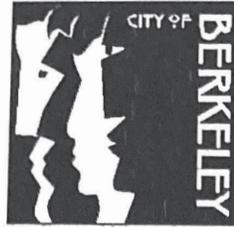


CITY OF



BERKELEY

DEPARTMENT OF PARKS, RECREATION AND  
WATERFRONT

CAPITAL IMPROVEMENTS DIVISION

# SPECIFICATIONS

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FOR

AQUATIC PARK PADDLING AND ROWING CLUB PARKING LOT  
IMPROVEMENTS PROJECT

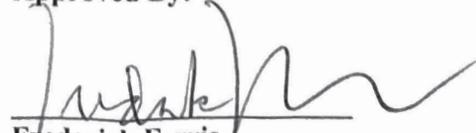
SPECIFICATION NO. 22-11514-C

January, 2023

ADVERTISEMENT DATE: Monday, January 9, 2023

BID OPENING DATE: Thursday, February 2, 2023, 2 P.M.

Approved By:



Frederick Ferris  
Director of Parks, Recreation and Waterfront

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1947 CENTER STREET, 5<sup>TH</sup> FLOOR, BERKELEY, CALIFORNIA 94704  
(510) 981-6400

CITY OF BERKELEY

DEPARTMENT OF PARKS, RECREATION AND WATERFRONT

SPECIFICATIONS

FOR

**AQUATIC PARK PADDLING AND ROWING CLUB  
PARKING LOT IMPROVEMENTS PROJECT**

At 2851 West Bolivar Drive, Berkeley, CA 94710

**SPECIFICATION NO. 22-11514-C**

Prepared By:

 (Robert Chan)

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Robert Chan, Assistant Civil Engineer

Reviewed By:



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Nelson Lam, Supervising Engineer

**CAPITAL IMPROVEMENTS DIVISION  
1947 CENTER STREET, 5<sup>TH</sup> FLOOR  
BERKELEY, CALIFORNIA 94704**

**Project Manager  
Robert Chan, Assistant Civil Engineer  
Phone: 510-981-6392  
Email: RoChan@CityofBerkeley.info**

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NOTICE TO BIDDERS

1. Sealed bids will be received by the Finance Department – General Services Division in their office, **2180 Milvia Street, 3<sup>rd</sup> Floor**, Berkeley, California up to the hour of:

**2:00 P.M., Thursday, February 2, 2023**

at which time bids will be publicly opened and read by the General Services Manager for **AQUATIC PARK PADDLING AND ROWING CLUB PARKING LOT IMPROVEMENTS PROJECT** provided for in the plans and specifications. Proposals must be submitted, on forms prepared for this purpose furnished by the City, in an envelope marked **AQUATIC PARK PADDLING AND ROWING CLUB PARKING LOT IMPROVEMENTS PROJECT, SPECIFICATION NO. 22-11514-C.**

Prospective bidders are encouraged to visit the site at 2851 West Bolivar Drive, Berkeley, California 94710, the site is assessible from the Aquatic Park South Lot, Berkeley, CA. (<https://goo.gl/maps/mkuvDzjeYCsQZD9K7>). The work area is accessible to the public during normal business hours and prospective bidders are encouraged to visit the site prior to submitting a bid.

2. **Scope of Work – Aquatic Park Paddling and Rowing Club Parking Lot Improvements Project:** The work done under these Plans and Specifications includes but is not limited to: mobilization, traffic control, public convenience, construction phasing, erosion control, clearing, grubbing, tree protection, root pruning, excavating and pulverizing an existing asphalt concrete parking lot, minor concrete building pad and ADA parking spot, asphalt concrete with stabilized base, porous flexible paver parking area, minor header board wall, importing topsoil for conform area, striping, parking markings, installing accessible parking sign, adjusting a quick-coupling valve box, salvaging and reinstalling wood wheel stops, header at AC and porous flexible paver, while maintaining access and public use of the Paddling and Rowing Club Boathouse and dock, as specified.
3. California Contractor License Classification required: A - General Engineering
4. Location: The work is located on **2851 W Bolivar Drive, Berkeley, CA 94710**. See the vicinity maps included in the plan set. The exact limits of work are shown on the project plans.
5. Project plans and specifications may be obtained online at the City of Berkeley’s Public Works website under Current Construction Project Bid Opportunities:

