallons/square yard. Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure for 72 hours minimum.
  - 1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use just enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
  - 2. Protect primed substrate from damage until ready to receive paving.

### 3.5 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt mix on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness, when compacted.
- B. Place paving in consecutive strips not less than 10 feet wide, except where infill edge strips of a lesser width are required.
- C. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete asphalt base course for a section before placing asphalt surface course.

- D. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

### 3.6 JOINTS

- A. Construct joints to ensure continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
  - 1. Clean contact surfaces and apply tack coat.
  - 2. Offset longitudinal joints in successive courses a minimum of 6 inches.
  - 3. Offset transverse joints in successive courses a minimum of 24 inches.
  - 4. Construct transverse joints by bulkhead method or sawed vertical face method as described in AI's "The Asphalt Handbook."
  - 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
  - 6. Compact asphalt at joints to a density within 2 percent of specified course density.

### 3.7 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
  - 1. Complete compaction before mix temperature cools to 185 degrees F.
- B. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- C. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- D. Repairs: Remove paved areas that are defective or contaminated with foreign materials. Remove paving course over area affected and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- E. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- F. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

### 3.8 INSTALLATION TOLERANCES

- A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
  - 1. Base Course: Plus or minus 1/2 inch.
  - 2. Surface Course: Plus 1/4 inch, no minus.
- B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10 foot straightedge applied transversely or longitudinally to paved areas:
  - 1. Base Course: 1/4 inch.
  - 2. Surface Course: 1/8 inch.

3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 4 inch.

### 3.9 SURFACE TREATMENTS

- A. Fog Seals: Apply fog seal at a rate of 0.10 to 0.15 gallons/square yard. to existing asphalt pavement and allow to cure. Lightly dust areas receiving excess fog seal with a fine sand.
- B. Slurry Seals:
  1. Apply slurry coat in a uniform thickness according to ASTM D3910 and allow to cure.

### 3.10 FIELD QUALITY CONTROL

- A. Testing Agency:
  1. Owner will engage qualified independent testing agency to perform field inspections and tests and to prepare test reports.
  2. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.
- B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D3549.
- D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- E. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.
- F. Done by Contractor , in the presence of the Engineer. Flood Test completed asphalt concrete before sealing and striping. All areas shall be free of standing water or puddles. Fill all low areas as required.

**END OF SECTION**

**SECTION 2755**  
**SITE CONCRETE PAVING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes:  
Sidewalks, curbs, gutters, handicap ramps, driveways, decorative concrete, pavement
  
- B. Related Sections:
  - 1. Section 2765 - Pavement Markings.

**1.2 SUBMITTALS**

- A. General: Submit in accordance with Section 013300.
- B. Product Data: Submit product data for joint fillers, admixtures, and curing compounds.
- C. Shop Drawings: Submit shop drawings, to Architect, showing reinforcing layout and locations of control and expansion joints.
- D. Design Data: Submit proposed concrete mix designs for each class or use.
- E. Certifications:
  - 1. Submit material certification for admixtures and aggregates, certifying compliance with Specifications.
  - 2. Submit certified mill test reports for each lot of cement.
- F. Manufacturer's Instructions: Submit manufacturer's instructions for each proprietary product.

**1.3 QUALITY ASSURANCE**

- A. Standards: Perform Work in accordance with ACI 301.
- B. Single Source Responsibility: To ensure quality of appearance and performance, obtain cementitious materials from same source throughout the Work.
- C. Regulatory Requirements: Comply with local governing regulations if more stringent than items specified or drawn.
- D. All form work for handicap accessibility appurtenances must be inspected by City of Thousand Oaks prior to pouring.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Forms:
  - 1. Provide steel or wood forms of size and strength necessary to resist movement during concrete placement.
  - 2. Provide flexible spring steel forms or laminated boards to form curves.
- B. Release Agent: nonstaining type that will not discolor concrete.
- C. Reinforcing Steel:
  - 1. Comply with requirements of Section 032000 [033000].
  - 2. Welded wire mesh: ASTM A185, plain cold-drawn steel wire fabric; furnish in flat sheets.
  - 3. Reinforcing bars and dowels: ASTM A615, Grade 40 [60]; cut plain round dowels to proper length with ends square and free of burrs.
- D. Metal Expansion Sleeves:
  - 1. Provide for one end of each dowel in expansion joints.
  - 2. Form sleeves with one end closed and minimum length of 75 mm [(3 inches)] to allow bar movement of not less than 25 mm [(1 inch)].

- E. Reinforcing Bar Supports:
  1. Provide supports for reinforcing including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place
  2. Wood and brick type supports not acceptable.
- F. Hook Bolts:
  1. ASTM A307, Grade A bolts, internally and externally threaded.
  2. Design hook bolt joint assembly to hold coupling against pavement form and in position during concrete operations.
  3. Ensure forms can be removed without damage to concrete or hook bolt.
- G. Concrete: Comply with Section 033000 for concrete materials, admixtures, bonding materials, concrete mix designs, sampling, testing, and quality assurance. [Use of fly ash will not be acceptable.]
- H. Curing Compound:
  1. Refer to Section 033000.
  2. ASTM C309, of type which is free of natural or petroleum waxes; Class A not acceptable.
  3. White pigmented, Type 2, Class B.
  4. [Provide manufacturer's proprietary curing compound that is compatible with penetrating sealer [chemical hardener] specified in Section 033500.]
- I. Sheet Curing Materials: ASTM C171; white opaque polyethylene film, white polyethylene coated burlap sheeting, or regular waterproof paper.
- J. Expansion Joint Filler:
  1. Exposed Locations: Provide asphalt impregnated fiberboard type complying with ASTM D1751. Do not use in conjunction with sealants.
  2. Sealant locations: ASTM D1752, Type III - Self-Expanding Cork [Type II - Cork] [Type I - Sponge Rubber].
- K. Pavement Sealant: Refer to Section 079200.
- L. [Penetrating Sealer: Refer to Section 033500.]

## 2.2 MIXES

- A. In addition to requirements specified in Section 03300, furnish mix design to produce normal weight concrete consisting of portland cement, aggregate, air-entraining admixture, and water to produce following properties:
  1. Compressive strength: 21 MPa [(3,000 psi)] minimum at 28 days.
  2. Slump range: 50 to 100 mm [75 to 125 mm] [(2 to 4 [3 to 5] inches)].
  3. Air content: 4 percent to 6 percent.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine conditions and proceed with work in accordance with Section 017300.
- B. Verify compacted subbase is acceptable and ready to support paving and imposed loads.
- C. Verify base elevations are correct.

### 3.2 PREPARATION

- A. Remove loose material from compacted subbase surface prior to concrete placement.

### 3.3 INSTALLATION

- A. Formwork:
  1. Set forms to required grades and lines, rigidly braced and secured.
  2. Install sufficient quantity of forms to allow continuous progress of Work. Maintain forms in place for at least 24 hours after concrete placement.
  3. Check completed formwork for grade alignment to following tolerances:
    - a. Top of forms: Not more than 1/8 inch in 10'-0".
    - b. Vertical face: Longitudinal axis, not more than 1/4 inch in 10'-0".

4. Clean forms after each use.
  5. Coat form with release agent to ensure separation from concrete without damage.
- B. Joint Fillers:
1. Place joint filler vertical in position and in straight lines.
  2. Provide premolded joint filler for expansion joints abutting concrete curbs, walks, or other fixed objects.
  3. Extend joint filler full width and depth of joint.
  4. Provide joint fillers in one piece lengths for full width of joint wherever possible. Clip joint filler sections together where more than one piece is required.
  5. Provide holes for dowel bars not more than 3 mm [(1/8 inch)] larger than bar diameter.
  6. Provide removable strips that create recess of sufficient depth for sealant application.
  7. [Place top of asphaltic type filler flush with finished concrete surface if joint sealer is not required.]
  8. Form top edge of filler to conform to concrete profile.
  9. Protect top edge of joint filler during concrete placement and remove recess strip after completion of concrete finishing on both sides of joint.
- C. Reinforcement:
1. Locate, place, and support reinforcement as specified in Section 032000 [033000].
  2. Interrupt reinforcing at expansion joints.
  3. Place dowels [reinforcing] with sleeves at expansion joints and where pavement abuts another structure to allow movement, but maintain alignment.
- D. Concrete Placement:
1. Comply with requirements of ACI 301 and Section 033000.
  2. Do not place concrete until subgrade and forms have been checked for line and grade.
  3. Moisten subgrade as necessary to provide dampened condition at time of concrete placement.
  4. Do not place concrete around curb and gutters [, manholes] or other structures until they are at required elevations and alignment.
  5. Place concrete using methods to prevent mix segregation and with as little rehandling as possible.
  6. Place concrete in continuous operation between predetermined construction joints to prevent cold joints.
  7. Provide metal keyway construction joints if concrete operation is interrupted for more than 30 minutes.
  8. Sections less than 4500 mm [(15'-0")] in length between construction joints will not be permitted.
  9. Consolidate concrete along face of forms and adjacent transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, and side forms.
  10. Consolidate with care to prevent dislocation of reinforcing dowels and joint devices.
  11. Ensure reinforcement, inserts, embedded items, and formed joints are not disturbed during concrete placement.
  12. Match adjacent existing curb and gutter in dimensions and profile.
- E. Joints:
1. Construct expansion, weakened plane (control), and construction joints true-to-line with face perpendicular to surface of concrete.
  2. Provide control joints for depth of 1/4 to 1/3 of concrete thickness, [sectioning concrete into areas indicated and] as follows:
    - a. Tooled joints: Form control joints in fresh concrete with recommended cutting tool and finish edges with jointer tool.
    - b. Sawcut: Use power saws to cut surfaces as soon as surfaces will not be torn, abraded, or otherwise damaged by cutting action.
    - c. [Inserts: Use embedded strips of metal or sealed wood to form control joint in exposed aggregate surfaces. Set strips in plastic concrete and carefully remove strips after installation of aggregate and concrete has obtained initial set.]

3. Place construction joints at end of pours and locations where placement operations are stopped for more than 30 minutes, except where termination occurs at expansion joint.
4. Use standard metal keyway-section for construction joints.
5. Provide load transfer slip dowels with one end free to move within sleeve for expansion joints.
6. Locate expansion joints at 18 000 mm [(60'-0")] maximum for pavement and at 9000 mm [(30'-0")] maximum for sidewalks, curbs and gutters, unless noted otherwise. Align curb, gutter, and sidewalk joints. Locate control joints at 6100 mm [(20'-0")] maximum for pavements and 1800 mm [(6'-0")] maximum for walkways, unless noted otherwise.

F. Form Removal:

1. Do not remove forms for minimum of 24 hours after concrete has been placed.
2. Clean ends of joints and patch honeycombs after form removal.

G. Fillers and Sealants:

1. Provide fillers and sealants where indicated.
2. Provide necessary bond breakers as necessary to prevent sealant contact with incompatible filler material.
3. Clean joints to obtain clean, dry surface for optimum sealant adhesion.
4. Install sealant in accordance with manufacturer's recommendations for traffic bearing surfaces.
5. Install sealant full depth of joint recess and flush with concrete surface.
6. Do not apply when ambient or surface temperatures are less than 35 degrees F.

### 3.4 CONCRETE FINISHES

A. General:

1. After striking off and consolidating concrete, smooth surface by screeding and floating.
2. Use hand methods only where mechanical floating is not possible.
3. Adjust floating to compact surface and produce uniform texture.
4. Test for surface trueness after floating with 3000 mm [(10'-0")] straightedge.
5. Provide finish surfaces with 1:500 [(1/4 inch in 10'-0")] tolerance.
6. Distribute concrete as necessary to remove surface irregularities.
7. Float repaired areas to provide smooth continuous surface.
8. Work edges of slabs, gutters, back top edge of curbs, and formed joints with edging tool; round to 13 mm [(1/2 inch)] radius.
9. After completion of floating and when excess moisture or surface sheen has disappeared, provide surface finish.

B. Light Broom Finish:

1. Draw fine-hair broom across concrete while surface is still plastic.
2. Create fine-grained but smooth texture acceptable to Architect.
3. Provide texture perpendicular to traffic.

C. [Heavy broom finish:

1. Draw stiff fiber bristle broom across concrete while surface is still plastic.
2. Create coarse, non-slip, uniform texture acceptable to Architect.
3. Provide texture perpendicular to main traffic or at right angles to slope.]

D. [Non-slip Aggregate Finish: Refer to Section 033500.]

### 3.5 CURING

- A. Protect and cure finished concrete paving complying with applicable portions of Section 033000.
- B. Use moist curing methods for initial cure whenever possible.
- C. Continue curing by use of moisture retaining cover or membrane forming compound. Do not use curing compounds on concrete scheduled to receive penetrating sealers, unless approved by sealer manufacturer.

### 3.6 FIELD QUALITY CONTROL

- A. Field testing will be performed under the provisions of Section 014500.

- B. Comply with Section 033000 for frequency and types of tests required for slump, air entrainment, and compression testing.

**3.7 ADJUSTING**

- A. Remove and replace concrete which has surface defects which cannot be repaired to match appearance or durability of surrounding concrete.

**3.8 CLEANING**

- A. Where construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and material spillage.
- B. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material immediately prior to final inspection.

**3.9 PROTECTION**

- A. Protect finished work in accordance with Section 017300.
- B. Protect finished concrete surfaces from damage by construction equipment, operations and from adverse weather conditions.
- C. Exclude traffic from pavement for at least 7 days after placement.

**END OF SECTION**

SECTION 2765  
PAVEMENT MARKINGS

PART 1 – GENERAL

1.1 SUMMARY

- A. Provide crosswalk, traffic striping and signage, curb painting and pavement markings.
  
- B. Related Sections
  - 1. Section 2745 Asphalt Paving
  - 2. Section 2755 Concrete Paving

1.2 REFERENCE STANDARDS

- A. Conform to all requirements of the City of Thousand Oaks Public Works Department.
- B. Conform to Standard specifications for Public Works construction.
- C. Conform to Title 24 and ADA handicap Accessibility Codes.
- D. Conforms to Caltrans Standards.

PART 2 – PRODUCTS

2.1 General:

All materials shall conform with the following requirements and shall be of new stock of the highest grade available, free from defects and imperfections, of recent manufacture and unused. Where two or more identical articles or pieces of equipment are required, they shall be of the same manufacturer.

2.2 Materials:

- A. Line: White Traffic Paint, Sinclair No. 160, Dunn-Edwards W-801, or approved equal.
- B. Double line: Yellow Traffic Paint.
  
- C. No Parking Signs:

- a. Signs at parking spaces shall be 18 guage steel sheet with reflectorized porcelain white beaded International Symbol of Accessibility on Blue background, per the latest handicap code.
- b. Post mounted signs shall be secured to one-piece capped galvanized steel pipe (conforming to ASTM A53 or A120, seamless, extra strong) with theft proof fasteners and set in concrete footings, centered at interior end of parking space in conformance with plans and handicap code.

### PART 3 – EXECUTION

- 3.1 Lines shall be in accordance with the drawings.
- 3.2 Surfaces to be painted shall be clean and free from dirt or dust. Striping shall be done when the weather conditions permit proper application, and in accordance with manufacturer's directions. Machine paint lines at a rate to cover not more than 100 sq. ft. of surface per gallon of paint or as required to be completely opaque.
- 3.3 Install no parking signs where shown on plans.

END OF SECTION

## SECTION 2765

### PAVEMENT MARKINGS

#### PART 1 – GENERAL

##### 1.1 SUMMARY

- A. Provide crosswalk, traffic striping and signage, curb painting and pavement markings.
- B. Related Sections
  - 1. Section 2745 Asphalt Paving
  - 2. Section 2755 Concrete Paving

##### 1.2 REFERENCE STANDARDS

- A. Conform to all requirements of the City of Thousand Oaks Public Works Department.
- B. Conform to Standard specifications for Public Works construction.
- C. Conform to Title 24 and ADA handicap Accessibility Codes.
- D. Conforms to Caltrans Standards.

#### PART 2 – PRODUCTS

##### 2.1 General:

All materials shall conform with the following requirements and shall be of new stock of the highest grade available, free from defects and imperfections, of recent manufacture and unused. Where two or more identical articles or pieces of equipment are required, they shall be of the same manufacturer.

##### 2.2 Materials:

- A. Line: White Traffic Paint, Sinclair No. 160, Dunn-Edwards W-801, or approved equal.
- B. Double line: Yellow Traffic Paint. Submit Specs to City Engineer for approval.
- C. No Parking Signs:

- a. Signs at parking spaces shall be 18 guage steel sheet with reflectorized porcelain white beaded International Symbol of Accessibility on Blue background, per the latest handicap code.
- b. Post mounted signs shall be secured to one-piece capped galvanized steel pipe (conforming to ASTM A53 or A120, seamless, extra strong) with theft proof fasteners and set in concrete footings, centered at interior end of parking space in conformance with plans and handicap code.

### PART 3 – EXECUTION

- 3.1 Lines shall be in accordance with the drawings.
- 3.2 Surfaces to be painted shall be clean and free from dirt or dust. Striping shall be done when the weather conditions permit proper application, and in accordance with manufacturer's directions. Machine paint lines at a rate to cover not more than 100 sq. ft. of surface per gallon of paint or as required to be completely opaque.
- 3.3 Install no parking signs where shown on plans.

END OF SECTION

## SECTION 04200

### Masonry

#### 1. PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. Provide the construction of concrete block wall and as shown on the Drawings and as specified herein, complete.

##### 1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Work Specified in Other Sections:
  - 1. Site Concrete Paving: 02755
- C. Contractor shall refer to American Public Works Standards Plans and Specifications, most current edition.

##### 1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of the specified materials, quantity and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Single source responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color. From one manufacturer for each different product required for each continuous surface or visually related surfaces.
- C. Single source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

##### 1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for each type of masonry unit.
- B. Color Selection: Split Face, Sandstone Color with matching mortar.

##### 1.5 JOB CONDITIONS

- A. Protection of Existing Utilities Structures and walls to remain: Protect the existing improvements shown on the Drawings, or the locations of which are known prior to excavation, from damage during excavation and backfilling of trenches and, if damaged, repair them at Contractor's expense.
- B. Staining: Prevent ground, mortar or soil from staining the face of masonry wall to be left exposed. Remove grout or mortar in contact with such masonry immediately.

- C. Do not apply concentrated loads for at least 3 days after building masonry wall or pilasters.
- D. Follow manufacturer's recommendations for construction in differing temperature ranges.
- E. The Drawings are diagrammatic, but shall be followed as closely as actual construction permits. All deviations from the Drawings required to make work conform to the site conditions, and to Work of others, shall be made only as necessary as approved by the Construction Project Manager.

**2. PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Concrete Block: 16" long x 8" high x 8" thick, Split Face, Sandstone Color, submit block and color sample to City for approval.
- B. Obtain masonry units from one manufacturer, of uniform texture and color.
- C. Mortar: Comply with ASTM C-270, Proportion Specifications, Cement-Lime Mortar.
- D. Colored Mortar: Produce mortar of color: Sandstone to match wall face.
- E. Grout: Comply with ASTM C-476. Use grout of consistency which at time of placement will completely fill all spaces to receive grout. 1. Mix: Portland cement, sand, gravel and water proportioned as required to provide a 28-day minimum compressive strength of 3500 psi. 2. Use for reinforced masonry bond beams, pilasters and block cells.
- F. Reinforcing Steel: Reinforcing steel shall be deformed bars except where otherwise noted on Drawings and conform to ASTM A 615, Grade 60.

**3. PART 3 - EXECUTION**

**3.1 SYSTEM LAYOUT AND PLACING**

- A. Layout the system determining proper elevations for all components from the lines and grades shown on the Drawings. Verify no conflict with other proposed or existing improvements
- B. Verification: Prior to the start of masonry construction the Contractor shall verify: 1. Foundations are constructed with tolerances conforming to ACI 117.
- C. Surface preparation: Prior to placing Concrete Masonry remove laitance, loose aggregate or other material that would prevent mortar from bonding to the foundation.
- D. In-Progress Cleaning:
  - 1. Remove excess mortar.
  - 2. Dry brush exposed masonry prior to end of each workday.
  - 3. Protect the wall from mud splatter and mortar droppings.

- E. Grout Placement: Place grout in lifts not to exceed 4 ft.
- F. Grout Consolidation: consolidate grout pours with mechanical vibration.
- G. Expansion Joints: Joints shall be in compliance with Standard Specifications for Public Works Construction.

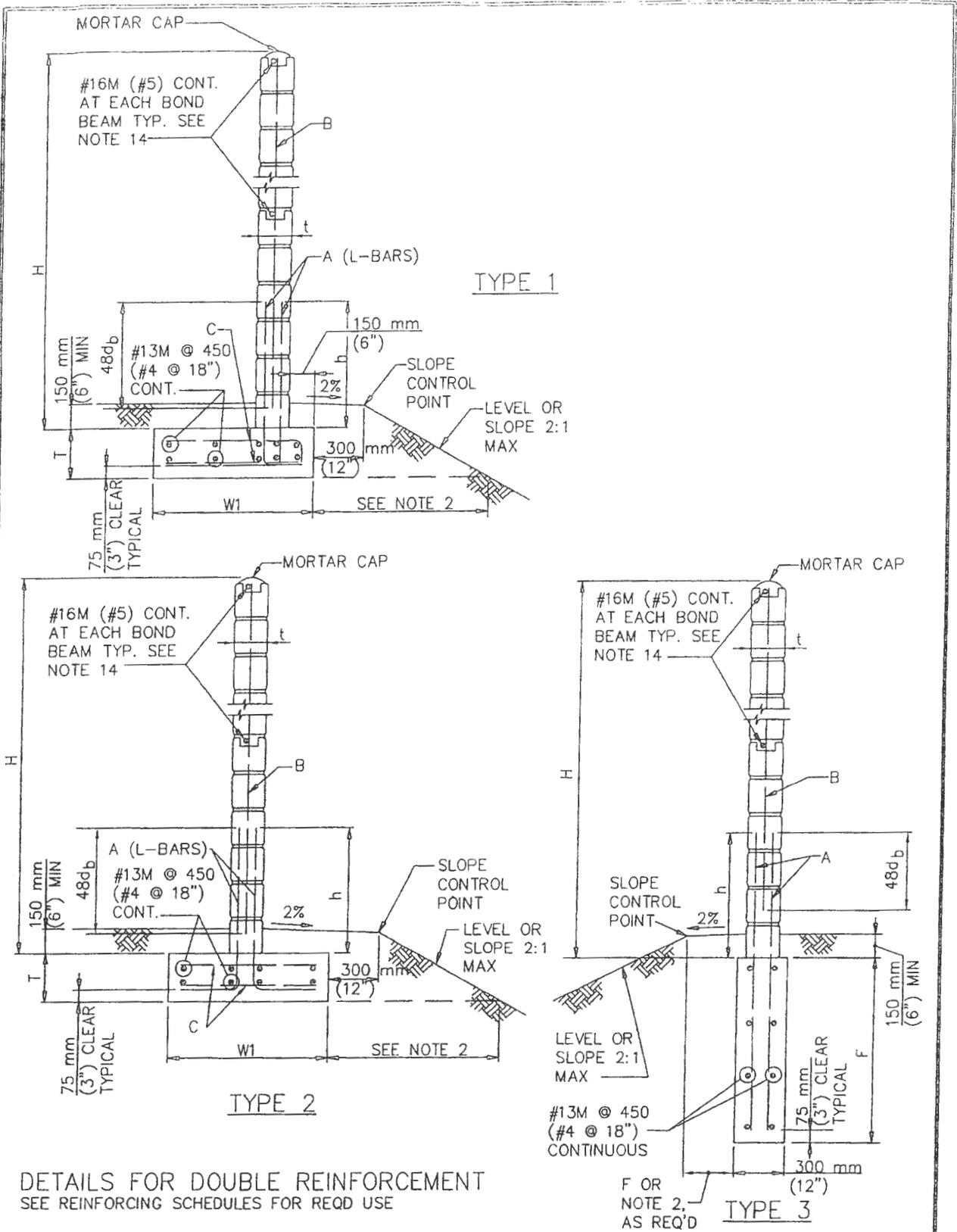
### 3.2 REINFORCEMENT AND ANCHORAGES

- A. Completely embed reinforcement per Standard Specifications for Public Works Improvements, size, type and locations indicated on the Drawings.
- B. Perform excavating, backfilling, and compacting for structures in accordance with the provisions of Section 02223.

### 3.3 CLEANING

- A. Final Cleaning:
  1. After mortar has set, reached initial curing; within 7 days of completion of work clean exposed masonry as follows:
  2. Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.
  3. Cut out any defective mortar joints and holes and re-point with mortar.
  4. Clean Concrete Masonry Units with proprietary masonry cleaner.
  5. Do not use high pressure cleaning methods.

END OF SECTION



DETAILS FOR DOUBLE REINFORCEMENT  
SEE REINFORCING SCHEDULES FOR REQ'D USE

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1993  
REV. 1996, 2005

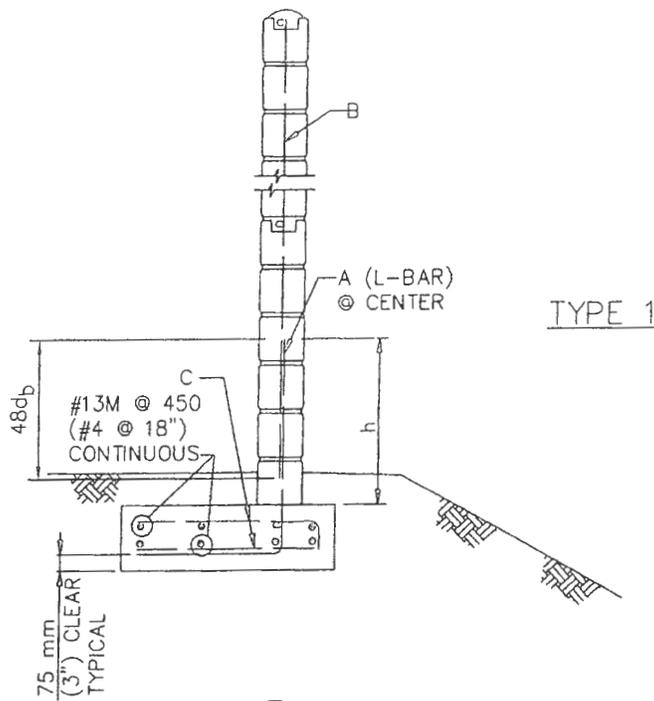
REINFORCED CONCRETE BLOCK WALL

STANDARD PLAN  
METRIC

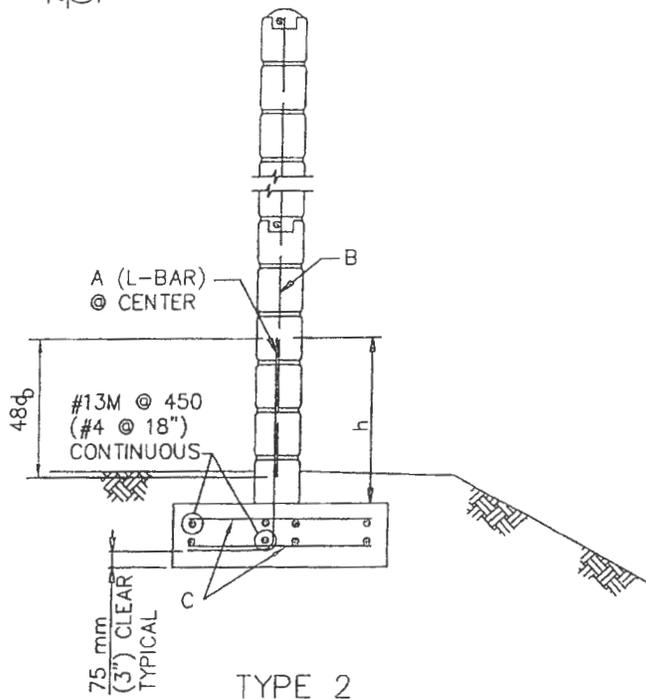
601-2

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

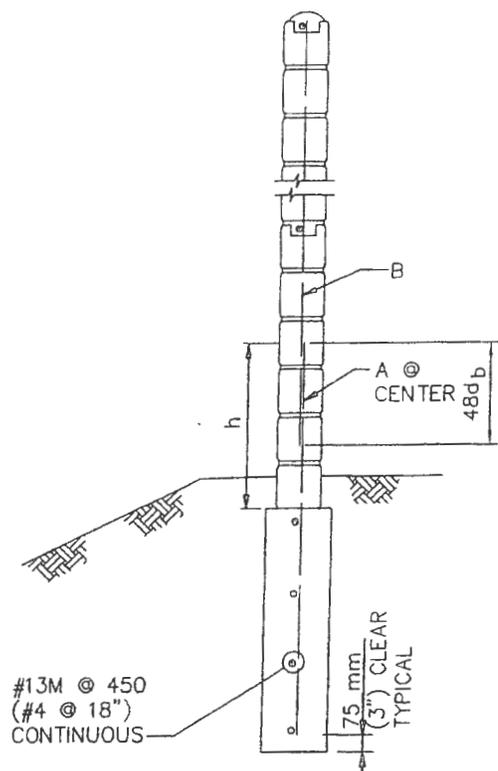
SHEET 1 OF 6



TYPE 1



TYPE 2



TYPE 3

DETAILS FOR SINGLE REINFORCEMENT  
 SEE REINFORCING SCHEDULES FOR ALLOWED USE  
 SEE SHEET 1 FOR OTHER DIMENSIONS AND DETAILS

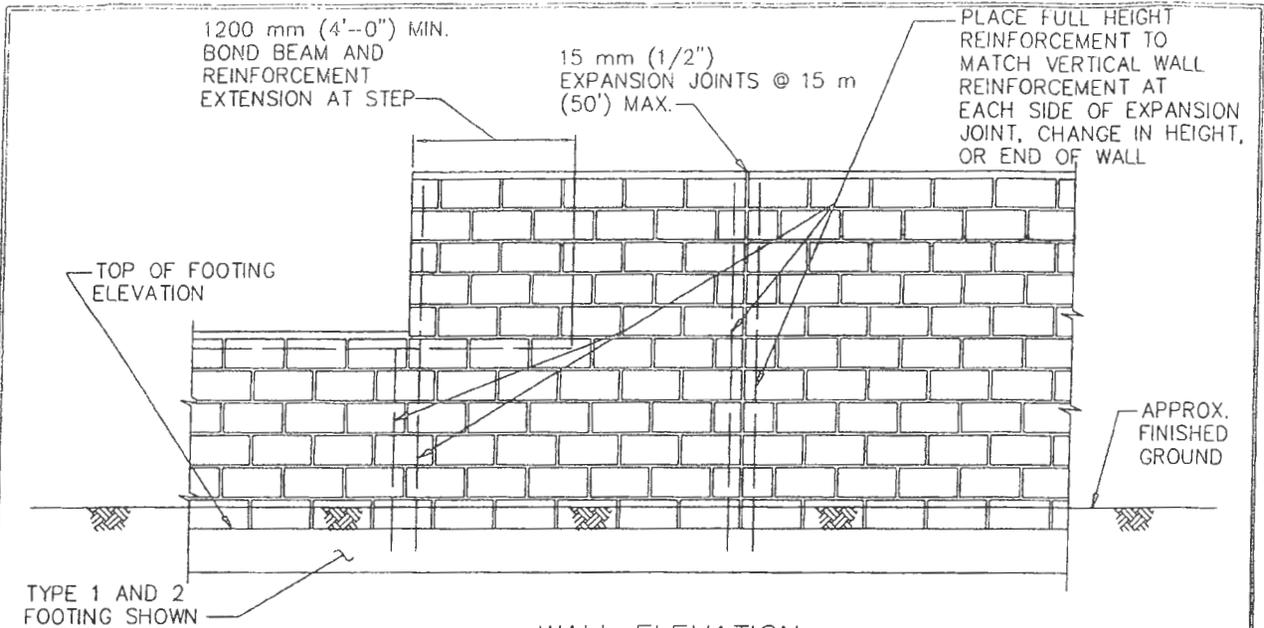
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

REINFORCED CONCRETE BLOCK WALL

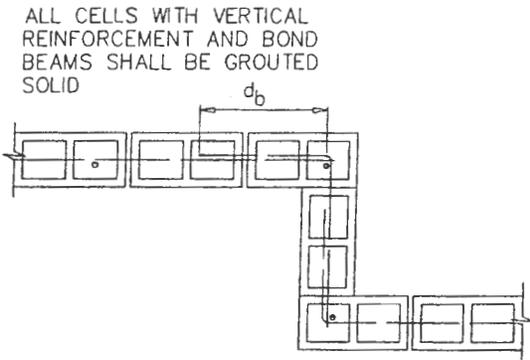
STANDARD PLAN  
 METRIC

601-2

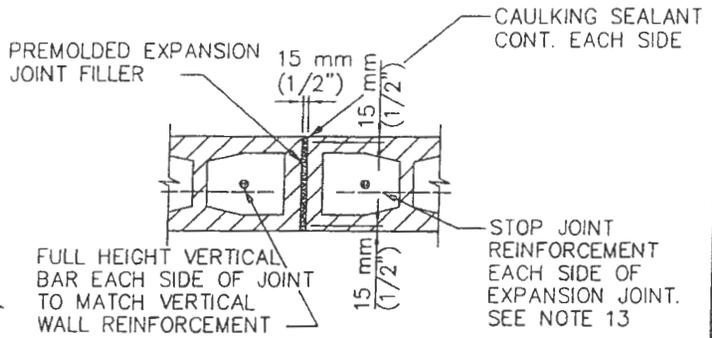
SHEET 2 OF 6



WALL ELEVATION

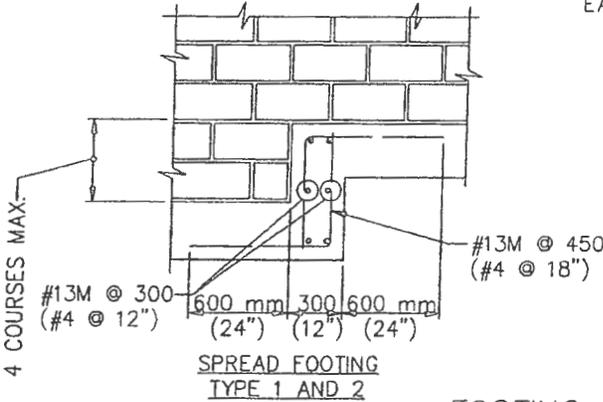


CORNER DETAIL



EXPANSION JOINT DETAIL

NOTE:  
SINGLE VERTICAL REINFORCING BARS SHALL BE CENTERED IN CELLS. DOUBLE ROWS OF VERTICAL REINFORCING BARS SHALL HAVE THE REINFORCEMENT PLACED IN EACH FACE (EF).



FOOTING STEP DETAILS

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

REINFORCED CONCRETE BLOCK WALL

STANDARD PLAN METRIC

601-2

SHEET 3 OF 6

LATERAL LOAD = 720 Pa (15 PSF)									
STEM		FOOTING				REINFORCING BARS			
						CUTOFF	SPACING, O.C.		
H	t	T	W1 (TYPE 1)	W2 (TYPE 2)	F (TYPE 3)	h	A	B	C
1.8 m (6'-0")	150 mm (6")	300 mm (12")	675 mm (2'-3")	675 mm (2'-3")	825 mm (2'-9")	750 mm (30")	#13M@1200* (#4 @ 48"*)	#13M@1200 (#4 @ 48")	#13M@1200* (#4 @ 48"*)
2.4 m (8'-0")	200 mm (8")	300 mm (12")	2'-9" (2'-9")	750 mm (2'-6")	975 mm (3'-3")	750 mm (30")	#13M@800* (#4 @ 32"*)	#13M@800 (#4 @ 32")	#13M@800* (#4 @ 32"*)
3.0 m (10'-0")	200 mm (8")	300 mm (12")	3'-9" (3'-9")	900 mm (3'-0")	1125 mm (3'-9")	750 mm (30")	#13M@800EF (#4 @ 32"EF)	#13M@800 (#4 @ 32")	#13M@800 (#4 @ 32")

LATERAL LOAD = 960 Pa (20 PSF)									
STEM		FOOTING				REINFORCING BARS			
						CUTOFF	SPACING, O.C.		
H	t	T	W1 (TYPE 1)	W2 (TYPE 2)	F (TYPE 3)	h	A	B	C
1.8 m (6'-0")	150 mm (6")	300 mm (12")	825 mm (2'-9")	750 mm (2'-6")	975 mm (3'-3")	750 mm (30")	#16M@800* (#5 @ 32"*)	#13M@800 (#4 @ 32")	#13M@800* (#4 @ 32"*)
2.4 m (8'-0")	200 mm (8")	300 mm (12")	975 mm (3'-3")	900 mm (3'-0")	1125 mm (3'-9")	750 mm (30")	#13M@800EF (#4 @ 32"EF)	#13M@800 (#4 @ 32")	#13M@800 (#4 @ 32")
3.0 m (10'-0")	200 mm (8")	300 mm (12")	1275 mm (4'-3")	1050 mm (3'-6")	1275 mm (4'-3")	1050 mm (42")	#16M@800EF (#5 @ 32"EF)	#13M@800 (#4 @ 32")	#16M@800 (#5 @ 32")

LATERAL LOAD = 1200 Pa (25 PSF)									
STEM		FOOTING				REINFORCING BARS			
						CUTOFF	SPACING, O.C.		
H	t	T	W1 (TYPE 1)	W2 (TYPE 2)	F (TYPE 3)	h	A	B	C
1.8 m (6'-0")	150 mm (6")	300 mm (12")	900 mm (3'-0")	825 mm (2'-9")	1050 mm (3'-6")	750 mm (30")	#16M@400* (#5 @ 16"*)	#13M@800 (#4 @ 32")	#13M@800 (#4 @ 32")
2.4 m (8'-0")	200 mm (8")	300 mm (12")	1125 mm (3'-9")	975 mm (3'-3")	1200 mm (4'-0")	750 mm (30")	#13M@400EF (#4 @ 16"EF)	#13M@800 (#4 @ 32")	#13M@800 (#4 @ 32")
3.0 m (10'-0")	200 mm (8")	300 mm (12")	1425 mm (4'-9")	1200 mm (4'-0")	1425 mm (4'-9")	1250 mm (50")	#16M@400EF (#5 @ 16"EF)	#13M@800 (#4 @ 32")	#16M@800 (#5 @ 32")

**NOTE**

SINGLE VERTICAL REINFORCING BARS SHALL BE CENTERED IN CELL.

\* FOR SINGLE A-BARS IN FOUNDATION, SEE SHEET 2.

DOUBLE ROWS OF VERTICAL REINFORCING WHERE INDICATED SHALL BE PLACED AT EACH FACE (EF).

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

REINFORCED CONCRETE BLOCK WALL

STANDARD PLAN  
METRIC

601-2

SHEET 4 OF 6



GENERAL NOTES:

1. CONSULT WITH LOCAL GOVERNING AGENCY FOR DETERMINATION OF LATERAL LOAD AND WALL TYPE LISTED IN TABLES, FOR PROJECT-SPECIFIC USE.
2. DISTANCE OF THE FOOTING FROM DESCENDING SLOPE SHALL BE PER LATEST GOVERNING BUILDING CODE OR PER AGENCY REQUIREMENTS.
3. SPECIAL INSPECTION IS NOT REQUIRED FOR WALLS.
4. GROUND LINE TO BE AT THE SAME ELEVATION ON BOTH SIDES OF THE WALL. WALL SHALL NOT BE USED TO RETAIN EARTH.
5. USE TABULAR INFORMATION FOR THE NEXT HIGHER H FOR INTERMEDIATE WALL HEIGHTS THAT ARE BETWEEN THE H'S GIVEN.
6. CONCRETE SHALL BE 295-C-17 (500-C-2500) PER SSPWC 201-1.1.2.
7. REINFORCING SHALL BE LAPPED A MINIMUM 48 BAR DIA. GRADE 60 UNLESS NOTED OTHERWISE PER SSPWC SECTION 201-2, 303-4.1.3, JOINT REINFORCING WIRE: ASTM A82.
8. ALL REINFORCED CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SSPWC 303.
9. FOR TYPE OF BLOCKS, BOND PATTERN AND JOINT FINISH, SEE PROJECT PLANS.
10. ALL MASONRY CONSTRUCTION TO BE IN ACCORDANCE WITH SSPWC 303-4.
11. HOLLOW MASONRY UNITS...ASTM C-90. TYPE I. NORMAL WEIGHT UNITS.  
MORTAR ...1:1/2:3, PORTLAND CEMENT - LIME - SAND RATIO, 13 MPa (1800 PSI) PER SSPWC 202-2.2.1.  
GROUT .....1:3:2 PORTLAND CEMENT - SAND - PEA GRAVEL RATIO, 14 MPa (2,000 PSI) PER SSPWC 202-2.2.2.
12. PROVIDE FULL MORTAR BED AT THE BOTTOM OF THE FIRST COURSE AND OMIT MORTAR BETWEEN VERTICAL JOINTS OF LOWEST EXPOSED COURSE.
13. WHEN BLOCKS ARE LAID IN STACKED BOND, CONTINUOUS HORIZONTAL JOINT REINFORCEMENT SPACED AT 1200 mm (4'-0") OC SHALL BE PROVIDED IN ADDITION TO THE BOND BEAM REINFORCEMENT PER SSPWC 303-4.1.2, LOCATE REINFORCEMENT IN JOINTS THAT ARE APPROXIMATE MIDPOINT BETWEEN BOND BEAMS.
14. BOND BEAMS SHALL BE PLACED AT TOP OF WALL AND SUBSEQUENTLY SPACED NOT TO EXCEED 1200 mm (4'-0") O.C. BELOW.
15. ONLY CELLS WITH REINFORCING BARS SHALL BE GROUTED PER SSPWC 303-4.1.3.
16. HORIZONTAL JOINTS SHALL BE TOOLED CONCAVE OR WEATHERED. VERTICAL JOINTS SHALL BE TOOLED CONCAVE OR RAKED. WEATHERED AND RAKED JOINTS ARE NOT PERMITTED FOR SLUMPED BLOCKS.

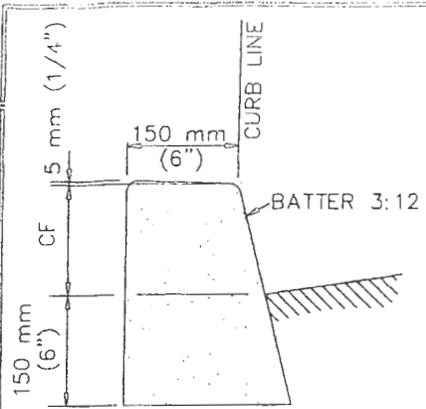
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

REINFORCED CONCRETE BLOCK WALL

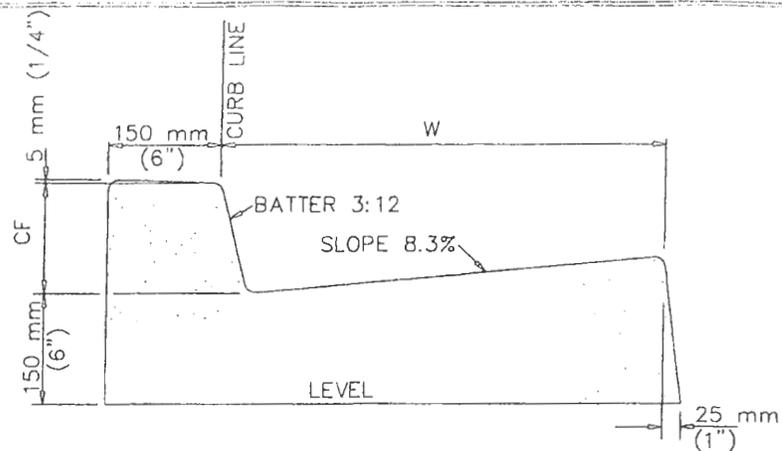
STANDARD PLAN  
METRIC

601-2

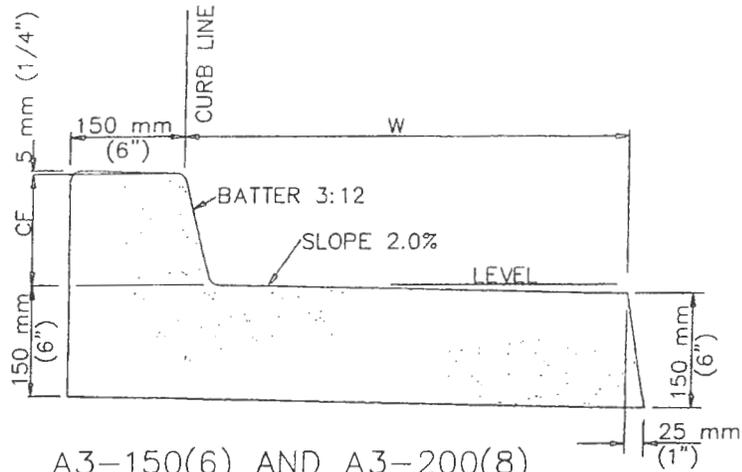
SHEET 6 OF 6



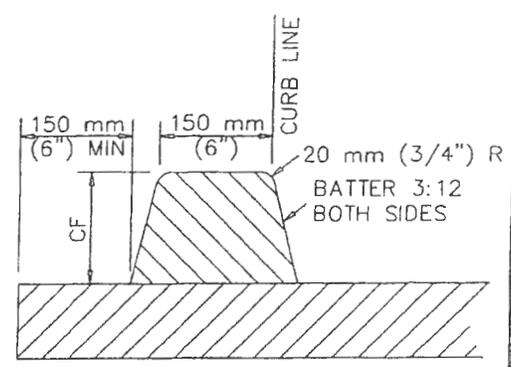
A1-150(6) AND  
A1-200(8)



A2-150(6) AND A2-200(8)



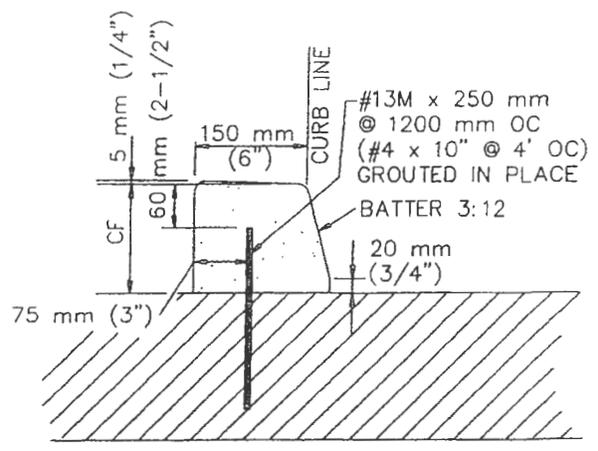
A3-150(6) AND A3-200(8)



D1-150(6) AND  
D1-200(8)

NOTES:

1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, mm (INCHES).
2. GUTTER WIDTH, W, IS 600 mm (24") UNLESS OTHERWISE SPECIFIED.
3. TYPES A1, A2, A3 AND C1 SHALL BE CONSTRUCTED FROM PCC.
4. TYPE D1 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
5. TYPE C1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 15 mm (1/2") RADIUS.