[https://www.cityofberkeley.info/Public\\_Works/Bids -  
Contracts/Current Construction Project Bid Opportunities.aspx](https://www.cityofberkeley.info/Public_Works/Bids_-_Contracts/Current_Construction_Project_Bid_Opportunities.aspx)

Bidders are responsible for notifying Robert Chan, Assistant Civil Engineer by email at [RoChan@cityofberkeley.info](mailto:RoChan@cityofberkeley.info) to be included on the Planholders List.

6. It is the Contractor's responsibility to check for any addenda on the City of Berkeley's website [https://www.cityofberkeley.info/Public\\_Works/Bids\\_-\\_Contracts/Current\\_Construction\\_Project\\_Bid\\_Opportunities.aspx](https://www.cityofberkeley.info/Public_Works/Bids_-_Contracts/Current_Construction_Project_Bid_Opportunities.aspx)
7. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].  
  
No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.  
  
This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
8. Each proposal must be accompanied by an unconditionally certified or cashier's check or bid bond made payable to the City of Berkeley, and such check or bond shall be in an amount equal to at least 10% of the amount of the bid.
9. Pursuant to City Council Resolution No. 59,853-N.S., each proposal must include a signed copy of the Oppressive States Resolution Disclosure Form regarding the Contractor's relationships with certain entities in the Oppressive States.
10. Each proposal must include a signed copy of the Nuclear Free Zone Disclosure Form.
11. Each proposal must include a signed copy of the Equal Benefits Ordinance Disclosure Form.
12. Each proposal must include a signed copy of the Sanctuary City Compliance Statement.
13. This contract will **NOT** be subject to the Community Workforce Agreement approved by the Berkeley City Council on January 23, 2018. The successful bidder and all subcontractors, at any tier, will be **NOT** required to sign an Agreement to be Bound as a condition precedent to entering into any contract for this Project.
14. Prior to starting work, the Contractor must furnish the following:
  - a. Faithful Performance Bond in an amount not less than 100% of the amount of the contract, executed on the City of Berkeley Standard Performance Bond agreement form.
  - b. Labor and Material Bond in the sum of not less than 100% of the amount of the contract.

- c. A certificate of Worker's Compensation Insurance with a waiver of subrogation in favor of the City of Berkeley.
  - d. Commercial general liability insurance coverage is \$2 million each occurrence Bodily Injury and \$2 million each occurrence Property Damage, with defense costs payable in addition to policy limits.
  - e. Automobile liability insurance is \$2 million each occurrence Bodily Injury and \$2 million each occurrence Property Damage.
  - f. Insurance policies shall contain an endorsement naming the City, their employees, representatives, and agents as additional insureds, but only with respect to liability arising out of the activities of the named insured.
  - g. The policies shall apply separately to each insured against whom claim is made, or suit is brought except with respect to the limits of the company's liability.
  - h. Written notice of cancellation or any limits reduction or change in said policy shall be mailed to the City and the Project Manager thirty (30) days in advance of the effective date thereof. Insurance policies shall contain a Notice of Cancellation endorsement.
  - i. Contractor's insurance shall be primary insurance and no other insurance or self-insured retention carried or held by City shall be called upon to contribute to a loss covered by insurance for the named insured.
15. In accordance with California State Labor Code, the wage scale is on file with the Engineering Office or is attached herewith.
16. Award will be made by the City Council at a meeting within 75 days subsequent to the date set for bid opening. The Council reserves the right to reject any or all bids or any combination of bids.
17. General information or plan holder's list: (510) 981-6392. Questions concerning the anticipated work or scope of the Project should be directed to Robert Chan, Assistant Civil Engineer, by email at [RoChan@cityofberkeley.info](mailto:RoChan@cityofberkeley.info), no later than 10:00 A.M., Monday, January 23, 2023.