C1-150(6) AND C1-200(8)

STANDARD PLAN FOR PUBLIC WORKS CONSTRUCTION

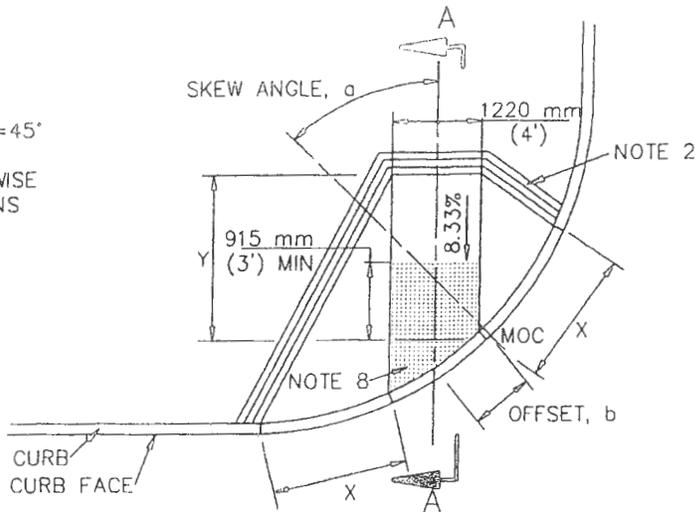
PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1984  
REV. 1996

**CURB AND GUTTER - BARRIER**

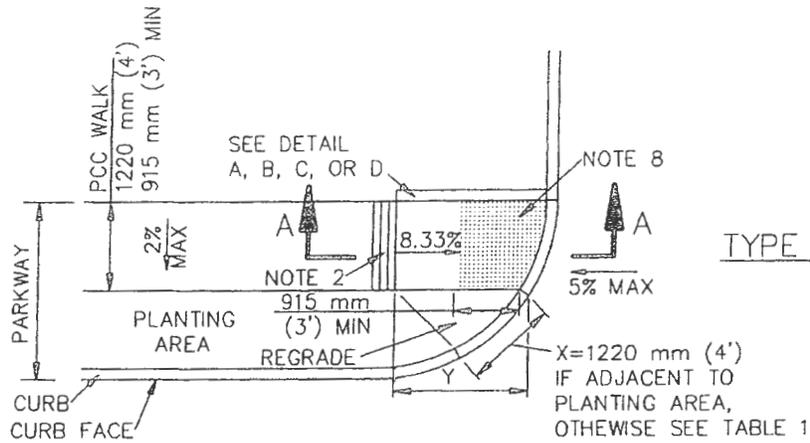
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN  
METRIC  
**120-1**  
SHEET 1 OF 1

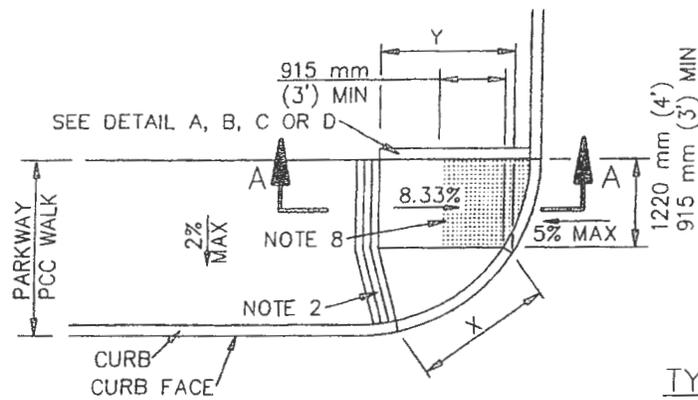
SKEW ANGLE  $\alpha=45^\circ$   
 OFFSET  $b=0$   
 UNLESS OTHERWISE  
 NOTED ON PLANS



CASE C



TYPE 1



TYPE 2

CASE D

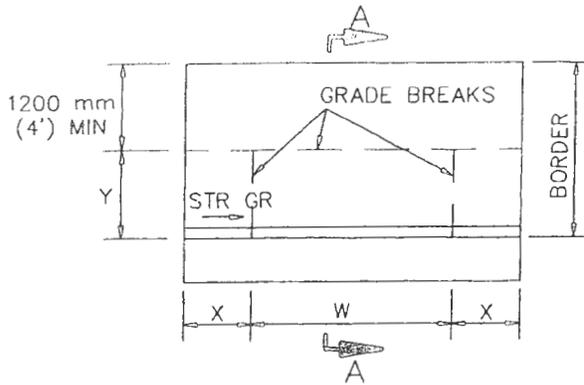
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

**CURB RAMP**

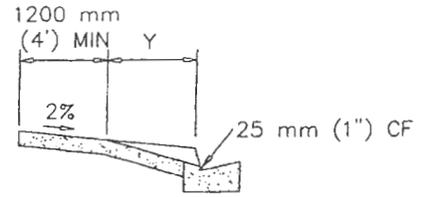
STANDARD PLAN  
 METRIC

**111-3**

SHEET 5 OF 10



TYPE A

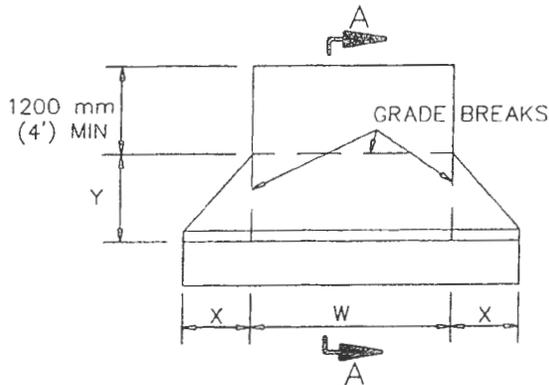


SECTION A-A

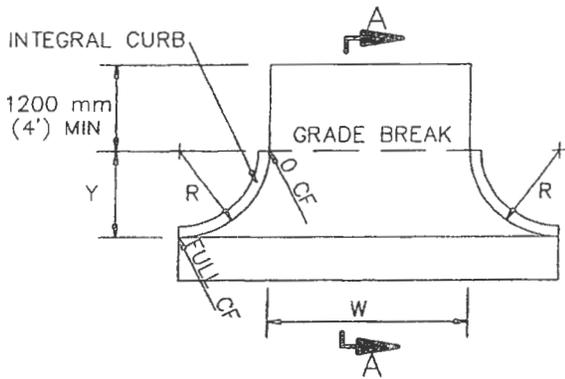
CURB FACE, mm	X, mm	Y, mm
150 (6") or less	900 (3'-0")	1200 (4'-0")
175 (7")	1050 (3'-6")	1425 (4'-9")
200 (8")	1200 (4'-0")	1700 (5'-8")
225 (9")	1350 (4'-6")	1950 (6'-6")
250 (10")	1500 (5'-0")	2175 (7'-3")
275 (11")	1650 (5'-6")	2400 (8'-0")
300 (12") or more	1800 (6'-0")	2625 (8'-9")

NOTES:

1. RESIDENTIAL DRIVEWAYS SHALL BE 100 mm (4") THICK PCC.
2. COMMERCIAL DRIVEWAYS SHALL BE 150 mm (6") THICK PCC.
3. WEAKENED PLANE JOINTS SHALL BE INSTALLED AT BOTH SIDES OF A DRIVEWAY AND AT APPROXIMATELY 3000 mm (10') INTERVALS.
4. CURB FOR TYPE C DRIVEWAY SHALL BE INTEGRAL AND MATCH ADJACENT CONSTRUCTION.
5. REFER TO LOCAL DEVELOPMENT REGULATIONS FOR AMERICANS WITH DISABILITIES ACCESS REQUIREMENTS AND MAXIMUM PERMITTED DRIVEWAY WIDTHS.



TYPE B



TYPE C

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

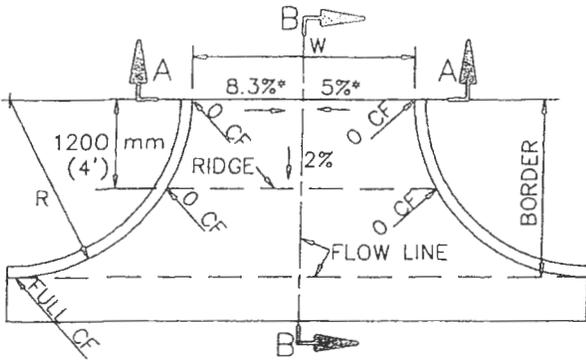
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GREENBOOK COMMITTEE  
1984  
REV. 1986

DRIVEWAY APPROACHES

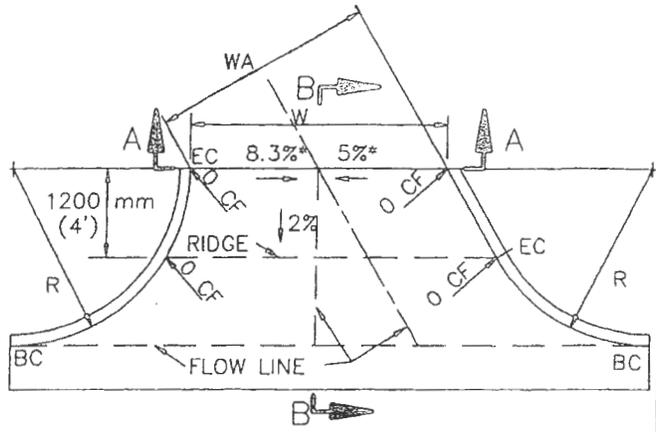
STANDARD PLAN  
METRIC  
110-1

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

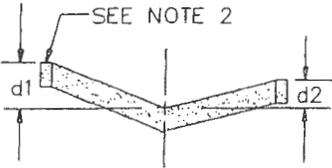
SHEET 1 OF 1



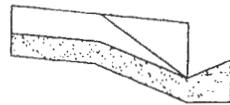
STANDARD APPROACH



ANGLED APPROACH



SECTION A-A



SECTION B-B

W, mm	2400 (8')	3000 (10')	4500 (15')	6000 (20')	7500 (25')	9000 (30')
d1, mm	100 (0.33')	125 (0.42')	188 (0.63')	250 (0.83')	313 (1.04')	375 (1.25')
d2, mm	50 (0.17')	75 (0.25')	75 (0.25')	75 (0.25')	75 (0.25')	75 (0.25')

NOTES:

1. FOR CASE A, THE RADIUS OF THE CURB RETURN, R, IS EQUAL TO THE PARKWAY WIDTH.
2. ALLEY INTERSECTION SHALL BE PCC, CLASS 310-C-17 (520-C-2500), 150 mm (6") THICK. CURB SHALL BE INTEGRAL TYPE "A".
3. ASTERISKS, \*, SHOW MAXIMUM GRADES.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

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GREENBOOK COMMITTEE  
1984  
REV. 1996

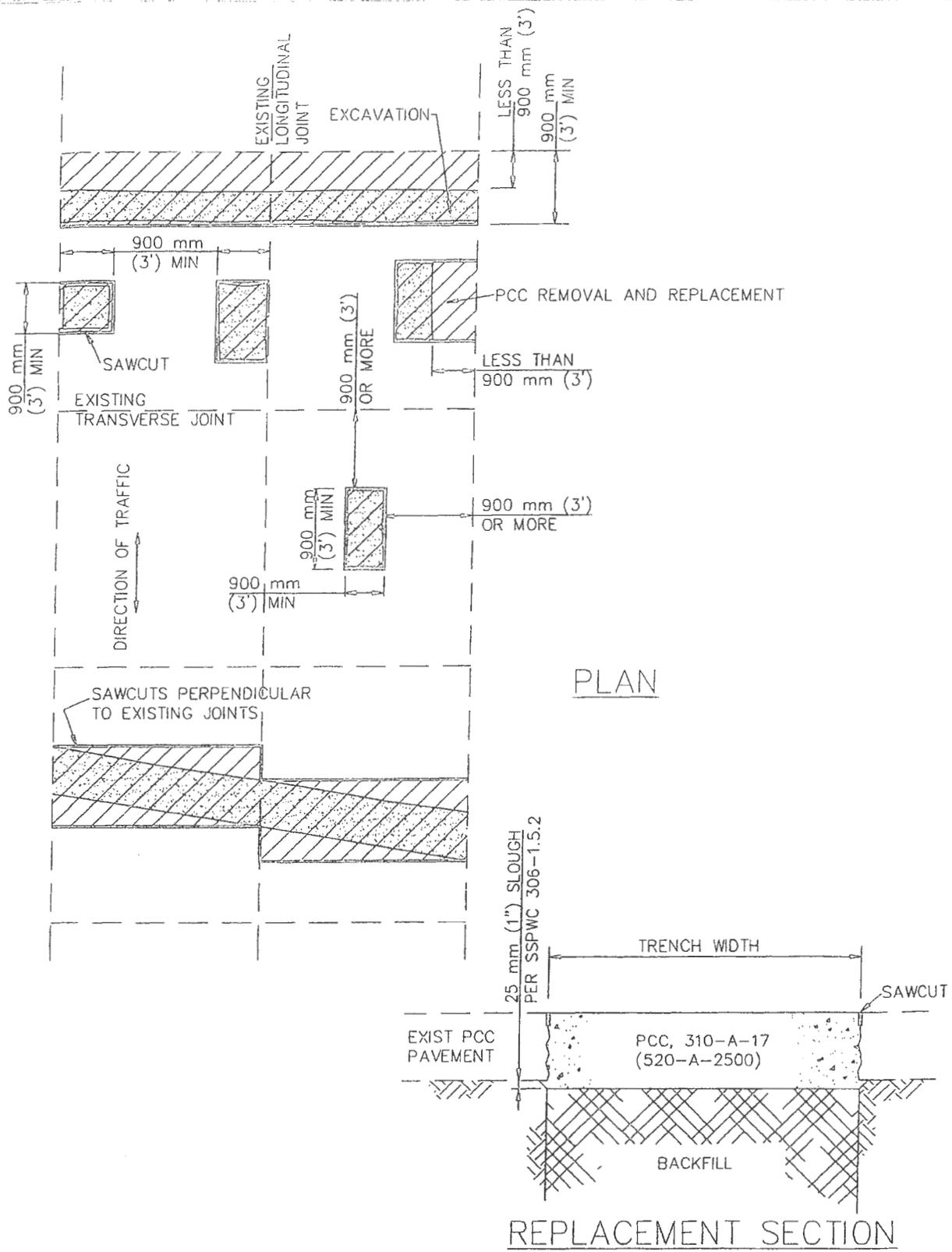
ALLEY INTERSECTION

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN  
METRIC

130-1

SHEET 1 OF 1



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1993  
REV. 2005

CONCRETE PAVEMENT REPLACEMENT

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN  
METRIC

132-2

SHEET 1 OF 2

NOTES:

1. THE EXTENT OF REPAIRS FOR CONCRETE CUTS NOT SHOWN ON THIS STANDARD OR CUTS MADE WITHIN 900 mm (3') OF EXISTING PATCHES, CRACKS, OR DETERIORATED SLABS SHALL BE DETERMINED BY THE ENGINEER.
2. CONCRETE PAVEMENT SHALL BE REMOVED PER SSPWC 300-1.3.
3. BACKFILL AND DENSIFICATION SHALL CONFORM TO SSPWC 306-1.3.
4. TEMPORARY RESURFACING SHALL BE PLACED PER SSPWC 306-1.5.1.

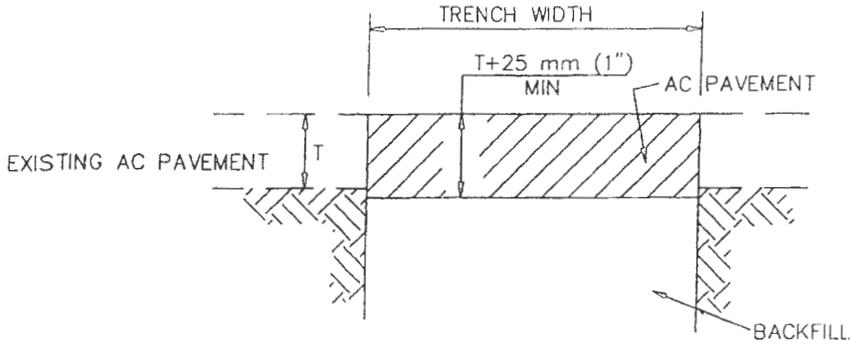
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CONCRETE PAVEMENT REPLACEMENT

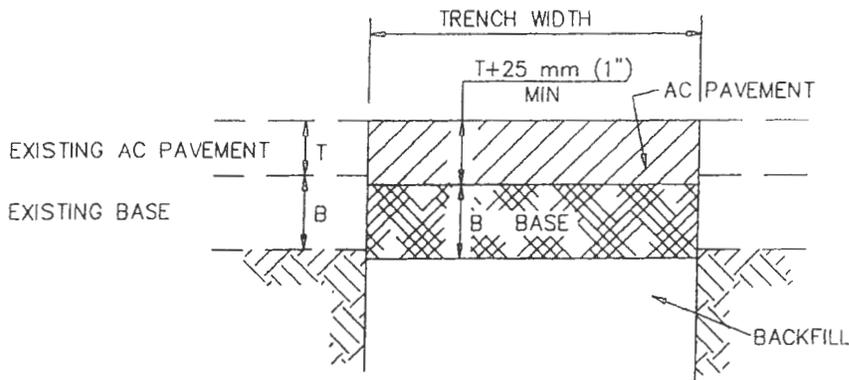
STANDARD PLAN  
METRIC

132-2

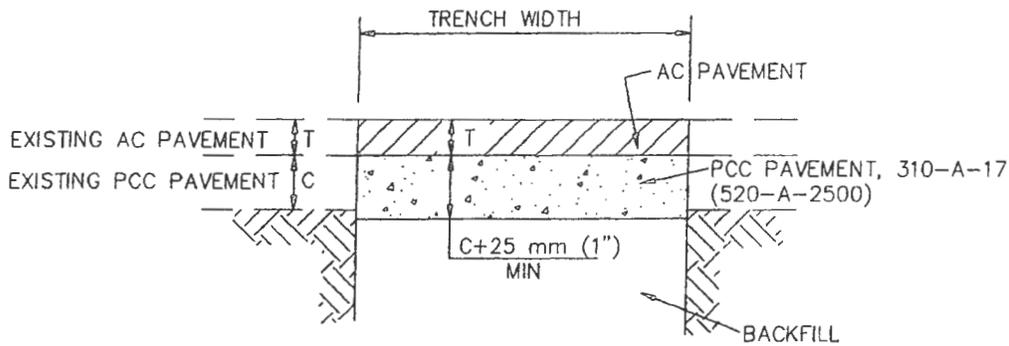
SHEET 2 OF 2



CASE I - WITHOUT BASE



CASE II - WITH BASE



CASE III - AC PVMT ON PCC PVMT

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE  
PUBLIC WORKS STANDARDS INC.  
GREENBOOK COMMITTEE  
1993  
REV. 2005

**ASPHALT CONCRETE PAVEMENT  
REPLACEMENT**

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN  
METRIC

**133-2**

SHEET 1 OF 2

NOTES:

1. BACKFILL AND DENSIFICATION SHALL CONFORM TO SSPWC 306-1.3.
3. TEMPORARY RESURFACING SHALL BE PLACED PER SSPWC 306-1.5.1.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

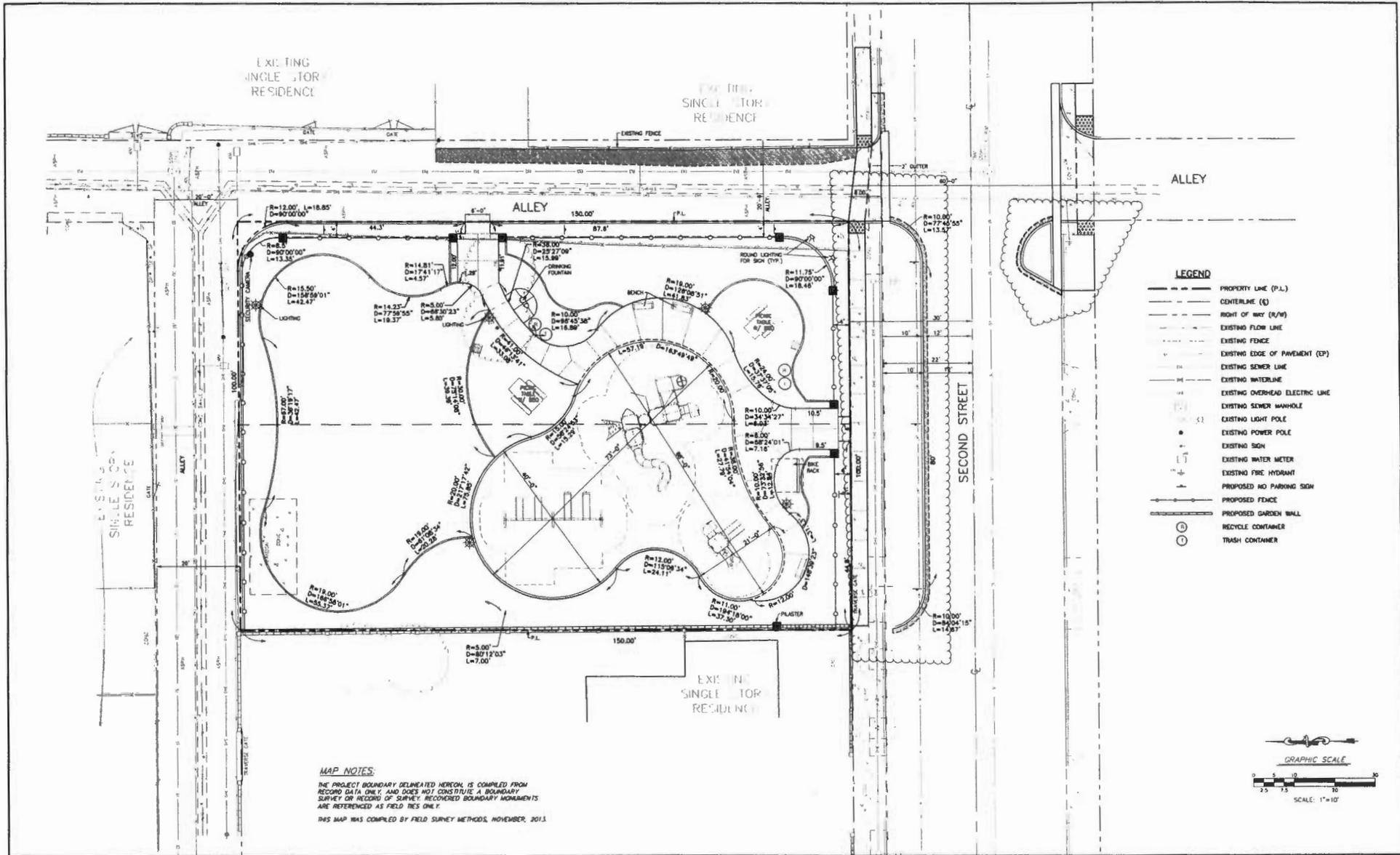
ASPHALT CONCRETE PAVEMENT  
REPLACEMENT

STANDARD PLAN  
METRIC

133-2

SHEET 2 OF 2





**MAP NOTES:**  
 THE PROJECT BOUNDARY DELINEATED HEREON, IS COMPILED FROM RECORD DATA ONLY, AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OR RECORD OF SURVEY. RECOVERED BOUNDARY MONUMENTS ARE REFERENCED AS FIELD TIES ONLY.  
 THIS MAP WAS COMPILED BY FIELD SURVEY METHODS, NOVEMBER, 2013.

NO.	REVISIONS	DATE
1	REVISED UTILITY	
2		
3		
4		
5		
6		



DESIGNED BY: JN 131387  
**M. J. CIVIL, INC.**  
 Consulting Civil Engineers  
 402 Rosewood Avenue, Suite 201  
 Concord, CA 93010  
 (925) 445-4404  
 FAX (925) 443-4403

DESIGNED BY: PARK RECREATION AND COMMUNITY SERVICES  
 DRAWN BY: PARK AND RECREATION DIRECTOR DATE  
 CHECKED BY: ENGINEERING REVIEWED BY:  
 APPROVED BY: CITY ENGINEER, DAVID KLITZKE, REC 55752 DATE

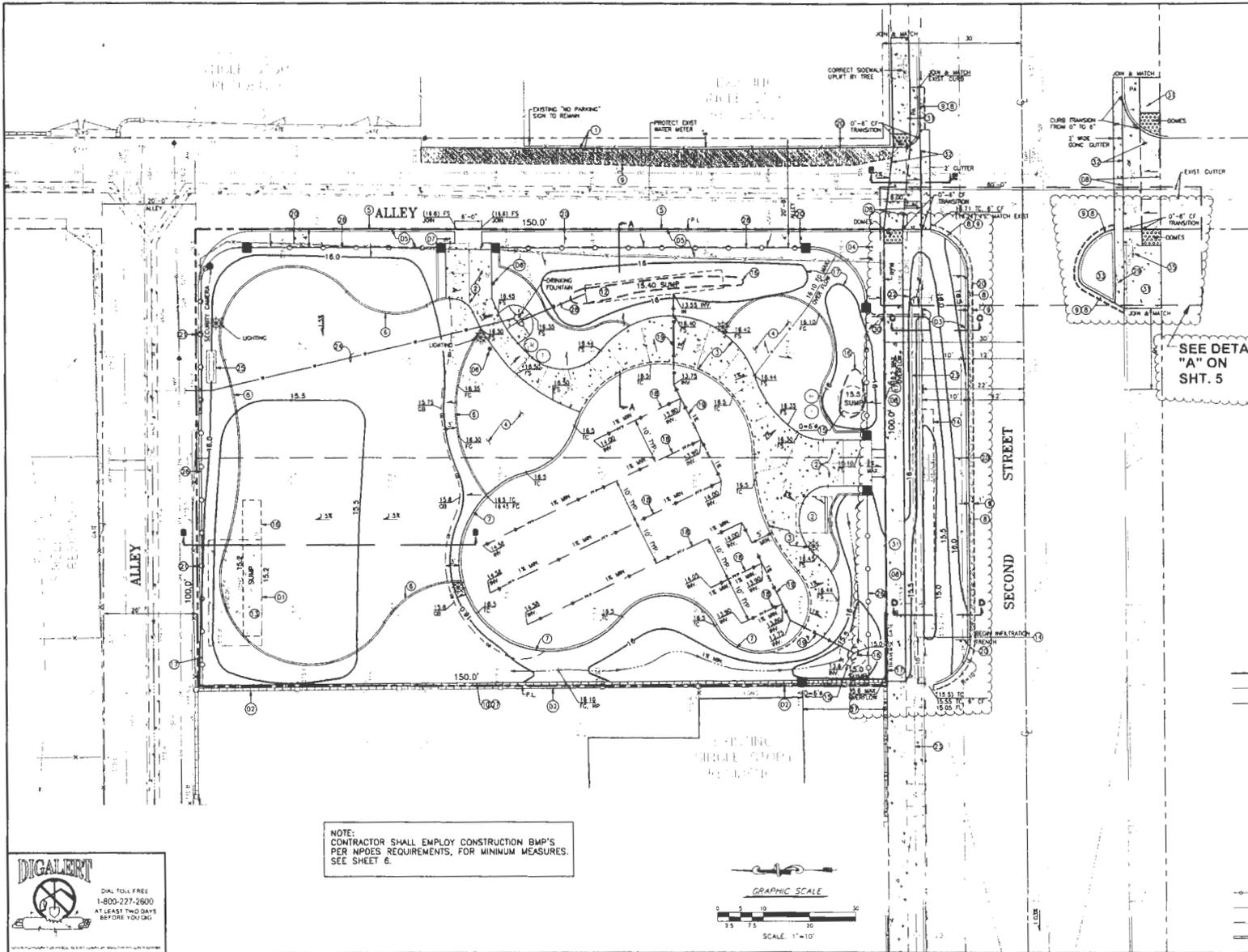


**CITY OF MOORPARK**  
 PARKS RECREATION AND COMMUNITY SERVICES

DRAINAGE PERMIT NO.  
 ENGINEERING PROJECT NO.

**NEIGHBORHOOD PARK**  
 161 SECOND STREET  
 MOORPARK, CA  
**SITE PLAN**

SHEET 2  
 OF 7  
 DRAWING NO.  
 14-ME-10995



**CONSTRUCTION NOTES**

- 1 Construct 6" AC pavement, Class C2 PG 84-10 in 8" Class 8 Base with 2" x 8" Backwood Header. See Detail 1 on Sheet 4.
- 2 Construct 4" Concrete sidewalk.
- 3 Construct 4" Concrete walkway with reinforced inlaid edge. See Detail 3 on Sheet 4.
- 4 Construct 4" decomposed granite, compacted, per landscape plans, no decorative rock in this area.
- 5 Construct 8" x 8" concrete curb, flush along edge of pavement. See Detail on Sheet 4.
- 6 Construct edge strip per landscape plans.
- 7 Construct 8" depressed curb along play area. See Detail on Sheet 4.
- 8 See Landscape plans for border placement.
- 9 Construct 8" concrete curb per Standard Plan for Public Works Construction Plate 120-1, Type A1-B.
- 10 Saw cut pavement 1' from proposed curb face, patch pavement with AC pavement to match, 8" min.
- 11 Construct 8" High Masonry Garden Wall, spaced face per Standard Plans for Public Works Construction, Std Plate 801-2, type 3, 25 per. Split Face Block, Color to be approved by City.
- 12 Construct stormwater infiltration trench. See Detail on Sheet 4, L=30'.
- 13 Construct stormwater infiltration trench. See Detail on Sheet 4, L=30'.
- 14 Construct stormwater infiltration trench. See Detail on Sheet 4, L=30'.
- 15 Construct stormwater percolation pit, 8" diameter. See Detail on Sheet 4.
- 16 Stormwater runoff "Sump Basin" not area as shown.
- 17 Sump area surface overflow, maximum sump depth 0.7'. Contractor to verify.
- 18 Install 4" perforated pipe drainage system below play area. See Detail 18 on Sheet 4. See play equipment footing locations by others.
- 19 Install 4" PVC storm drain collection pipe connect to infiltration pit.
- 20 Install "NO PARKING" sign along Alley/Street, signs shown, see Detail on Sht. 4.
- 21 Install "NO PARKING" sign along Alley, attach to fence signs shown.
- 22 Street light to be installed by others.
- 23 Overhead electrical to be underground by others.
- 24 Construct 3/4" Sch. 40 PVC, schedule to drinking fountain.
- 25 Construct 1" irrigation backflow valves for landscape purposes.
- 26 Install Perimeter fencing per Detail, see Landscape Plan.
- 27 Construct temporary fencing along property line, secure neighbor as required.
- 28 Install 2" PVC drinking fountain drain line, connect to infiltration basin as required.
- 29 Concrete Drainage Channel. See Detail 28 on sheet 4.
- 30 Install 8" sleeve for irrigation purposes, min. 30" cover. See Detail 30 on sht. 4.
- 31 Remove and reconstruct Concrete Sidewalk per SPPWC, Plate 112.
- 32 Remove as. driveway and reconstruct Driveway Approach per Std Plans for PW Construction, Std Plan 110-1 Type A, (4" mod. to omit side works
- 33 Construct decorative Cobble Stone landscape surface in planter area.
- 34 Construct 5'-wide-concrete-Handicap/Pedestrian-access-way. Slope-to-drain.
- 35 Protect Existing Fire Hydrant in place.

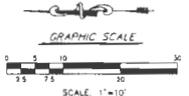
**DEMOLITION NOTES**

- 10 Remove and dispose concrete slab.
- 11 Remove masonry wall along property line.
- 12 Remove concrete curb, gutter and pavement within proposed planar.
- 13 Remove steel and concrete bollard.
- 14 Saw Cut and remove AC pavement within Park limits along alley.
- 15 Remove trees within Park limits.
- 16 Remove Sign.
- 17 Remove concrete walkway and drive apron within Right of Way.

**LEGEND**

- PROPERTY LINE (P.L.)
- CENTERLINE (C)
- RIGHT OF WAY (R/W)
- - - EXISTING FLOW LINE
- - - EXISTING FENCE
- - - EXISTING EDGE OF PAVEMENT (EP)
- - - EXISTING SEWER LINE
- - - EXISTING WATERLINE
- - - EXISTING OVERHEAD ELECTRIC LINE
- - - EXISTING SEWER MANHOLE
- - - EXISTING LIGHT POLE
- - - EXISTING POWER POLE
- - - EXISTING SIGN
- - - EXISTING WATER METER
- - - EXISTING FIRE HYDRANT
- - - PROPOSED FENCE
- - - PROPOSED ROCK LINE
- - - PROPOSED PERFORATED PIPE
- - - PROPOSED GARDEN WALL

NOTE:  
CONTRACTOR SHALL EMPLOY CONSTRUCTION BMP'S PER NPDES REQUIREMENTS, FOR MINIMUM MEASURES. SEE SHEET 6.



**DIGALERT**  
DIAL TOLL FREE  
1-800-277-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

NO.	REVISION/ISSUES	R.O.E.	APPD.	DATE
1				
2				
3				
4				
5				



PREPARED BY: J.N. 131387  
M. CIVIL, INC.  
Consulting Civil Engineers  
400 Rosewood Avenue, Suite 201  
Compton, CA 93010  
(805) 445-4404  
FAX (805) 445-4401

DESIGNED BY: PARK RECREATION AND COMMUNITY SERVICES  
DRAWN BY: PARK AND RECREATION DIRECTOR DATE  
CHECKED BY: ENGINEERING REVIEWED BY  
APPROVED BY: CITY ENGINEER, DWID RUTZLE, RCE 35752 DATE



**CITY OF MOORPARK**  
PARKS RECREATION AND  
COMMUNITY SERVICES

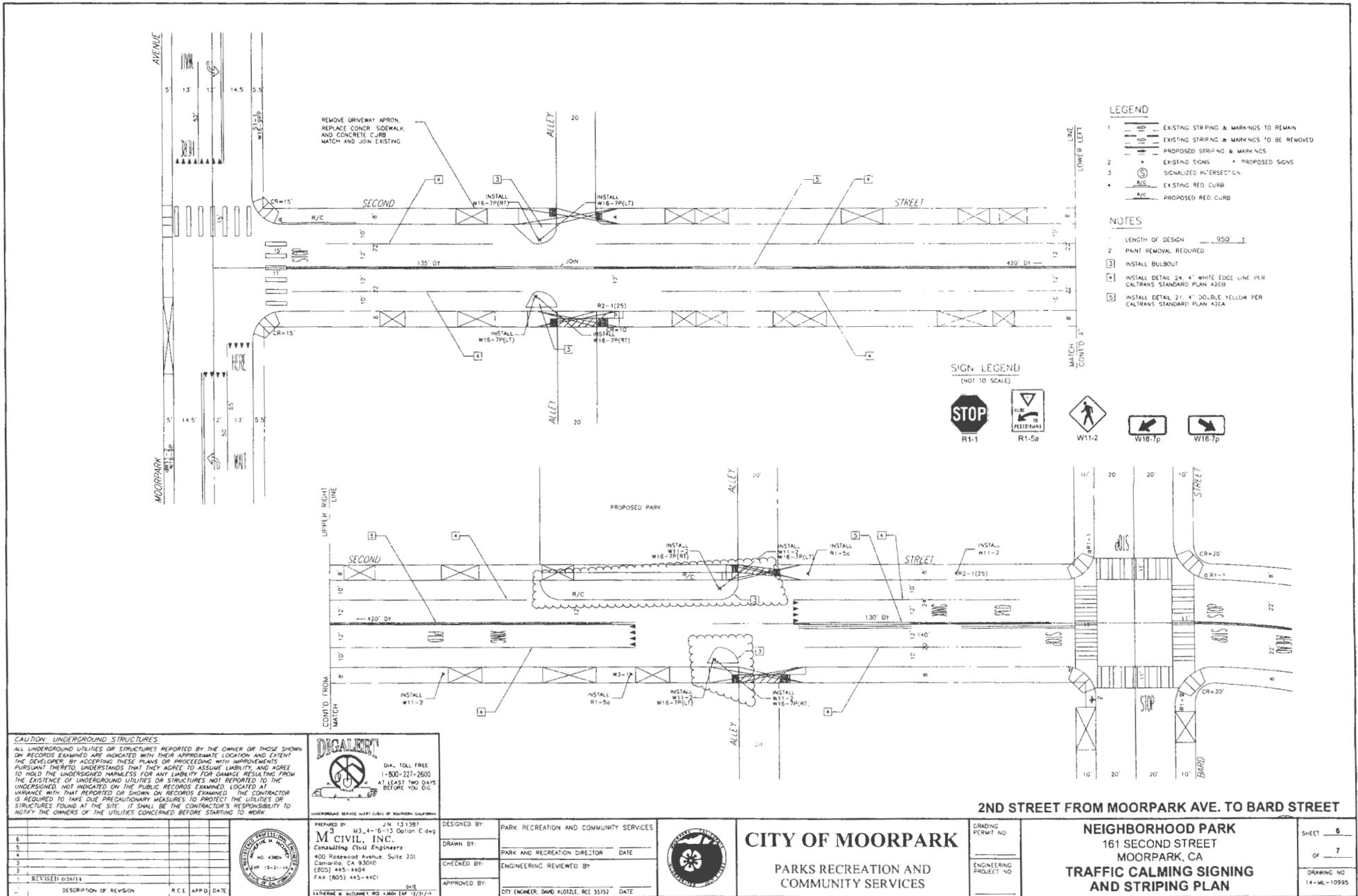
GRADING PERMIT NO.  
ENGINEERING PROJECT NO.

**NEIGHBORHOOD PARK**  
161 SECOND STREET  
MOORPARK, CA

**GRADING AND DRAINAGE PLAN**

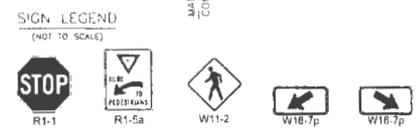
SHEET 3  
OF 7  
DRAWING NO. 14-MC-10995





- LEGEND**
- 1 [Symbol] EXISTING STRIPING & MARKINGS TO REMAIN
  - 2 [Symbol] EXISTING STRIPING & MARKINGS TO BE REMOVED
  - 3 [Symbol] PROPOSED STRIPING & MARKINGS
  - 4 [Symbol] EXISTING SIGNS
  - 5 [Symbol] PROPOSED SIGNS
  - 6 [Symbol] SIGNALIZED INTERSECT' CN
  - 7 [Symbol] EXISTING RED CURB
  - 8 [Symbol] PROPOSED RED CURB

- NOTES**
- 1 LENGTH OF DESIGN 950'
  - 2 PAINT REMOVAL REQUIRED
  - 3 INSTALL BULLBOUT
  - 4 INSTALL DETAIL 24. 4" WHITE EDGE LINE PER CALTRANS STANDARD PLAN A209
  - 5 INSTALL DETAIL 21. 4" DOUBLE YELLOW PER CALTRANS STANDARD PLAN A23A



**CAUTION: UNDERGROUND STRUCTURES**  
ALL UNDERGROUND UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR THOSE SHOWN ON RECORDS EXAMINED ARE INDICATED WITH THEIR APPROPRIATE LOCATION AND EXTENT. THE DEVELOPER, BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO, UNDERSTANDS THAT THEY AGREE TO ASSUME LIABILITY, AND AGREE TO HOLD THE UNDERSIGNED HARMLESS FOR ANY LIABILITY FOR DAMAGE RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED, NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THAT REPORTED OR SHOWN ON RECORDS EXAMINED. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES FOUND AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES CONCERNED BEFORE STARTING TO WORK.

**DIGALERT**  
UNDERGROUND SERVICE ALERT (USA) OF SOUTHERN CALIFORNIA  
DIA - TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS BEFORE YOU DIG

NO.	REVISION	DATE	BY	APP'D.
6				
5				
4				
3				
2				
1	REVISED	03/11/11		

PREPARED BY: J.N. 131387  
U.S. 4-6-13 Option C (sig)  
**M CIVIL, INC.**  
Consulting Civil Engineers  
400 Rosewood Avenue, Suite 201  
Carmichael, CA 95602  
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FAX (905) 445-4401

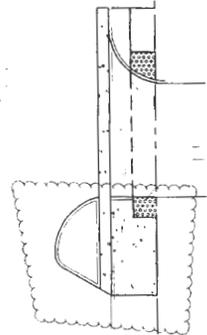
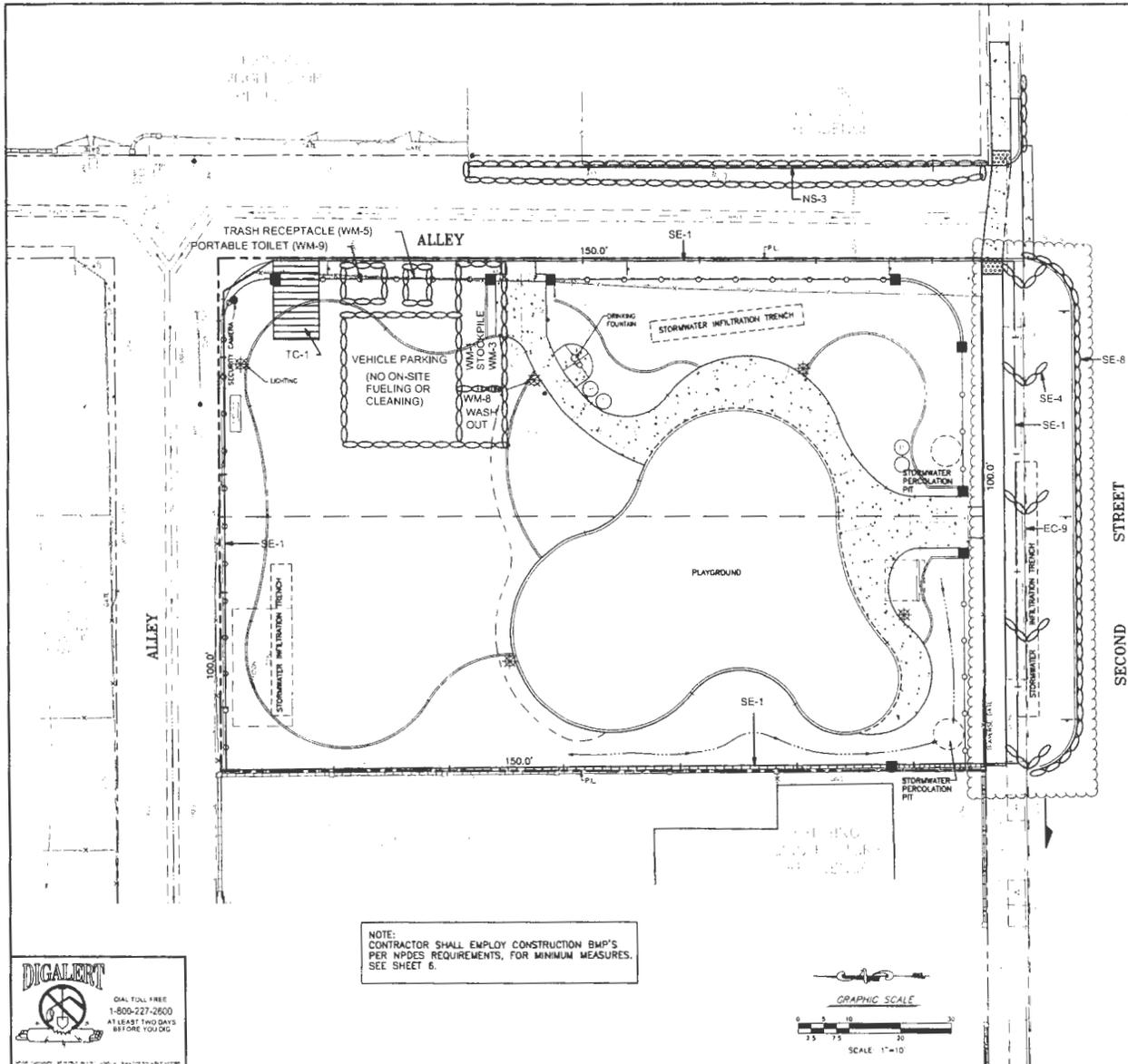
DESIGNED BY:	PARK RECREATION AND COMMUNITY SERVICES
DRAWN BY:	PARK AND RECREATION DIRECTOR DATE
CHECKED BY:	ENGINEERING REVIEWED BY
APPROVED BY:	CITY ENGINEER DAVID KOETZLE, REC 35152 DATE

**CITY OF MOORPARK**  
PARKS RECREATION AND COMMUNITY SERVICES

GRADING PERMIT NO.	
ENGINEERING PROJECT NO.	