General Services Manager

BIDDER'S PROPOSAL

Bidders submitting proposals shall be very careful to follow all requirements in connection therewith. A checklist has been attached for guidance in complying with all phases of the bid process and Project. Any proposal not complying with all these requirements may be rejected.

TO THE HONORABLE MAYOR AND  
MEMBERS OF THE CITY COUNCIL

Pursuant to the provisions of the plans, specifications and contract documents, the undersigned proposed to perform the work as described therein a manner satisfactory to the responsible City official. All material, equipment, tools, labor, and services necessary to the work will be furnished. All laws and ordinances relating to the work will be complied with, and a business license to do business in the City will be obtained. The undersigned declares that the plans, specifications, contract documents and the site of the work have been thoroughly examined and that this proposal is made without collusion with any person, firm, or corporation.

Execution of the proposal by the undersigned Bidder shall become a binding contract on the parties when the award of a contract pursuant to the said proposal is authorized by resolution of the City Council, where required by the Charter of the City by the City Manager, or an officer who is his/her authorized representative.

The undersigned agrees that when his/her proposal is executed he/she will furnish specified bonds and insurance, and he/she will begin work within the time specified, and complete work within the contract period or agree to the assessment of liquidated damages, all as stipulated in the attached pages of the Bidder's Proposal.

As a guaranty that the terms of this proposal will be complied with, the undersigned submits herewith a proposal guaranty for an amount equal to at least Ten Percent (10%) of his total bid.

All subcontractors who will perform work for the Bidder on this Project in the amount in excess of one-half of one percent (0.5%) of the total bid, including labor, materials, and equipment, or work specifically fabricated off the job site according to detailed drawings contained in the plans, shall be listed, pursuant to Sections 4100 to 4113, inclusive of the California Government Code.

BIDDER'S PROPOSAL  
(continued)

Name of Subcontractor and address:	Subcontractor License No.	Type of Work	\$ Amount

Contractor's California License Number: \_\_\_\_\_

License Expiration Date: \_\_\_\_\_

I declare that representations made in this bid are under penalty of perjury.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

BIDDER'S PROPOSAL  
 (continued)

**BASE BID**

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1.	Mobilization	1	LS	\$ _____	\$ _____
2.	Traffic Control, Public Convenience, and Construction Phasing	1	LS	\$ _____	\$ _____
3.	Erosion Control	1	LS	\$ _____	\$ _____
4.	Clearing, Grubbing, Tree Protection, and Root Pruning	1	LS	\$ _____	\$ _____
5.	Pavement Excavation	1	LS	\$ _____	\$ _____
6.	Minor Concrete – Building Pad/ADA Parking Spot	925	SF	\$ _____	\$ _____
7.	Class 2 Aggregate Base	40	TONS	\$ _____	\$ _____
8.	Imported Topsoil	75	TONS	\$ _____	\$ _____
9.	Porous Flexible Paver Parking Area	3,450	SF	\$ _____	\$ _____
10.	Asphalt Concrete with Stabilized Base	110	TONS	\$ _____	\$ _____
11.	Minor Header Board Wall	85	LF	\$ _____	\$ _____
12.	Striping, Pavement Marking, and ADA Sign	1	LS	\$ _____	\$ _____
13.	Adjust Quick-Coupling Valve Box	1	LS	\$ _____	\$ _____
14.	Wood Pole Wheel Stop	155	LF	\$ _____	\$ _____
15.	Header at AC Paving and Porous Flexible Paver	730	LF	\$ _____	\$ _____

TOTAL COST OF BASE BID IN WORDS AND FIGURES: \_\_\_\_\_

\_\_\_\_\_ Dollars and \_\_\_\_\_ Cents/

(\$ \_\_\_\_\_).

BIDDER'S PROPOSAL  
(continued)

DETERMINATION OF LOW BIDDER. Contractor shall submit proposal for all of the Base Bid items. Failure to do so shall result in bid rejection. The low Bidder for purposes of award will be the conforming responsible Bidder offering the lowest total amount for the Total Base Bid shown in the Bidder's Proposal.