**NEIGHBORHOOD PARK**  
161 SECOND STREET  
MOORPARK, CA  
**TRAFFIC CALMING SIGNING  
AND STRIPING PLAN**

SHEET	5
OF	7
DRAWING NO.	14-MU-10995



**EROSION CONTROL NOTES**

1. IN CASE OF EMERGENCY, CALL CITY OF MOORPARK, PUBLIC WORKS.
2. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
3. DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE CITY ENGINEER.
4. EXCEPT AS OTHERWISE APPROVED BY THE CITY INSPECTOR, ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 3-DAY PROBABILITY FORECAST EXCEEDS 40%.
5. ALL LOOSE SOIL AND DEBRIS WHICH MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE REMOVED FROM THE SITE.
6. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE CITY.
7. A GUARD WILL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO (2) FEET.
8. DESILTING BASINS MAY NOT BE REMOVED OR MADE NONOPERABLE.
9. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BASINS, AND DESILTING BASINS AND BASINS PUMPED DRY.
10. EROSION CONTROL DEVICES WILL BE MODIFIED AS NEEDED AS THE PROJECT PROGRESSES AND PLANS OF THESE CHANGES SUBMITTED FOR APPROVAL AS REQUIRED.
11. THE PUBLIC SAFETY WILL BE PROVIDED FOR IN REGARD TO ANY PONDING OR POTENTIAL FLOODING OF WATER AS REQUIRED BY SECTION 9270 ET. SEQ. OF THE COUNTY ORDINANCE CODE.
12. ADDITIONAL EROSION CONTROL DEVICES MAY BE INSTALLED AT THE DISCRETION OF THE CITY ENGINEER.
13. I, THE UNDERSIGNED CIVIL ENGINEER HAVE INSPECTED THE SITE, AND THESE PLANS REFLECT THE PROPOSED CONDITIONS OF THE PROJECT THAT REQUIRE EROSION PROTECTION.

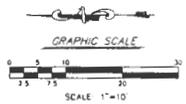
KATHERINE M. MCCUNNEY, RCE 43804 EXP. 12-31-14

NOTE: THESE ARE MINIMUM ON-SITE EROSION CONTROL MEASURES. OTHER MEASURES MAY BE REQUIRED TO PREVENT EROSION DURING INTENSE RAINFALL PERIODS.

**EROSION CONTROL BMP LEGEND**

- SILT FENCE (SE-1)
- SAND BAG (SE-8)
- CHECK DAM (SE-4)
- STABILIZED CONSTRUCTION ENTRANCE (TC-1)
- EC-9 EARTH DIKES AND DRAINAGE SWALES
- TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
- NS-3 PAVING AND GRADING OPERATIONS
- WM-1 MATERIAL DELIVERY AND STORAGE
- WM-3 STOCKPILE MANAGEMENT
- WM-5 SOLID WASTE MANAGEMENT
- WM-8 CONCRETE WASTE MANAGEMENT
- WM-9 SANITARY/SEPTIC WASTE MANAGEMENT

NOTE: CONTRACTOR SHALL EMPLOY CONSTRUCTION BMP'S PER NPDES REQUIREMENTS, FOR MINIMUM MEASURES. SEE SHEET 6.



**DIGALERT**  
 CALL TOLL FREE  
 1-800-227-2600  
 AT LEAST TWO DAYS  
 BEFORE YOU DIG

**95% COMPLETE**

NO.	DESCRIPTION OF REVISION	R.C.E.	APPROVED	DATE
1	REVISION 12/1/11			

PREPARED BY: J.M. 131387  
 U.S. 4-16-13 Option C.dwg  
**M CIVIL, INC.**  
 Consulting Civil Engineers  
 400 Rosewood Avenue, Suite 201  
 Cornwall, GA 31001  
 (803) 445-4404  
 FAX (803) 443-4401

DESIGNED BY: PARK RECREATION AND COMMUNITY SERVICES  
 DRAWN BY: PARK AND RECREATION DIRECTOR DATE \_\_\_\_\_  
 CHECKED BY: ENGINEERING REVIEWED BY: \_\_\_\_\_  
 APPROVED BY: CITY ENGINEER, DAVID KLOTZLE, RCE 55752 DATE \_\_\_\_\_



**CITY OF MOORPARK**  
 PARKS RECREATION AND  
 COMMUNITY SERVICES

GRADING PERMIT NO. \_\_\_\_\_  
 ENGINEERING PROJECT NO. \_\_\_\_\_

**NEIGHBORHOOD PARK**  
 161 SECOND STREET  
 MOORPARK, GA

**EROSION CONTROL PLAN/NPDES**

SHEET 7  
 OF 7  
 DRAWING NO. 14-ML-10955

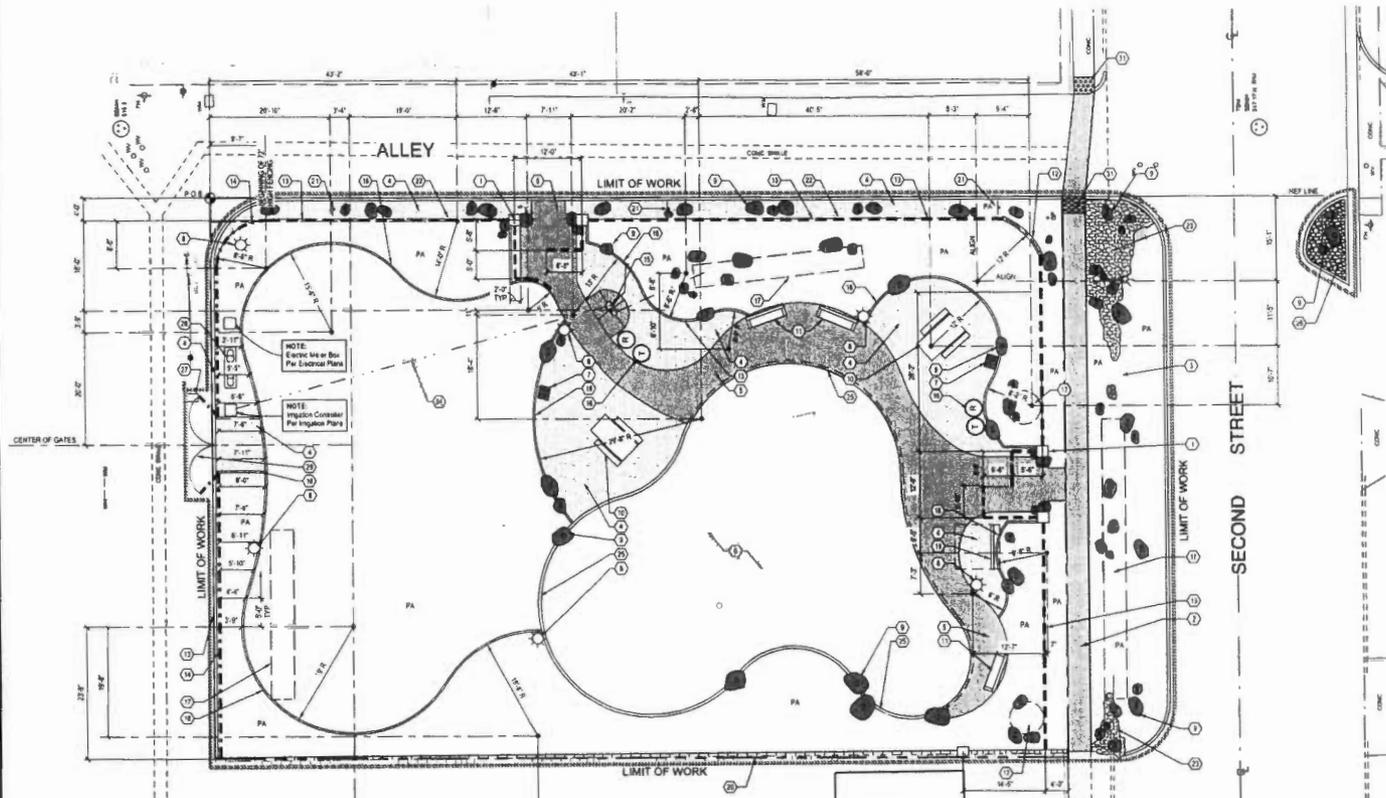


**CONSTRUCTION NOTES**

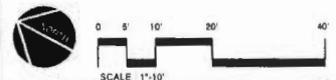
1. CONTRACTOR SHALL NOT UNLAWFULLY PROCEED WITH CONSTRUCTION UNLESS IT IS OBVIOUS THAT UNLAWFUL OBSTRUCTIONS AND/OR CHANGES DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN OR SHOULD BE KNOWN BY THE CONTRACTOR PRIOR TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO A FAILURE TO GIVE SUCH NOTIFICATION.
2. WALL AND FENCE LAYOUT SHALL CONFORM TO PROPERTY LINE AND TOP OF GROUND CONDITIONS. STAKING FOR LOCATION OF WALLS AND FENCES SHALL BE PROVIDED BY THE CIVIL ENGINEER PRIOR TO LOCATION OF POSTINGS.
3. ALL FORMS AND ALIGNMENTS OF PAVING, WALK, FENCE LAYOUT AND SPECIAL PAVING AREAS SHALL BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO POURING (24 HOURS HOT/COLD).
4. FOR SITE GRADING, SEE CIVIL ENGINEER'S GRADING PLAN.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SANITARIES.
6. CONTRACTOR SHALL COORDINATE IRRIGATION BLEVEE LOCATIONS UNDER PAVED AREAS AS REQUIRED. REFER TO IRRIGATION PLAN.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH CONSTRUCTION OPERATIONS AS SHOWN.
8. PRIOR TO PLACING CONCRETE, THE CONTRACTOR SHALL SUFFICIENTLY COMPACT THE SUB-GRADE AND PROVIDE SUBSURFACE PREPARATION PER SPECIFICATIONS.
9. CONCRETE SURFACES SHALL BE FORMED WITH LONG, SMOOTH GRADIENT TO REDUCE DIPS, SHARP CHANGES AND SHARP TRANSITIONS.
10. ALL CURVE LINE CURVES, HEADER BOARDS, AND WALLS SHALL HAVE A CONTINUOUS SMOOTH CURVE WHERE APPLICABLE. ALL FORMS MUST BE INSPECTED AND APPROVED PRIOR TO BEGINNING THAT PHASE OF WORK.

**CONSTRUCTION LEGEND (THIS SHEET ONLY)**

1. CONSTRUCT PARK ENTRY STONE VENEERED COLLARS AND ACCENT BOULDERS (TOTAL OF 4) SEE DETAIL B, SHEET L-1.3.
2. CITY SIDEWALK LAYOUT AND DETAILS PER CIVIL PLANS.
3. TRAFFIC CALMING DEVICE/STRIP PER CIVIL ENGINEER'S PLANS.
4. 7" THICK PER BLEND DECOMPOSED GRANITE PAVING USING 45% FINE WITH ORGANIC LOCK, AVAILABLE THROUGH G&L MATERIALS CO. SEE DETAIL A AND B, SHEET L-1.3.
5. WANDERING PAW CONCRETE BOLLARDS PER CIVIL ENGINEER'S PLANS. COORDINATE WITH BOLLARD PLACEMENT AND OTHER MATERIALS.
6. ONE ORIENTS TOT LOT WITH PLAY STRUCTURE AND SURFACING BY OTHERS.
7. CIRCULAR BARRICADE (TOTAL OF 2) MODEL 400-800 1/8" AVAILABLE THROUGH CONCRETE PRODUCTS CORP. (800) 750-1517. SEE DETAIL B, SHEET L-1.3. APPLY 2 COATS OF VITROCEM CLEAR ANTI-GRAFFITI COATING TO CONCRETE BASE.
8. PARK WANDERING LIGHT STANDARDS PER ELECTRICAL ENGINEER'S PLANS. COORDINATE FOOTING LOCATIONS WITH WALK LAYOUT.
9. LANDSCAPE BOULDERS SET MINIMUM OF 1/8" INTO GRADE. "WALKER" BOULDERS AVAILABLE THROUGH SOUTHWEST BOLLARD AND STONE. (877) 92-7628 OR APPROVED EQUAL, SIZE AS SHOWN BELOW. SEE DETAIL B, SHEET L-1.3.
  - A. 18" TO 24"
  - B. 24" TO 36" DIA.
  - C. 36" TO 48" DIA.
  - D. 36" TO 42" DIA.
10. ADA ACCESSIBLE LEFT PAVING TABLE (TOTAL OF 2) MODEL 400-800 1/8" AVAILABLE THROUGH CONCRETE PRODUCTS CORP. (800) 750-1517. APPLY 2 COATS OF VITROCEM CLEAR ANTI-GRAFFITI COATING TO CONCRETE.
11. PRECAST CONCRETE BENCH (TOTAL OF 3) "ELMOR" MODEL 400-800 1/8" AVAILABLE THROUGH CONCRETE PRODUCTS CORP. (800) 750-1517. APPLY 2 COATS OF VITROCEM CLEAR ANTI-GRAFFITI COATING TO CONCRETE.
12. PRECAST PAVEMENT SIGN SEE DETAIL C, SHEET L-1.3. APPLY 2 COATS OF VITROCEM CLEAR ANTI-GRAFFITI COATING TO CONCRETE.
13. 42" HIGH TUBULAR STEEL FENCING SEE DETAIL G, L-1.3.
14. 77" HIGH TUBULAR STEEL FENCING. INSTALL WITH RADUIS BEND AS SHOWN. SEE DETAIL F, SHEET L-1.3.
15. WAIRS DESIGNING FOUNTAIN HOODS/RAINING, GALVANIZED STEEL AND BUMP WITH CLEAN OUT AVAILABLE THROUGH H&H (770) 208-4742 SEE DETAIL H & I, SHEET L-1.3. CONNECT TO PLUMBING FOR WATER SUPPLY AND DRAIN.
16. RECT-CLONDRASH BARS (TOTAL OF 2) EACH TYPE, QUANTITIES "CALIFORNIA" SERIES W/OUT "DR. CALIFORNIA" COLOR. C11-ADORE TAPE, TEXTURE T2-L8. USE #41. COLOR BLUE RECYCLING AND BLACK TRAILING. MATERIALS, STAINLESS STEEL. STANDARD COLOR BRASS. INCLUDE CABLE AND BOLTS. 8" TO 12" DIAM HOLE AND 1/2" PLASTIC 30 GAL. LINE AVAILABLE THROUGH CONCRETE PRODUCTS CORP. (800) 750-1517.
17. MOVABLE WITH DRY WELL BUMP, PER CIVIL ENGINEER'S PLANS, FOR FURN. DETAILS AND LOCATION.
18. "W" CONC. CONCRETE HEADER SEE DETAIL B, SHEET L-1.3. WHERE D O IS ADJACENT TO FURN. SEE DETAIL C, SHEET L-1.3.
19. GENESIS BEE BACK CAPACITY 8 PRODUCT F08-9-95-G. 15" HIGH (UNFINISHED). AVAILABLE THROUGH H&H (770) 208-4742. SEE DETAIL G, SHEET L-1.3.
20. NEW BLOCK WALL, PER CIVIL ENGINEER'S PLANS.
21. "NO PARKING" SIGN. SEE CIVIL ENGINEER'S PLANS.
22. PERMASTEP ALUMINUM EDGING SYSTEM, (1/2" X 1 1/2"), AVAILABLE THROUGH PERMA-LOC (800) 356-8660. INSTALL BETWEEN PLANTER AND DECOMPOSED GRANITE PAVING ADJACENT TO PAVING. SEE DETAIL A, SHEET L-1.3.
23. GROUTED CORBLE AT BOLLARD INLET AND OUTLET. CORBLE TO BE MADE AT 75% "ARIZONA CORBLE" (SIZE 9-7) AND 25% "WALKER CORBLE" (SIZE 9-C), AVAILABLE THROUGH SOUTHWEST BOLLARD AND STONE. (877) 92-7628 OR APPROVED EQUAL. SEE DETAIL B, SHEET L-1.3.
24. POTABLE WATER SUPPLY LINE TO DRINKING FOUNTAIN WITH BACKFLOW PREVENTION ASSEMBLY (FOR POTABLE DRINKING SERVICE). PER CIVIL ENGINEER'S PLANS.
25. CONCRETE TO LOT EDGING PER CIVIL ENGINEER'S PLANS. COORDINATION PLACEMENT OF BOULDERS PRIOR TO FORMING AND SETTING CONCRETE EDGING.
26. TYPICAL TRAFFIC CALMING DEVICE (TOTAL OF 3) SEE CIVIL ENGINEER'S PLANS FOR ADDITIONAL LOCATIONS WITH GROUTED CORBLE PAVING CORBLE TO BE MADE AT 75% "ARIZONA CORBLE" (SIZE 9-7) AND 25% "WALKER CORBLE" (SIZE 9-C), AVAILABLE THROUGH SOUTHWEST BOLLARD AND STONE. (877) 92-7628 OR APPROVED EQUAL. SEE DETAIL B, SHEET L-1.3. CONTRACTOR TO BID ALL THREE LOCATIONS.
27. EXISTING WATER METER FOR DRINKING FOUNTAIN AND PERMITS.
28. BACKFLOW PREVENTION ASSEMBLY (PVAL) LOCATION FOR POTABLE DRINKING WATER LINE PER CIVIL PLANS. FOR FOUNTAIN LOCATION, SEE IRRIGATION PLAN.
29. 1/2" WIDE DOUBLE 60000 MAINTENANCE ACCESS GATES. SEE DETAIL A, SHEET L-1.3.
30. DRAINAGE CURB WITH REMOVABLE STEEL COVER, PER CIVIL ENGINEER'S PLANS.
31. HANDICAP RAMP WITH FILMATED DOMES PER CIVIL ENGINEER'S PLANS.



**DIGALERT**  
 SCALE 1/4" = 1'-0"  
 1-800-227-2600  
 AT LEAST TWO DAYS  
 BEFORE YOU DIG



**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE THIS SHEET  
 FOR CONSTRUCTION DETAILS, SEE SHEET L-1.2 AND L-1.3  
 FOR SPECIFICATIONS, SEE SHEET L-4.1 AND L-4.2  
 FOR CORRESPONDING IRRIGATION PLAN SEE SHEET L-2.1  
 FOR CORRESPONDING PLANTING PLAN SEE SHEET L-3.1

NO.	DESCRIPTION OF REVISION	R.C.E.	APP'D	DATE
1				
2				
3				
4				
5				

**ARCHITERRA**  
 design group  
 landscape architecture and planning  
 10231-A Trawman Street  
 Rancho Cucamonga, CA 91730  
 (909) 484-2908  
 Fax (909) 484-2889

DESIGNED BY: GPD  
 DRAWN BY: TDG  
 CHECKED BY: JRC  
 APPROVED BY: JRC

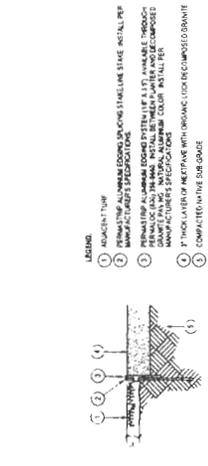
PARK RECREATION AND COMMUNITY SERVICES  
 PARK AND RECREATION DIRECTOR  
 ENGINEERING REVIEWED BY:  
 DAVID KLOTZ, P.E. E.S.P. DATE: DATE

**CITY OF MOORPARK**  
 PARKS, RECREATION AND  
 COMMUNITY SERVICES DEPARTMENT

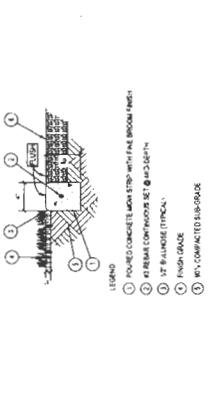
**PARKSITE AT 161 SECOND STREET**  
 MOORPARK, CA

ENGINEERING PROJECT NO. SHEET NAME: **L-1.1 CONSTRUCTION PLAN**

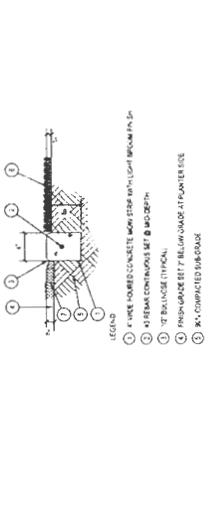
GRADING PERMIT NO.  
 SHEET **2** OF **11**  
 DRAWING NO. **14-ML-10995**



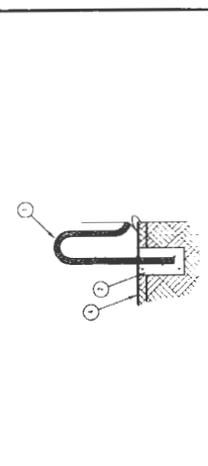
**A** PERMASTRIP EDGING  
SCALE 1" = 1'-0"



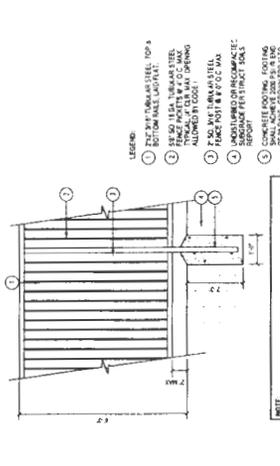
**B** 4" CONCRETE HEADER AT D.G.  
SCALE 3/4" = 1'-0"



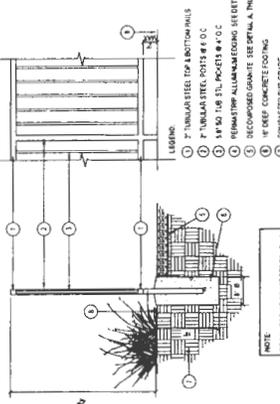
**C** 4" CONCRETE HEADER AT TURF  
SCALE 3/4" = 1'-0"



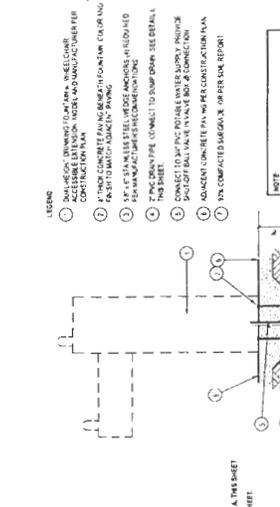
**D** BIKE RACK  
SCALE 1/2" = 1'-0"



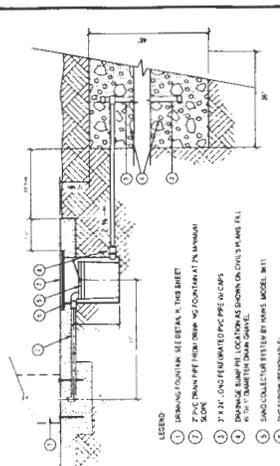
**F** 6" HIGH TUBULAR STEEL FENCE  
SCALE 1/2" = 1'-0"



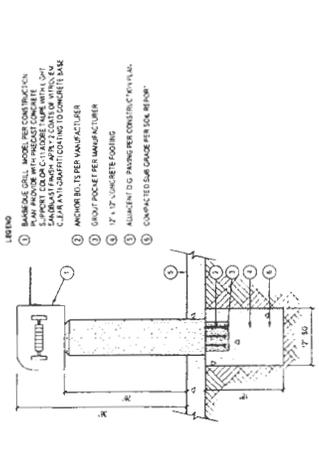
**G** 3-6" HIGH TUBULAR STEEL FENCE  
SCALE 3/4" = 1'-0"



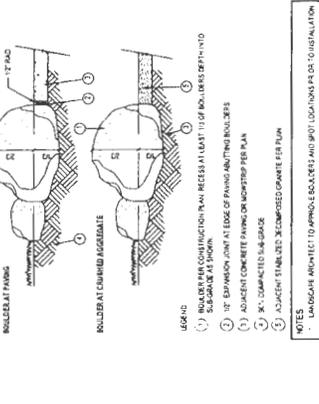
**H** DRINKING FOUNTAIN  
SCALE 1" = 1'-0"



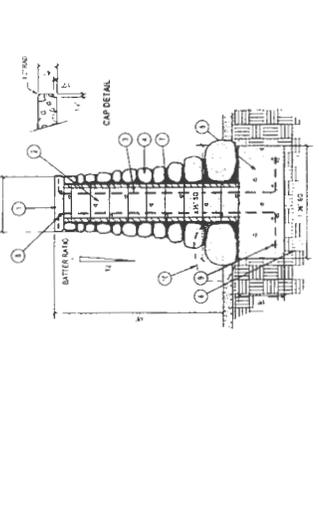
**I** DRINKING FOUNTAIN CLEAN OUT AND SUMP  
SCALE 1/2" = 1'-0"



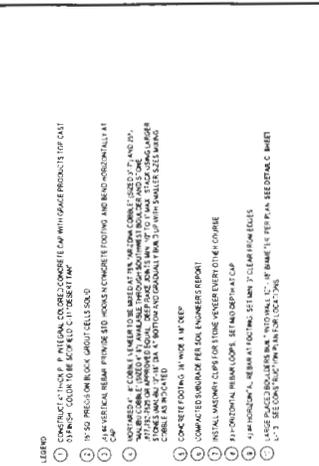
**K** PARK BARBEQUE  
SCALE 1" = 1'-0"



**M** BOULDER PLACEMENT  
SCALE 3/4" = 1'-0"

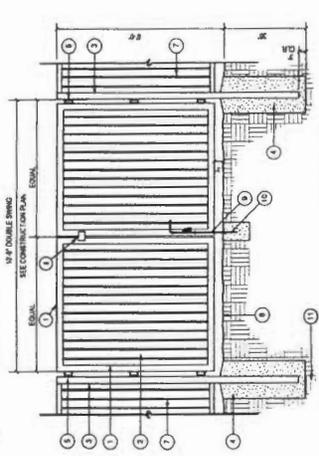


**N** STONE VENEERED PILASTER  
SCALE 1/2" = 1'-0"



**O** DRINKING FOUNTAIN CLEAN OUT AND SUMP  
SCALE 1/2" = 1'-0"

DESIGNED BY	DATE	APPROVED BY	DATE
DRAWN BY	DATE	APPROVED BY	DATE
CHECKED BY	DATE	APPROVED BY	DATE
PROJECT NO.	14-ML-0895	PROJECT NAME	PARKSITE AT 161 SECOND STREET
SHEET NO.	3	TOTAL SHEETS	11
CITY OF MOORPARK PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT PARKSITE AT 161 SECOND STREET MOORPARK, CA			
<b>L-1.2 CONSTRUCTION DETAILS</b>			

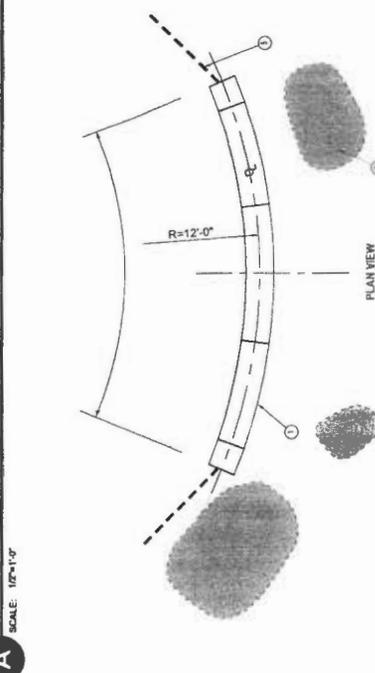


**A** 10' DOUBLE SWING TUBULAR STEEL ACCESS GATE  
SCALE: 1/2"=1'-0"

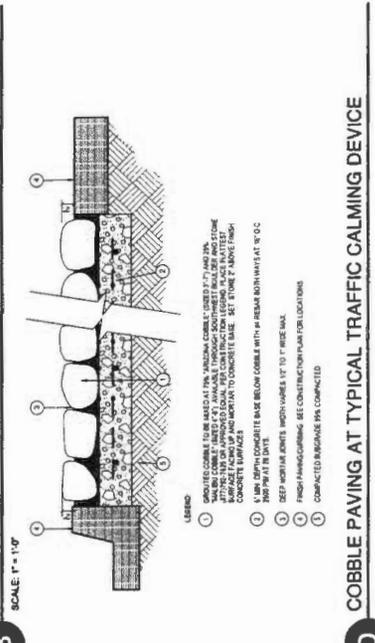
- LEGEND**
- 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.
  - 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.
  - 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.
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  - 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.
  - 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.

**NOTE:**

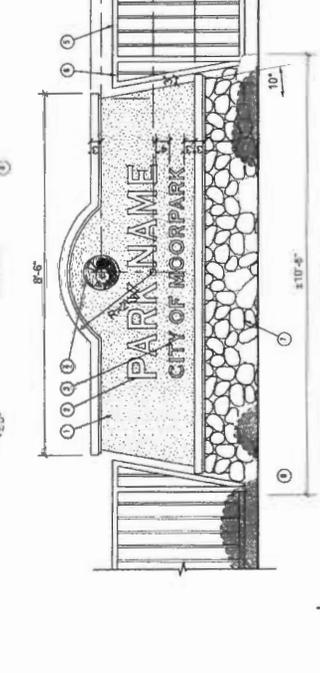
- 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.
- 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.
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- 1/2" DOUBLE SWING TUBULAR STEEL ACCESS GATE FRAME WITH COMBINATION LOCKED AND UNLOCKED POSITION.



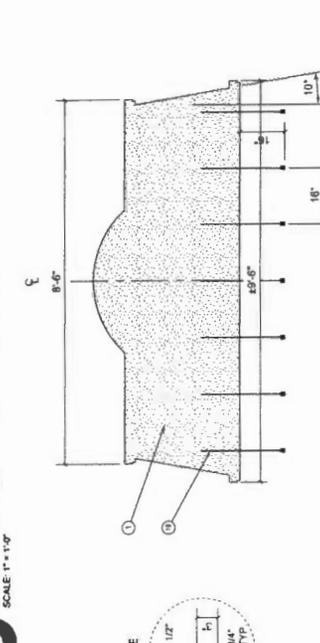
**B** COBBLE PAVING AT SWALE  
SCALE: 1"=1'-0"



**D** COBBLE PAVING AT TYPICAL TRAFFIC CALMING DEVICE  
SCALE: 1"=1'-0"



**C** MONUMENT WALL  
SCALE: 1/2"=1'-0"



**C** MONUMENT WALL  
SCALE: 1/2"=1'-0"

NO. OF SHEETS	4	PROJECT NO.	11
SHEET NO.	4	PROJECT NAME	L-1.3 CONSTRUCTION DETAILS
CITY OF MOORPARK PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT		PARKSITE AT 161 SECOND STREET MOORPARK, CA	
DESIGNED BY	ARCHITERRA	DATE	
DRAWN BY	ARCHITERRA	DATE	
CHECKED BY	ARCHITERRA	DATE	
APPROVED BY	ARCHITERRA	DATE	
PROJECT NO.	11	PROJECT NAME	L-1.3 CONSTRUCTION DETAILS
DATE		DATE	
DESCRIPTION OF REVISION		DATE	

### IRRIGATION NOTES

- THIS SYSTEM IS ENGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHENEVER POSSIBLE.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR REVISIONS NECESSARY.
- SYSTEM DESIGN IS BASED ON MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION WITH MAXIMUM GPM DEMANDS SPECIFIED. IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO CONSTRUCTION TO OWNER'S CONSTRUCTION REPRESENTATIVE.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, CURBS, ETC. HE SHALL COORDINATE ALL HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR LOCATION OF PIPE, SLEEVES THROUGH WALLS, UNDER ROADS, PAVING AND STRUCTURES.
- MARKER FEEDER BETWEEN POINT OF CONNECTION, METER, AND BACKFLOW PREVENTER TO BE MATERIAL, REQUIRED BY CURRENT WATER DISTRICT.
- FINAL LOCATION OF THE AUTOMATIC CONTROLLER ENCLOSURE AND THE BACKFLOW PREVENTION DEVICE SHALL BE APPROVED BY THE CITY'S AND OWNER'S REPRESENTATIVE. VISITOR LANDSCAPE ARCHITECT, WHERE APPLICABLE.
- IN ADDITION TO THE SLEEVES SHOWN ON THE PLAN, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SLEEVES OF SUFFICIENT SIZE UNDER ALL PAVED AREAS PRIOR TO PAVING UPON APPROVAL OF THE OWNER'S REPRESENTATIVE, IF REQUIRED TO SPECIFY SIZES.
- IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONT WALLS, STREETS, AND BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST NOZZLE RADIIUS TO FIT UNUSUAL SITE CONDITIONS FOR APPROVAL PURPOSES AT NO EXTRA CHARGE. CALL LANDSCAPE ARCHITECT 48 HOURS IN ADVANCE FOR ANY COVERAGE TESTS.
- QUALITY CONTROL OBSERVATION MEASURES ARE FOUND IN THE SPECIFICATIONS.
- CLEAN-UP ON A DAILY BASIS PER OWNER'S REPRESENTATIVE'S APPROVAL.
- LANDSCAPE CONTRACTOR TO VERIFY ALL EXISTING LINES ON SITE PRIOR TO START OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY HIS WORK. CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY IRRIGATION LINES/SPRINKLER HEADS & EXISTING LANDSCAPE AREAS THAT ARE DAMAGED DURING CONSTRUCTION.

### IRRIGATION LEGEND

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	RADIUS	G.P.H.	P.S.I.	COMMENTS
▲	RAMBERD	RWS-B-C-101	ROOT WATERING SERIES		0.30w	30	(2) PER TREE SEE DETAIL L-3, SHEET L-4.2
▲	RAMBERD	28-20PC	DRUMPER, ONE PER VINE		0.40	30	SEE DETAIL L-2.2
<b>PRECISION SPRAY</b>							
▲	TORO	D-4-SP	POP-UP SPRAY HEAD	2'	0.20	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-5-SP	POP-UP SPRAY HEAD	3'	0.13	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-5-10P	POP-UP SPRAY HEAD	3'	0.22	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-5-PP	POP-UP SPRAY HEAD	5'	0.28	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-4-CP	POP-UP SPRAY HEAD	5'	0.17	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-4-HP	POP-UP SPRAY HEAD	8'	0.33	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-6-10P	POP-UP SPRAY HEAD	8'	0.08	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-6-PP	POP-UP SPRAY HEAD	8'	0.48	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-15-SP	POP-UP SPRAY HEAD	15'	1.58	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-15-HP	POP-UP SPRAY HEAD	15'	1.34	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-15-10P	POP-UP SPRAY HEAD	15'	2.32	30	SEE DETAIL L-3, SHEET L-2.2
▲	TORO	D-15-PP	POP-UP SPRAY HEAD	15'	1.70	30	SEE DETAIL L-3, SHEET L-2.2

NOTE: ALL TORO PRECISION SPRAY NOZZLES SHALL BE FITTED WITH 180-PIES REVER BODY FIBER TUFF TUBE AREA AND RAMBERD 9115-PIES REVER BODY FOR ALL URBAN AREAS.

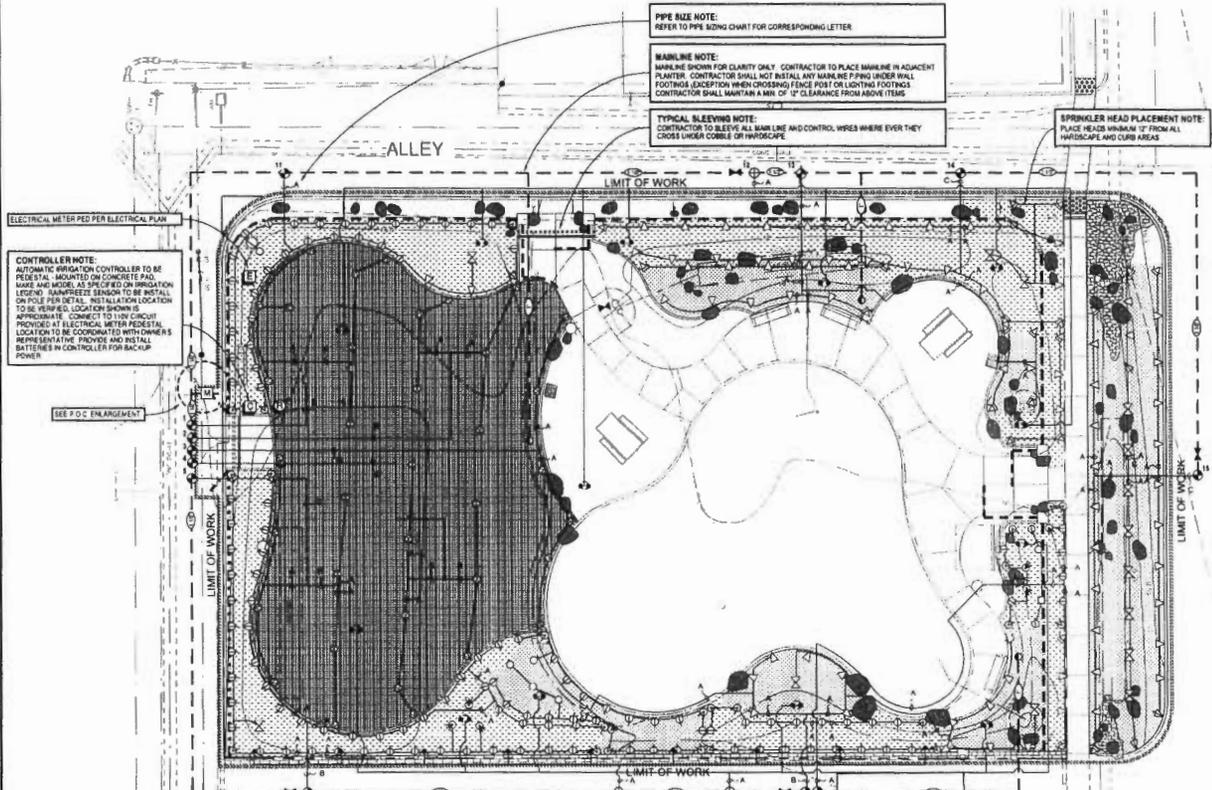
EQUIPMENT	MANUFACTURER	MODEL NUMBER	DESCRIPTION
▲	WALKERS	300 SERIES	3/4" PRESSURE REGULATOR, INSTALL AS NEEDED IN VALVE BOX
▲	MISCO	1.595	1/2" SIZE BRONZE TELL PORT BALL VALVE IN VALVE BOX, SEE DETAIL L-3, SHEET L-2.2
▲	FISCO	825-1A	3/4" REDUCED PRESSURE BACKFLOW IN STRONG BOX ENCLOSURE, MODEL NO. 898C-30C
▲	FISCO	825-1A	1 1/2" REDUCED PRESSURE BACKFLOW IN STRONG BOX ENCLOSURE, MODEL NO. 898C-30C
▲	DATA INDUSTRIAL	FS-0100	1" FLOW SENSOR, SEE DETAIL L-3, SHEET L-2.2
▲	SUPERIOR	4000	1 1/2" MASTER VALVE, NORMALLY CLOSED
▲	RAMBERD	EPB-CF SERIES	BRASS O-RING ELECTRIC CONTROL VALVE, 6" PER PLAN IN VALVE BOX, SEE DETAIL L-3, SHEET L-2.2
▲	RAMBERD	XC2 615-PR2	3/4" LOW FLOW VALVE WITH 24" P.P. PER FILTER, INSTALL IN RECTANGULAR VALVE BOX, 6" PER PLAN ONLY, SEE DETAIL L-3, SHEET L-2.2
▲	RAMBERD	441RC	1" QUICK COOLER VALVE, INSTALL WITH ROUND BOX, SEE DETAIL L-3, SHEET L-2.2
▲	ELECTRICAL METER		ELECTRICAL METER PEDESTAL PER ELECTRICAL PLANS
▲	RAIN MASTER	RM-240-G-SPED	24" STATION INSTALLED IN STAINLESS STEEL LARGE ENCLOSURE PEDESTAL, SEE DETAIL L-3, SHEET L-2.2
▲	RAIN MASTER	RM-5-100	5" BACKFLOW DEVICES OR WIRELESS CONNECTION INSTALL ON POLE, SEE DETAIL L-3, SHEET L-2.2
▲	APPROVED	50H 40 PVC	MARKING, SIZE AS SHOWN, MIN. COVER 10"
▲	APPROVED	CL 200 PVC	LATERAL LINE, SIZE AS SHOWN, MIN. COVER 10"
▲	APPROVED	50H 40 PVC	SLEEVES, SIZE 1/2" LARGER THAN PIPE TO BE INSERTED, UNLESS OTHERWISE NOTED
▲	APPROVED	50H 40 PVC	MIN. SLEEVE, SIZE AS REQUIRED, UNLESS OTHERWISE NOTED

**PIPE SIZE NOTE:**  
REFER TO PIPE SIZING CHART FOR CORRESPONDING LETTER

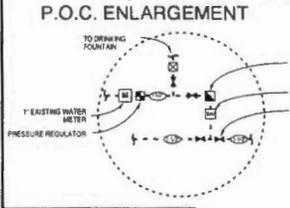
**MARKING NOTE:**  
MARKING SHOWN FOR CLARITY ONLY. CONTRACTOR TO PLACE MARKING IN ADJACENT PLANTING. CONTRACTOR SHALL NOT INSTALL ANY MARKING PIPING UNDER WALL FOOTING (EXCEPT WHEN CROSSING FENCE POLE ON EXISTING FOOTING). CONTRACTOR SHALL MAINTAIN A MIN. OF 12" CLEARANCE FROM ABOVE ITEMS.

**TYPICAL SLEEVING NOTE:**  
CONTRACTOR TO SLEEVE ALL MARKING AND CONTROL WIRES WHERE THEY CROSS UNDER COBBLE OR Hardscape.

**SPRINKLER HEAD PLACEMENT NOTE:**  
PLACE HEADS MINIMUM 12" FROM ALL Hardscape AND CURB AREAS.



**CONTROLLER NOTE:**  
AUTOMATIC IRRIGATION CONTROLLER TO BE FEDERAL, LOCATED ON CONCRETE PAD. MAKE AND MODEL AS SPECIFIED ON IRRIGATION LEGEND. MAIN FEEDER DESIGN TO BE INSTALLED ON POLE PER DETAIL. INSTALLATION LOCATION TO BE VERIFIED. LOCATION SHOWN IS APPROXIMATE. CONNECT TO 110V CIRCUIT PROVIDED AT ELECTRICAL METER PEDESTAL. LOCATION TO BE COORDINATED WITH OWNER'S REPRESENTATIVE. PROVIDE AND INSTALL BATTERIES IN CONTROLLER FOR BACKUP POWER.



**VALVE LEGEND**

1 11	2 10	3 8	4 13	5 14
1" HZ3	1" HZ3	1" HZ3	1" HZ3	1" HZ3
6 9	7 3	8 1	9 9	10 7
1" HZ1	3/4" HZ1	3/4" HZ1	1" HZ2	1" HZ1
11 7	12 3	13 6	14 12	15 18
1" HZ1	3/4" HZ4	1" HZ2	1" HZ1	1" HZ2

**VALVE SIZING KEY**

VALVE SIZE = 1" HZ1 @ 10 GPM  
VALVE SIZE = 3/4" HZ1 - HYDROZOME

**SCHEDULE 40 PVC PIPE SIZING CHART**

1/2"	0-10 GPM
3/4"	0-12 GPM
1"	0-16" 12-20 GPM
1 1/2"	0-20" 20-30 GPM
2"	0-30" 30-40 GPM

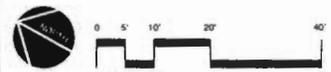
**POINT OF CONNECTION NOTE:**  
CONTRACTOR TO MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 1 1/2" DOMESTIC WATER METER (BY OTHERS). 1 1/2" BACKFLOW 1" MASTER VALVE, AND LINE SIZE GATE VALVE. REFERS TO UTILITY PLANS FOR MORE INFORMATION. EXTEND PRESSURE MAINLINE TO VALVES AS SHOWN.