The undersigned bidder agrees to accept payment in full for the work at the price set forth above in accordance with provisions of the specifications and agrees to start within Fifteen (15) WORKING days following issuance of the Notice to Proceed and to complete all work specified in the contract documents in accordance with the plans and specifications within **Twenty (20) WORKING days**. The Notice to Proceed will be issued when the contract is fully executed. The contract construction time is inclusive of the time for delivery of materials. By execution of this contract, the City and the Bidder do hereby agree that the value of damage associated with the delay of the work is difficult to ascertain. Therefore the Bidder agrees further to the assessment of liquidated damages in the amount of One Thousand Dollars (\$1,000.00) for each working day that the construction work remains incomplete beyond the above construction time. The term of the contract is Thirty (30) WORKING days which includes an additional Ten (10) WORKING days for project closeout beyond the above construction time.

Company \_\_\_\_\_

Address \_\_\_\_\_

By \_\_\_\_\_

\_\_\_\_\_

Title \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

Taxpayer I.D. No. \_\_\_\_\_

Date \_\_\_\_\_

Corporation Yes [ ] No [ ]

BIDDER'S PROPOSAL  
(continued)

(The following spaces to be used by the City)

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Pursuant to City of Berkeley Council Resolution No. \_\_\_\_\_ N.S. adopted on \_\_\_\_\_, the City of Berkeley agrees to pay \_\_\_\_\_ the prices set forth above for the Total Bid Items in the amount of \_\_\_\_\_ (\$\_\_\_\_\_), in accordance with the terms and conditions set forth in Specification No. 22-11514-C. The contractor shall complete all work specified in the contract documents in accordance with the plans and specifications within Thirty (30) working days from the date established in the Notice to Proceed.

CITY OF BERKELEY

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
City Manager

Registered By: \_\_\_\_\_  
Auditor

Attested By: \_\_\_\_\_  
City Clerk

**BIDDERS AND CONTRACTORS CHECKLIST**

**Items Required at Bid opening: 2:00 P.M, Thursday, February 2, 2023**, at Finance Department  
– General Services Division, 2180 Milvia Street, 3<sup>rd</sup> Floor, Berkeley, California

- Bidder's Proposals (One Full Set of Originals and 2 Additional Original Signature Pages)
- Addenda (if any)
- Experience and Financial Qualifications
- Taxpayer Identification Report
- Oppressive States Resolution Disclosure Form
- Hardwood Disclosure Form
- Nuclear Free Zone Disclosure Form
- Equal Benefits Ordinance Disclosure Form
- Sanctuary City Compliance Statement
- Bid Guarantee - 10% of Total Base Bid

**Items Required Prior to Contract Execution**

- Memorandum of Understanding
- Agreement for Change in Sub-Contractors
- Work Force Composition
- Certificate of Compliance with Equal Benefits Ordinance (Form EBO-1)
- City of Berkeley Business License
- Worker's Compensation Insurance - Statutory Amount
- Liability Insurance - \$2,000,000
- Performance Bond - 100% (executed on enclosed Performance Bond Form)
- Labor and Material Bond- 100%
- Commercial General and Automobile Liability Endorsement Form
- Right to Audit Form

**Items Required After Contract Award and Prior to Construction:**

- Work Schedule
- Submittals required at preconstruction meeting

**Items Required During Construction:**

- Work Schedule Updates
- Weekly Payroll Statement (Fed Form WH-347 or equivalent)
- Correspondence with unions and minority/female organizations

**Items Required Upon Completion of Project:**

- Guarantee Bond - 10%
- As-Built Drawings

EXPERIENCE AND FINANCIAL QUALIFICATIONS

The bidder has been engaged in the contracting business under State License Number \_\_\_\_\_ for a period of \_\_\_\_\_ years.