EXISTING STATIC PRESSURE SYSTEM DESIGN PRESSURE: MAXIMUM 0.5 P.M.

SEE P.S.I. 75 P.S.I. 25 P.M.

**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE THIS SHEET  
FOR DETAILS, SEE SHEET L-2.2 AND L-2.3  
FOR SPECIFICATIONS, SEE SHEET L-4.2  
FOR CORRESPONDING CONSTRUCTION PLAN SEE SHEET L-1.1  
FOR CORRESPONDING PLANTING PLAN SEE SHEET L-3.1



NO.	DESCRIPTION OF REVISION	R.O.E.	APPRO.	DATE
1				
2				
3				
4				
5				

**ARCHITERRA design group**  
landscape architecture and planning  
1823-A Trabuco Road  
Fountain Valley, CA 92705  
TEL: 949-484-2000  
F: 949-484-2003  
ADG Project # 1402-4

DESIGNED BY: TDG  
DRAWN BY: TDG  
CHECKED BY: JRC  
APPROVED BY: JRC

PARK RECREATION AND COMMUNITY SERVICES  
PARK AND RECREATION DIRECTOR  
ENGINEERING REVIEWED BY:  
DAVID KLITZKE, PE EXP. DATE: \_\_\_\_\_ DATE: \_\_\_\_\_

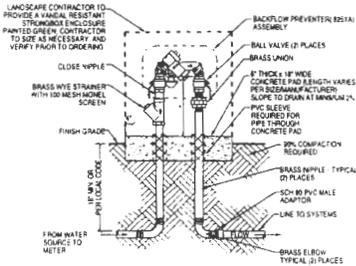
**CITY OF MOORPARK**  
PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT

ENGINEERING PROJECT NO. \_\_\_\_\_  
DRAWING PERMIT NO. \_\_\_\_\_  
SHEET NAME: **L-2.1 IRRIGATION PLAN**

PARKSITE AT 161 SECOND STREET  
MOORPARK, CA

SHEET **5**  
OF **11**

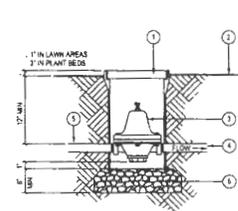
DRAWING NO. **14-ML-10995**



- NOTES:**
- INSTALL PER LOCAL CODES
  - EQUIPMENT TO BE INSTALLED AT A MINIMUM OF 2' FROM ANY STRUCTURES OR HANDSICAPING
  - WHEN UNIT IS NEXT TO A STRUCTURE (E.G. WALL, BUILDING, ETC.) MOUNT TEST COCKS ON OTHER SIDE OF STRUCTURE AND
  - ORIENT UNIT PARALLEL TO STREET
  - SCREEN UNIT WITH GRATES WHENEVER POSSIBLE
  - SCALE FITTINGS ARE REQUIRED FOR CONNECTIONS OF DISSIMILAR METALS

**A BACKFLOW PREVENTER (825YA)**

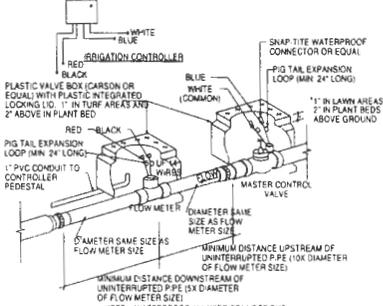
SCALE: N.T.S.



- LEGEND:**
- 1" x 6" CONCRETE VALVE BOX & LOCKING COVER MARKED "PRESS. REG. VALVE"
  - FINISH GRADE
  - PRESSURE REGULATOR - SEE MANUFACTURER'S LEGEND ON MODEL #
  - PIPE TO BALL VALVE AND MASTER VALVE
  - PIPE TO BACKFLOW PREVENTER
  - 3/4" WASHED CRUSHED AGGREGATE BASE

**B PRESSURE REGULATOR**

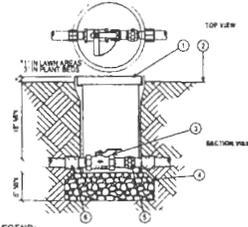
SCALE: N.T.S.



- LEGEND:**
- 1" x 6" CONCRETE VALVE BOX & COVER MARKED "IRRIGATION VALVE"
  - FINISH GRADE
  - BALL VALVE - SEE IRRIGATION LEGEND FOR MODEL #
  - 3/4" WASHED CRUSHED AGGREGATE BASE
  - SCH 40 PVC UNION
  - SCH 80 PVC MALE ADAPTOR

**C FLOW METER / MASTER VALVE**

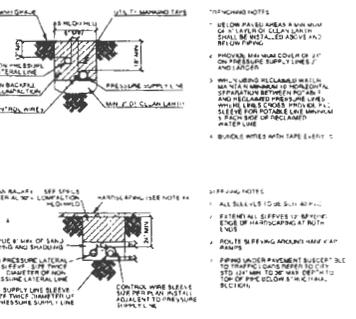
SCALE: N.T.S.



- LEGEND:**
- 1" x 6" CONCRETE VALVE BOX & COVER MARKED "IRRIGATION VALVE"
  - FINISH GRADE
  - BALL VALVE - SEE IRRIGATION LEGEND FOR MODEL #
  - 3/4" WASHED CRUSHED AGGREGATE BASE
  - SCH 40 PVC UNION
  - SCH 80 PVC MALE ADAPTOR

**D BALL VALVE**

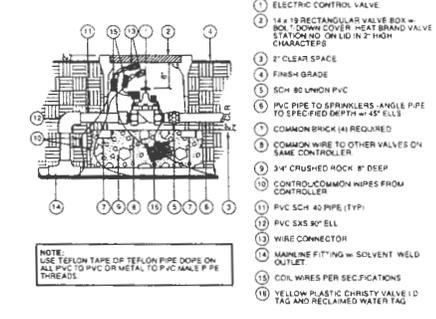
SCALE: N.T.S.



- LEGEND:**
- 4" INCH GRATE ENCLOSED
  - BUBBLER TRAINING 1.25 GPM PER LEGEND INCLUDED
  - ROOT ZONE WATERING SYSTEM (RWS) TRAINING RWS-B-C (A-D) INCLUDES 1/2" BUBBLER PER LEGEND WITH RISER, CHECK VALVE DRIVING ASSEMBLY, 1/2" MALE NPT FLET AND BASKET CANISTER
  - FINISH GRADE
  - CHECK VALVE INCLUDED
  - OPTIONAL PEA GRAVEL OR RUBBER SAND SOCK (RWS SOCK) FOR SANDY SOILS
  - 1.25 INCH PVC SCH 80 NIPPLE INCLUDED
  - 1.25 INCH 90 DEGREE ELBOW INCLUDED
  - 1.25 INCH SWING ASSEMBLY INCLUDED
  - 1.25 INCH MALE NPT INLET INCLUDED
  - PVC SCH 40 TEE OR EL
  - LATERAL PIPE
  - 1.25 INCH BASKET WEAVE CANISTER INCLUDED

**E TRENCHING / SLEWING**

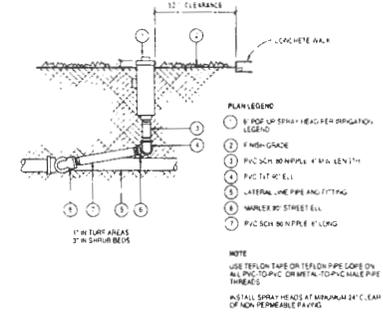
SCALE: N.T.S.



- LEGEND:**
- ELECTRIC CONTROL VALVE
  - 12" x 18" RECTANGULAR VALVE BOX - NO. 1 DOWN COVER - HEAT BEATING VALVE STATION NO. ON LID IN 2" HIGH CHARACTER
  - 2" CLEAR SPACE
  - FINISH GRADE
  - SCH 80 UNION PVC
  - PVC PIPE TO SPRINKLERS, ANGLE PIPE TO SPECIFIED DEPTH OR AS REQUIRED
  - COMMON BRICK OR REQUIRED
  - COMMON WIRE TO OTHER VALVES ON SAME CONTROLLER
  - 3/4" CRUSHED ROCK 8" DEEP
  - CONTROL COMMON WIRES FROM CONTROLLER
  - PVC SCH 40 PIPE, (TYP.)
  - PVC SXS 80 FLET
  - WIRE CONNECTOR
  - MAINLINE FITTING - SOLVENT WELD OUTLET
  - COIL WIRES PER SPECIFICATIONS
  - YELLOW PLASTIC CHRISTY VALVE 1/2" TAG AND RECLAIMED WATER TAG

**F REMOTE CONTROL VALVE**

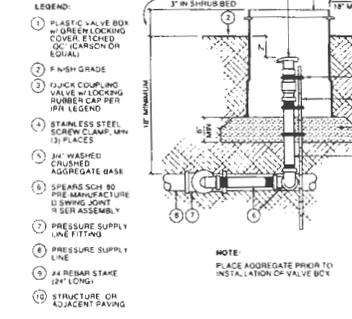
SCALE: N.T.S.



- LEGEND:**
- 6" POP UP SPRAY HEAD PER IRRIGATION LEGEND
  - FINISH GRADE
  - PVC SCH 80 NIPPLE 4" MIN LENGTH
  - PVC 1/2" OR EL
  - LATERAL LINE PIPE AND FITTING
  - WASHER BY STREET EL
  - PVC SCH 80 NIPPLE 4" LONG

**G 6" POP-UP SPRAY HEAD**

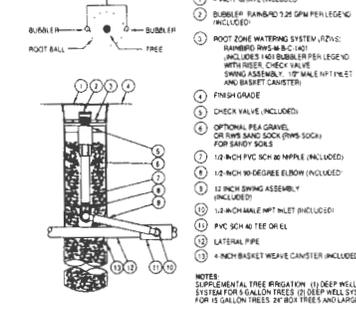
SCALE: N.T.S.



- LEGEND:**
- DRIP EMITTER (SEE IRRIGATION LEGEND FOR MODEL NUMBER AND QUANTITY)
  - FLEXIBLE RISER
  - PVC SCH 40 TEE
  - PVC LATERAL PIPE
  - FINISH GRADE
  - PLANT ROOT BALL
  - PLANTING PIT
  - FLUSH VALVE

**H QUICK COUPLER**

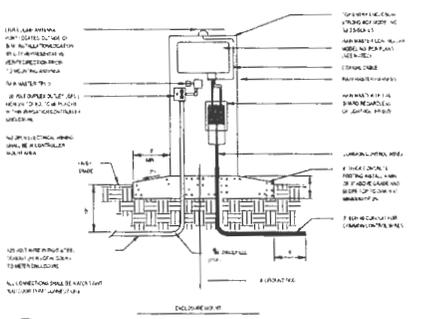
SCALE: N.T.S.



- LEGEND:**
- DRIP EMITTER (SEE IRRIGATION LEGEND FOR MODEL NUMBER AND QUANTITY)
  - FLEXIBLE RISER
  - PVC SCH 40 TEE
  - PVC LATERAL PIPE
  - FINISH GRADE
  - PLANT ROOT BALL
  - PLANTING PIT
  - FLUSH VALVE

**I RWS BUBBLERS TO TREE**

SCALE: N.T.S.



- LEGEND:**
- DRIP EMITTER (SEE IRRIGATION LEGEND FOR MODEL NUMBER AND QUANTITY)
  - FLEXIBLE RISER
  - PVC SCH 40 TEE
  - PVC LATERAL PIPE
  - FINISH GRADE
  - PLANT ROOT BALL
  - PLANTING PIT
  - FLUSH VALVE

**J CONTROLLER**

SCALE: N.T.S.



- LEGEND:**
- DRIP EMITTER (SEE IRRIGATION LEGEND FOR MODEL NUMBER AND QUANTITY)
  - FLEXIBLE RISER
  - PVC SCH 40 TEE
  - PVC LATERAL PIPE
  - FINISH GRADE
  - PLANT ROOT BALL
  - PLANTING PIT
  - FLUSH VALVE

**K POINT TO POINT DRIP IRRIGATION**

SCALE: N.T.S.

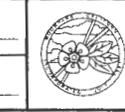
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**ARCHITERRA design group**  
 landscape architecture and planning  
 1822-A Trademark Street  
 Folsom, California, CA 95758  
 (916) 454-2800  
 FAX (916) 454-1300  
 ADD Project # 1402-4

DESIGNED BY: TGG  
 DRAWN BY: TGG  
 CHECKED BY: JRC  
 APPROVED BY: JRC

PARK RECREATION AND COMMUNITY SERVICES  
 PARK AND RECREATION DIRECTOR DATE  
 ENGINEERING REVIEWED BY: DAVID KLOTZ, PE EXP DATE DATE



**CITY OF MOORPARK**  
 PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT

DRIVING PERMIT (R)	SHEET 6 OF 11
ENGINEERING PROJECT NO.	SHARING NO. 14-ML-10995
PROJECT NAME: PARKSITE AT 161 SECOND STREET MOORPARK, CA	
L-2.2 IRRIGATION DETAILS	

AVERAGE DAILY RUN TIMES (MINUTES)																	
Valve	Equipment	E.P.	Plant Material	K.F.	P.R.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	Precision	0.75	Turf	0.95	0.23	52	53	61	80	158	127	138	127	150	127	81	61
2	Precision	0.75	Turf	0.95	0.11	101	118	146	206	247	215	207	293	242	178	119	87
3	Precision	0.75	Turf	0.95	0.37	12	14	18	34	70	31	26	28	21	14	11	
4	Precision	0.75	Shrub-Low	0.25	0.47	8	8	8	11	13	14	13	13	9	6	5	
5	Bubbler	0.90	Vine-Med	0.45	19.28	0	0	0	1	1	1	1	1	0	0	0	
6	RWS	0.90	Tree-Med	0.45	7.90	1	1	1	1	1	1	1	1	1	1	1	
7	Precision	0.75	Shrub-Med	0.40	1.77	3	3	4	6	7	6	2	8	7	5	3	
8	Precision	0.75	Shrub-Low	0.25	1.81	1	1	2	3	3	4	4	3	2	1		
9	Precision	0.75	Shrub-Low	0.25	1.50	2	2	2	3	4	4	5	4	3	2	1	
10	RWS	0.90	Tree-Low	0.40	7.70	1	1	1	1	1	2	2	1	1	1	0	
11	Precision	0.75	Shrub-Med	0.30	1.04	6	7	8	12	10	18	13	17	15	11	7	
12	Precision	0.75	Shrub-Low	0.20	1.29	2	2	2	3	4	4	5	5	4	3	2	
13	Precision	0.75	Shrub-Med	0.20	1.20	2	2	2	3	4	5	6	5	4	3	2	
Monthly Evapotranspiration Rate						7.7	2.6	3.2	4.2	6.4	6.5	2.7	4.4	4.4	3.4	2.8	2.0
RUN TIME FORMULA: (ETo) / (EPA) * 28 DAYS * (K.F.) * (P.R.)																	
NOTE:																	
1. The plant establishment water schedules are shown for guideline use only and are to be modified according to plant needs and as the weather changes																	
2. It is based on the monthly evapotranspiration rates for City of Moorpark, CA.																	

AVERAGE DAILY RUN TIMES (MINUTES)																	
Valve	Equipment	E.P.	Plant Material	K.F.	P.R.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	Precision	0.75	Turf	0.95	0.23	26	30	40	53	63	68	78	75	83	48	30	23
2	Precision	0.75	Turf	0.95	0.11	50	80	78	103	124	136	154	147	134	89	80	46
3	Precision	0.75	Turf	0.95	0.37	6	7	8	12	16	18	18	12	14	10	7	5
4	Precision	0.75	Shrub-Low	0.25	0.47	3	3	4	5	6	7	8	6	5	3	2	
5	Bubbler	0.90	Vine-Med	0.45	19.28	0	0	0	0	0	0	0	0	0	0	0	
6	RWS	0.90	Tree-Med	0.45	7.90	0	0	0	1	1	1	1	1	1	1	1	
7	Precision	0.75	Shrub-Med	0.40	1.77	1	2	2	3	3	4	4	4	3	2	1	
8	Precision	0.75	Shrub-Low	0.25	1.81	1	1	1	1	1	2	2	2	2	1	1	
9	Precision	0.75	Shrub-Low	0.25	1.50	1	1	1	2	2	2	2	2	1	1	1	
10	RWS	0.90	Tree-Low	0.40	7.70	0	0	0	1	1	1	1	1	1	0	0	
11	Precision	0.75	Shrub-Med	0.30	1.04	3	4	5	6	7	8	8	7	5	3	2	
12	Precision	0.75	Shrub-Low	0.20	1.29	1	1	1	1	1	1	1	1	1	1	1	
13	Precision	0.75	Shrub-Med	0.20	1.20	1	1	1	2	2	3	3	3	3	2	1	
Monthly Evapotranspiration Rate						2.3	2.6	3.4	2.8	5.4	5.8	2.7	4.4	4.4	3.4	2.8	2.0
RUN TIME FORMULA: (ETo) / (EPA) * 28 DAYS * (K.F.) * (P.R.)																	
NOTE:																	
1. The water schedules are shown for guideline use only and are to be modified accordingly as the weather changes with the assistance of a programmed smart controller.																	
2. It is based on the monthly evapotranspiration rates for City of Moorpark, CA.																	

**A** CONTROLLER CHART  
SCALE N.T.S.

Landscape Water Use Calculations

**Project Information**  
 Total square footage of Landscape Area (including Special Landscape Area) LA= 9,323  
 Total square footage of Special Landscape Area SLA= 3,769  
 Hat. E.To for the area ETo= 51

**Maximum Annual Water Allocation (MAWA)**  
 MAWA is calculated using the following formula: (Eto) (.62) ((0.7 x LA) + (0.3 x SLA)) / 748  
 MAWA = 324 ccf / yr

**Estimated Applied Water Use (EAWU)**  
 EAWU is calculated using the following formula: (Eto) (.62) [(PF x HA / IE) + SLA] / 748

**Hydrozone # 1: Low Shrubs, Precision Spray**  
 Plant Factor PF= 0.2  
 square footage of hydrozone HA= 2,965 (SLA=0)  
 hydrozone irrigation efficiency IE= 0.75  
 #1 EAWU = 33 ccf / yr

**Hydrozone # 2: Mod. Shrubs Precision Spray**  
 Plant Factor PF= 0.4  
 square footage of hydrozone HA= 2,342 (SLA=0)  
 hydrozone irrigation efficiency IE= 0.75  
 #2 EAWU = 53 ccf / yr

**Hydrozone # 3: Turf, SLA Precision Spray**  
 Plant Factor PF= 0.9  
 square footage of hydrozone HA= 3,769 (SLA=0)  
 hydrozone irrigation efficiency IE= 0.75  
 #3 EAWU = 191 ccf / yr

**Hydrozone # 4: Tree Root Watering System**  
 Plant Factor PF= 0.4  
 square footage of hydrozone HA= 176 (SLA=0)  
 hydrozone irrigation efficiency IE= 0.9  
 #3 EAWU = 3 ccf / yr

**Hydrozone # 5: Vine Bubbler**  
 Plant Factor PF= 0.4  
 square footage of hydrozone HA= 71 (SLA=0)  
 hydrozone irrigation efficiency IE= 0.9  
 #3 EAWU = 1 ccf / yr

Total EAWU = 282 ccf / yr  
 MAWA - EAWU = 42 ccf / yr

PRESSURE LOSS CALCULATION

PROJECT: CITY OF MOORPARK - WALNUT ACRES BY TDG  
 STATIC PRESSURE: HIGH LOW 85 PSI  
 SOURCE OF INFORMATION: VENTURA WATER WATER DISTRICT  
 SUPPLIER: TERRY SMITH  
 PHONE NUMBER: (855) 378-3009  
 VALVE STATION/GPM: STATION 2 GPM 26

ITEM		P.S.I. LOSS
WATER METER SIZE	1 1/2" @ 26 GPM	1.40
BACKFLOW	1 1/2" @ 26 GPM	12.0
MASTER VALVE	1 1/2" @ 26 GPM	0.75
FLOW SENSOR	1" @ 26 GPM	3.50
BALL VALVES(S)	1 1/2" @ 26 GPM	0.20
MAINLINE (SCH 40)	1 1/2" 73 L.F. @ 26 GPM	3.0
AUTOMATIC VALVE SIZE	1 1/2" @ 26 GPM	3.90
LATERAL LINE SIZE	1 1/2" 39 L.F. @ 26 GPM	0.49
	1" 12 L.F. @ 26 GPM	0.3
	3/4" 37 L.F. @ 26 GPM	0.34
IRIGATION HEAD PRESSURE		30.00
SYSTEM LOSSES SUBTOTAL		63.90
FITTING LOSSES (10% OF SUBTOTAL)		5.39
ELEVATION LOSSES/GAINS (ELEV. x 4.33) ±		0.00
TOTAL SYSTEM LOSSES		59.29
AVAILABLE PRESSURE (LOW)		85
REGULATED PRESSURE		75
(-) DEFICIT OR (+) RESIDUAL PRESSURE		(+) 15.71

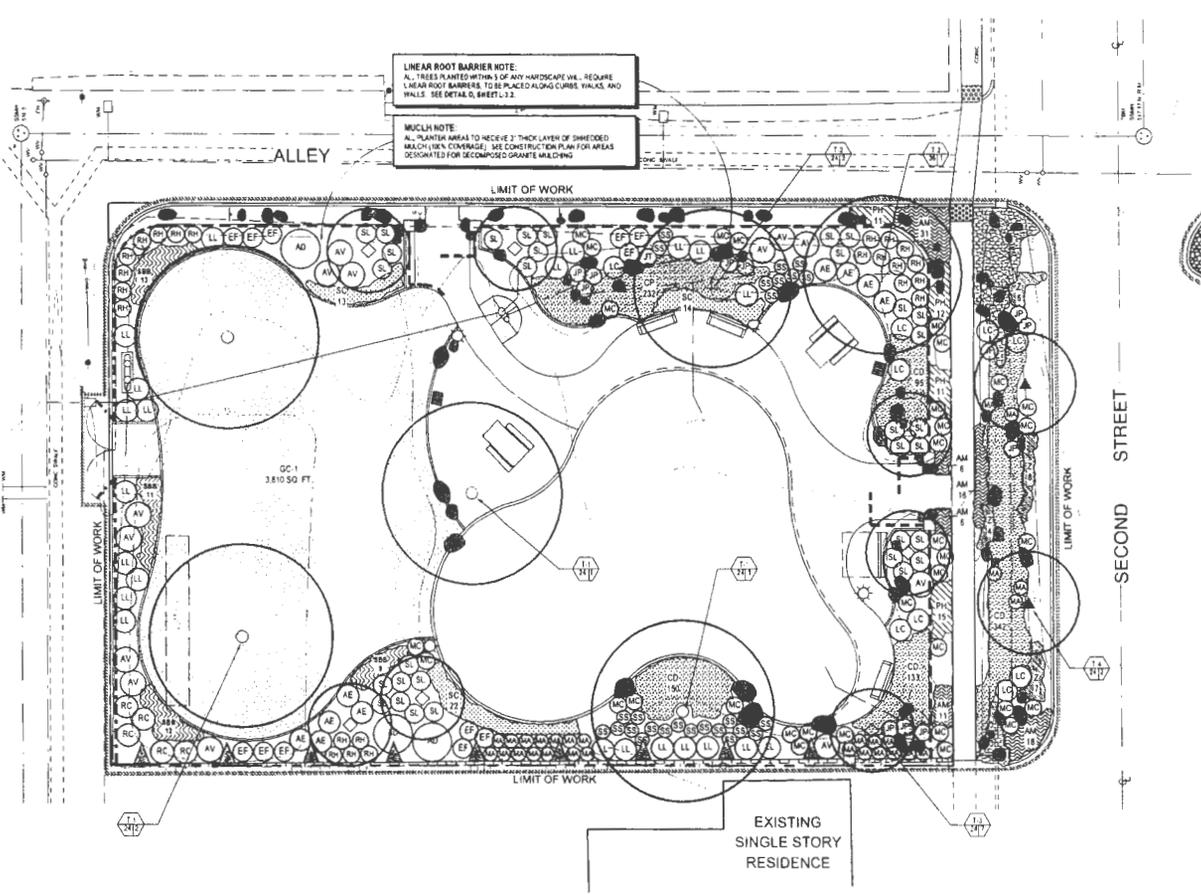
\*CONTRACTOR TO SET PRESSURE REGULATOR TO A SYSTEM DESIGN PRESSURE OF PSI  
 CONTRACTOR TO FIELD ADJUST REGULATOR AS NECESSARY.

**B** PRESSURE LOSS CALCULATION  
SCALE N.T.S.

**C** WATER BUDGET CALCULATIONS  
SCALE N.T.S.

**D** SCALE N.T.S.

	<b>ARCHITERRA</b> design group 10221-A Trabuco Road Rancho Conejo, CA 91330 (909) 486-1860 Fax (909) 486-2862 ADG Project # 1402-A	DESIGNED BY TDG PARK RECREATION AND COMMUNITY SERVICES	DRAWN BY TDG PARK AND RECREATION DIRECTOR	CHECKED BY JRC ENGINEERING REVIEWED BY:	APPROVED BY JRC DAVID KLOTZ, P.E. EXP. DATE:	CITY OF MOORPARK PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT	GRADING (SHEET 11) SHEET NAME <b>L-2.3 IRRIGATION DETAILS</b>	SHEET <b>7</b> OF <b>11</b> DRAWING NO <b>14-ML-10995</b>
		DESIGNATION OF REVISION P.C.E. APP'D DATE						



**LINEAR ROOT BARRIER NOTE**  
ALL TREES PLANTED WITHIN 1' OF ANY HARDSCAPE VUL. REQUIRE LINEAR ROOT BARRIERS TO BE PLACED ALONG CURBS, WALKS, AND WALLS. SEE DETAIL D, SHEET L-2.

**MULCH NOTE**  
ALL PLANTER AREAS TO RECEIVE 2" THICK LAYER OF SHREDED MULCH (100% COVERAGE). SEE CONSTRUCTION PLAN FOR AREAS DESIGNATED FOR COMPOUND GRANITE WELDING.

**PLANTING LEGEND**

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	COMMENTS
○	1	Palaua torreyana	Wheat Spruce	24" Box	per plan	2	Multi-branching Standard
○	2	Quercus agrifolia	Coast Live Oak	36" Box	per plan	1	Standard
○	3	Carle's Ficus filia	Ficus Family Plant	24" Box	per plan	7	Low Branching
○	4	Lyrodia pedunculata	Chickadee White Grape Myrtle	24" Box	per plan	2	Standard
○	5-1	Lemnaea x Canyon Yucca	Yucca	1 Gal	per plan	8	
○	5-2	Muhlenbergia capillaris	Pink Wavy Grass	1 Gal	per plan	33	
○	5-3	Arctostaphylos x Powellii	Redwood Redwood Manzanita	1 Gal	per plan	3	
○	5-4	Arctostaphylos	Walden's Yucca	1 Gal	per plan	80	
○	5-5	Salvia rosmarinifolia	Hummingbird Sage	1 Gal	per plan	26	
○	5-6	Lonicera	Blue Star	1 Gal	per plan	14	
○	5-7	Arctostaphylos	Yucca	1 Gal	per plan	28	
○	5-8	Prostrata	Yucca	1 Gal	per plan	88	
○	5-9	Arctostaphylos	Yucca	1 Gal	per plan	28	
○	5-10	Arctostaphylos	Yucca	1 Gal	per plan	13	
○	5-11	Arctostaphylos	Yucca	1 Gal	per plan	3	
○	5-12	Arctostaphylos	Yucca	1 Gal	per plan	12	
○	5-13	Arctostaphylos	Yucca	1 Gal	per plan	15	
○	5-14	Arctostaphylos	Yucca	1 Gal	per plan	9	
○	5-15	Arctostaphylos	Yucca	1 Gal	per plan	22	
○	5-16	Arctostaphylos	Yucca	1 Gal	per plan	48	
○	5-17	Arctostaphylos	Yucca	1 Gal	per plan	11	
○	5-18	Arctostaphylos	Yucca	1 Gal	per plan	90	
○	5-19	Arctostaphylos	Yucca	1 Gal	per plan	13	Tree to wall
○	5-20	Arctostaphylos	Yucca	1 Gal	per plan	36	Tree to wall

**PLANTING NOTES**

- SHRUB LAYOUT AS SHOWN ON PLAN INDICATES 'THRU-BLANK' QUANTITIES ARE AS SHOWN ON PLAN ON CENTER SPACING AS SHOWN ON LEGEND. CONTRACTOR TO VERIFY QUANTITIES BASED ON SPACING AND ADD ADDITIONAL PLANT MATERIAL AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO MAINTAIN EXISTING TREES DUE TO EXISTING SITE CONDITIONS NOT INDICATED DURING DESIGN. PLANTING SHALL BE EITHER BE TRANSPORTED OR LINEAR AS SHOWN ON PLAN OR LEGEND. LANDSCAPE ARCHITECT TO APPROVE FINAL LAYOUT IN FIELD PRIOR TO INSTALLATION.
- CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF SITE CONDITIONS WHICH PREVENT INSTALLATION PER PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND RE-INSTALLING IRRIGATION EQUIPMENT AND REPAIRING AREAS WHICH ARE NOT INSTALLED PER PLANS AND SPECIFICATIONS.
- REFER TO PLANTING SPECIFICATIONS FOR PROPOSED IRRIGATION SCHEDULE.
- IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL PRIOR TO INSTALLATION OF PLANT MATERIALS.
- TREES AND SHRUBS SHALL BE PLANTED AFTER CONCRETE PLACEMENT BUT NOT BEFORE INITIAL CURING HAS BEEN APPROVED. (SEE SPECIFICATIONS).
- PLACE TREES IN THE IRRIGATION HEADS WHEREVER POSSIBLE.
- LANDSCAPE CONTRACTOR SHALL AMEND SOILS AS NOTED ON THE SOILS REPORT BY WALLACE LABORATORIES.
- THE RECOMMENDATIONS OF THE SOIL REPORT SHALL SUPERSEDE THE SOIL PREPARATION AND BACKFILL VIA SPECIFICATIONS (SEE SPECIFICATIONS).
- SHRUBS TO BE INSTALLED. INSTALL SHREDED MULCH IN ALL SHRUBS AND GROUND COVER AREAS PER SPECIFICATIONS UNLESS OTHERWISE INDICATED ON PLANS. AREAS DESIGNATED FOR COMPOUND GRANITE WELDING ARE SHOWN ON CONSTRUCTION PLAN.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF OR DAMAGED LANDSCAPE AREAS BELOW THE LIMIT OF WORK, INCLUDING REPAIRING ANY IRRIGATION LINES/SPRINKLER HEADS THAT IS A DIRECT RESULT OF THE LANDSCAPE CONSTRUCTION AND/OR HIS SUB-CONTRACTOR. REPLACEMENT ITEMS SHALL BE EXACT DUPLICATION OF ORIGINAL FROM SUPPLIER'S LINES. OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- WHENEVER GROUND COVER AREAS ARE ADJACENT TO TURF INSTALL CONCRETE MONUMENTS OR EDGES AS NOTICED ON PLANS.
- CLEAN UP SHALL TAKE PLACE ON A DAILY BASIS UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL GRADES AND FLOW LINES AS SHOWN ON THE GRADING PLAN. WHERE SOIL IS TO BE INSTALLED ON A SLOPE, THE FINISH GRADE MUST BE MAINTAINED SO THE SOIL DOES NOT RESTRICT THE FLOW. CONCRETE CURBS SHALL BE DEPRESSURED AT SLOPE LINES SO THAT DRAINAGE FROM PAVED SURF FLOWS TOWARD PROPOSED CATCH BASINS.

**PLANT SUBSTITUTION NOTE**  
IF THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL PLANT MATERIAL SHOWN IN THE PLANTING LEGEND. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT AND CITY REPRESENTATIVE.

**PHOTO SUBMITTAL NOTE:**  
ALL PLANT MATERIAL, INCLUDING TREES, SHRUBS AND VINES, SHALL BE INSPECTED AND APPROVED BY LANDSCAPE ARCHITECT. PHOTO SUBMITTALS PRIOR TO DELIVERY TO SITE. PHOTO SUBMITTALS SHALL INCLUDE INVENTORY SURVEY AND DATE OF PHOTOS. ANY MATERIAL DELIVERED TO SITE WITHOUT APPROVAL IS SUBJECT TO REJECTION. PHOTO SUBMITTALS SHALL BE SENT TO LANDSCAPE ARCHITECT AND CITY REPRESENTATIVE ON A MINIMUM OF 48 HOURS PRIOR TO SHIPMENT OF MATERIAL. SUBMITTALS SHALL INCLUDE SAME TYPE OF SCALE REFERENCE PHOTO. PERSON MEASURING TAKE PICTURES SHALL BE NOTED IN THE PHOTO. FROM FINISH GRADE IN CONTAINERS AND GROWER HEADS. LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF SCHEDULED DELIVERY. DELIVERY TIMES A MINIMUM OF 24 HOURS PRIOR TO SHIPMENT. REFER TO PLANTING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING QUALITY OF NURSERY STOCK.

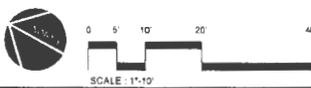
**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE THIS SHEET FOR DETAILS, SEE SHEET L-1.1 AND L-1.2 FOR SPECIFICATIONS, SEE SHEET L-4.0 FOR CORRESPONDING IRRIGATION PLAN SEE SHEET L-2.0 FOR CORRESPONDING PLANTING PLAN SEE SHEET L-3.0

**SYMBOL LEGEND**



**DIGALENT**  
LOCAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU GO



NO.	DESCRIPTION OF REVISION	R.C.E.	APP'D.	DATE
1				
2				
3				
4				
5				

**ARCHITERRA design group**  
10221 A Trademark Street  
Plano, California, CA 94575  
(925) 424-2300  
Fax: (925) 424-1602  
ADD Project # 14022.4

DESIGNED BY: GPD  
DRAWN BY: GPD  
CHECKED BY: JRC  
APPROVED BY: JRC

PARK RECREATION AND COMMUNITY SERVICES  
PARK AND RECREATION DIRECTOR  
ENGINEERING REVIEWED BY:  
DATE

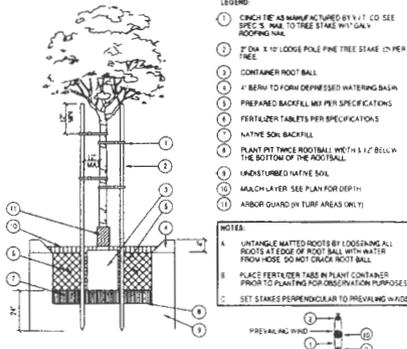
**CITY OF MOORPARK**  
PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT

GRADING PROJECT NO.  
ENGINEERING PROJECT NO.

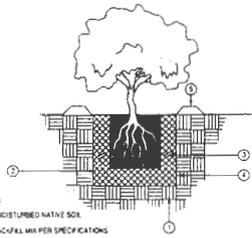
**PARKSITE AT 161 SECOND STREET**  
MOORPARK, CA

**L-3.1 PLANTING PLAN**

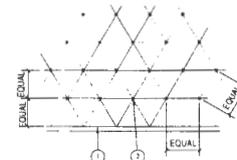
SHEET **8** OF **11**  
DRAWING NO. **14-ML-10895**



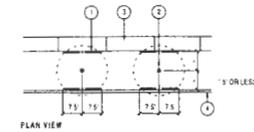
**A** DOUBLE STAKE TREE PLANTING  
SCALE: N.T.S.



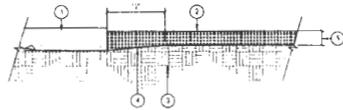
**B** SHRUB PLANTING DETAIL  
SCALE: N.T.S.



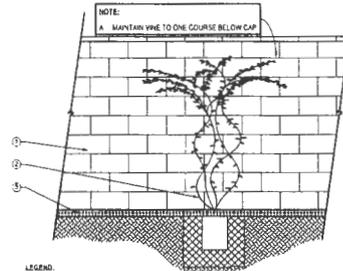
**C** SHRUB / G.C. SPACING  
SCALE: N.T.S.



**D** LINEAR ROOT BARRIER  
SCALE: N.T.S.



**E** MULCH  
SCALE: N.T.S.



**F** VINE ON BLOCK WALL  
SCALE: N.T.S.

**WALLACE LABORATORIES, LLC**  
365 Coral Circle  
El Segundo, CA 90245  
phone (310) 615-0116 fax (310) 640-6863

March 27, 2014  
George Detson, Administrator at (310) 640-6863  
Wallace Design Group  
10221 1/2 Trademark Drive,  
Kendall C. Sacramento, CA 95731

RL Walnut Acres Park, City of Moorpark, Site Composite 6.12  
Dist Sample H14.13.14

Dear George,

The soil is highly alkaline, with a pH of 9.22. Limestone is present which induces iron deficiency in iron deficient or acid-loving plants. Salinity is moderate at 1.01 millimhos/cm. Nitrogen, manganese and phosphorus are low. Potassium is moderate. Magnesium, sulfur and the other micronutrients are sufficient. Light available sodium is moderate-high. SAR (sodium adsorption ratio) is 3.9.

**Recommendations**

General soil preparation on a square foot basis. Broadcast the following materials uniformly. The rates are per 1,000 square feet. Incorporate them homogeneously to 10-inch depth.

Potassium sulfate (0-0-50) 10 pounds  
Triple superphosphate (0-45-0) 4 pounds  
agricultural gypsum 40 pounds  
Organic soil amendment about 15 cubic yards sufficient for 1/2" to 5/8" soil layer a matter on a dry weight basis

For the preparation on a volume basis, homogeneously blend the following materials into clean soil. Rates are expressed per cubic yard.

Potassium sulfate (0-0-50) 114 pounds  
Triple superphosphate (0-45-0) 114 pounds  
agricultural gypsum 2 pounds  
Organic soil amendment about 15 cubic yards sufficient for 1/2" to 5/8" soil layer a matter on a dry weight basis

**Organic soil amendment**

- 1 Humus material shall have an acid-soluble ash content of no less than 6% and no more than 20%. Organic matter shall be at least 50% on a dry weight basis.
- 2 The pH of the material shall be between 6 and 7.5.

Soil Analyses Plant Analyses Water Analyses

Soil Analyses Plant Analyses Water Analyses

**J** SOILS REPORT RECOMMENDATIONS  
SCALE

NO.	DESCRIPTION OF REVISION	R.C.E.	APP'D.	DATE



**ARCHITERRA**  
design group  
10221 1/2 Trademark Drive  
Kendall C. Sacramento, CA 95731  
Fax: (916) 640-6862  
ADD Project # 1402-4

DESIGNED BY GPD	PARK RECREATION AND COMMUNITY SERVICES
DRAWN BY GPD	PARK AND RECREATION DIRECTOR DATE
CHECKED BY JRC	ENGINEERING REVIEWED BY DATE
APPROVED BY JRC	DATE



**CITY OF MOORPARK**  
PARKS, RECREATION AND  
COMMUNITY SERVICES DEPARTMENT

GRADING PERMIT NO.
ENGINEERING PROJECT NO.

**PARKSITE AT 161 SECOND STREET  
MOORPARK, CA**

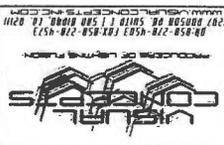
TITLE: NAME  
**L-3.2 PLANTING DETAILS**

SHEET <b>9</b>
OF <b>11</b>
DRAWING NO. <b>14-ML-10995</b>









PROCESSES OF LIGHTING DESIGN  
 4858-858-4588 4858-218-4513  
 WWW.PROCESSESOFDESIGN.COM

Project: WALNUT ACRES PARK  
 MOORPARK, CA 93021

Client: CITY OF MOORPARK  
 799 MOORPARK AVE.  
 MOORPARK, CA 93021



Revisions:

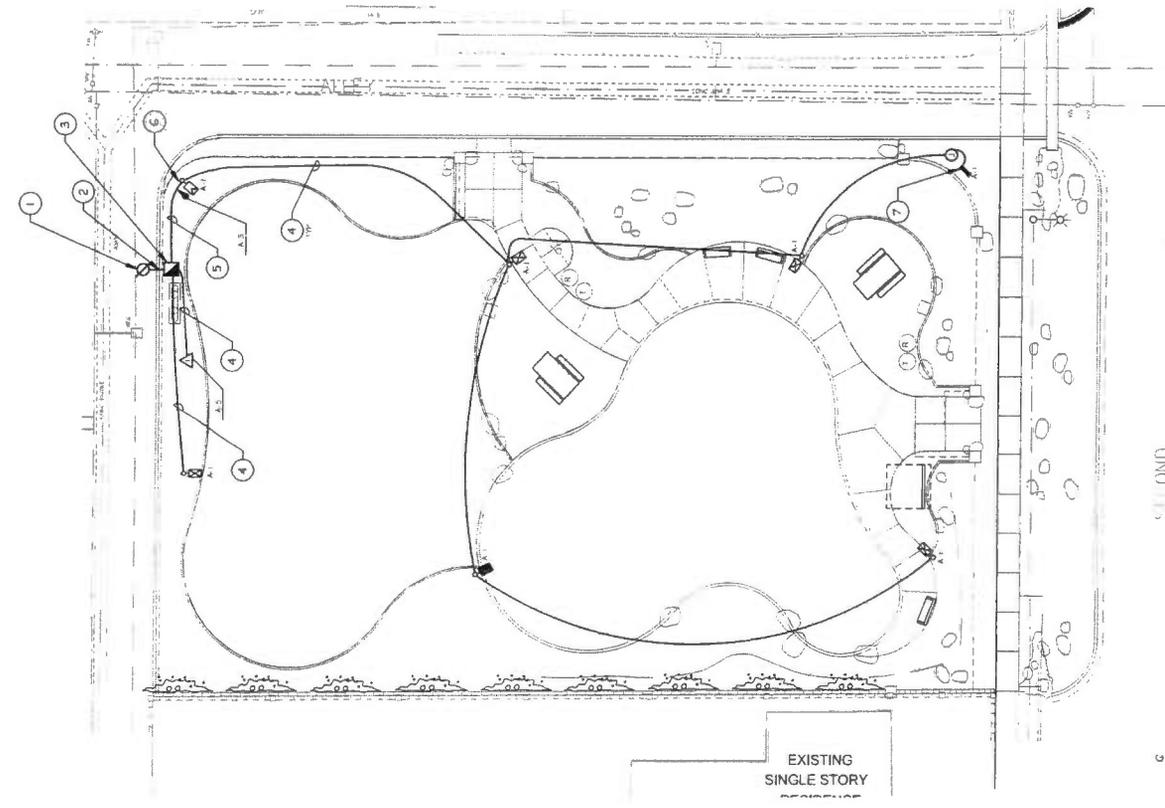
Sheet Info:  
 Drawn By: PFD  
 Checked By: EPW  
 Scale: 1" = 10'-0"  
 Date: 04/26/2014  
 Job No.: 14011301001

Sheet Title:  
 LIGHTING LAYOUT

Sheet Reference:  
 EL-2  
 Page 2 of 4

PLAN NOTES

1. SEE UTILITY COMPANY RECORD PLANS FOR ALL UTILITIES. E-UTILITY MARKING IS REQUIRED.
2. PREPARE TO BE ON HAND FOR ALL UTILITIES AND ALL UTILITIES TO BE MARKED AND MAINTAINED TO REMAIN.
3. PROVIDE LOCAL TOGGLE, 1P, 20 AMP, 120V, 1" DIA. (SEE PLAN).
4. PROVIDE 3/4" DIA. 1/2" AND 3/4" DIA. 1/2" BUSHING AS SHOWN.
5. PROVIDE 1/2" DIA. 1/2" BUSHING FOR ALL UTILITIES AND 1/2" DIA. 1/2" BUSHING FOR ALL UTILITIES.
6. SIGNAL LAMP REQUIRED FOR ALL UTILITIES. PROVIDE SIGNAL LAMP FOR ALL UTILITIES.
7. SEE DETAILS FOR ALL UTILITIES (SEE DETAILS).



NORTH

SCALE: 1" = 10'-0"

Michael J. Hiederman  
 License No. 44517  
 State of California  
 PROFESSIONAL ENGINEER

TWO WORKING DAYS BEFORE YOU DIG  
 CALL 811 TO REQUEST A SERVICE