The bidder's three most recently completed contracts are:

	I	II	III
Title of Project			
Owner			
Address			
Telephone No.			
Engineer in Charge			
Date Accepted			

Reference is hereby made to the following Bank or Banks as to the financial responsibility of the bidder:

Name of Bank \_\_\_\_\_ Address \_\_\_\_\_  
 \_\_\_\_\_

Reference is hereby made to the following Surety Companies as to the financial responsibility and general reliability of the bidder:

Company \_\_\_\_\_ Address \_\_\_\_\_  
 \_\_\_\_\_

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

TAXPAYER IDENTIFICATION REPORT

COMPANY NAME

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

MAILING ADDRESS

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

SOCIAL SECURITY NUMBER:

\_\_\_\_\_

OR

EMPLOYER IDENTIFICATION NUMBER:

\_\_\_\_\_

**My Company is a Corporation**

**My Company is not a Corporation**

**I certify that the above information is true and correct:**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

The Tax Equity and Fiscal Responsibility Act of 1982 (Public Law 97-248) requires the above reporting information be furnished to the City.

Persons who do not furnish their tax information numbers become subject to backup withholding by the City at a rate of 20% from each disbursement made to the recipient.

CITY OF BERKELEY  
NUCLEAR FREE ZONE DISCLOSURE FORM

I (we) certify that:

1. I am (we are) fully cognizant of any and all contracts held, products made or otherwise handled by this business entity, and of any such that are anticipated to be entered into, produced or handled for the duration of its contract(s) with the City of Berkeley. (To this end, more than one individual may sign this disclosure form, if a description of which type of contracts each individual is cognizant is attached.)
2. I (we) understand that Section 12.90.070 of the Nuclear Free Berkeley Act (Berkeley Municipal Code Ch. 12.90; Ordinance No. 5784-N.S.) prohibits the City of Berkeley from contracting with any person or business that knowingly engages in work for nuclear weapons.
3. I (we) understand the meaning of the following terms as set forth in Berkeley Municipal Code Section 12.90.130:

"Work for nuclear weapons" is any work the purpose of which is the development, testing, production, maintenance or storage of nuclear weapons or the components of nuclear weapons; or any secret or classified research or evaluation of nuclear weapons; or any operation, management or administration of such work.

"Nuclear weapon" is any device, the intended explosion of which results from the energy released by reactions involving atomic nuclei, either fission or fusion or both. This definition of nuclear weapons includes the means of transporting, guiding, propelling or triggering the weapon if and only if such means is destroyed or rendered useless in the normal propelling, triggering, or detonation of the weapon.

"Component of a nuclear weapon" is any device, radioactive or non-radioactive, the primary intended function of which is to contribute to the operation of a nuclear weapon (or be a part of a nuclear weapon).

4. Neither this business entity nor its parent nor any of its subsidiaries engages in work for nuclear weapons or anticipates entering into such work for the duration of its contract(s) with the City of Berkeley.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

Business Entity: \_\_\_\_\_

Contract Description/Specification No: **AQUATIC PARK PADDLING AND ROWING CLUB PARKING LOT IMPROVEMENTS PROJECT / 22-11514-C**

CITY OF BERKELEY  
OPPRESSIVE STATES COMPLIANCE STATEMENT FOR PERSONAL SERVICES

The undersigned, an authorized agent of \_\_\_\_\_ (hereafter "Vendor"), has had an opportunity to review the requirements of Berkeley City Council Resolution No. 59,853-N.S. (hereafter "Resolution"). Vendor understands and agrees that the City may choose with whom it will maintain business relations and may refrain from contracting with those Business Entities which maintain business relationships with morally repugnant regimes. Vendor understands the meaning of the following terms used in the Resolution:

"Business Entity" means "any individual, firm, partnership, corporation, association or any other commercial organization, including parent-entities and wholly-owned subsidiaries" (to the extent that their operations are related to the purpose of the contract with the City).

"Oppressive State" means: **Tibet Autonomous Region and the Provinces of Abo, Kham, and U-Tsang,**

"Personal Services" means "the performance of any work or labor and shall also include acting as an independent contractor or providing any consulting advice or assistance, or otherwise acting as an agent pursuant to a contractual relationship."

Contractor understands that it is not eligible to receive or retain a City contract if at the time the contract is executed, or at any time during the term of the contract it provides Personal Services to:

- a. The governing regime in any Oppressive State.
- b. Any business or corporation organized under the authority of the governing regime of any Oppressive State.
- c. Any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

**Vendor further understands and agrees that Vendor's failure to comply with the Resolution shall constitute a default of the contract and the City Manager may terminate the contract and bar Vendor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.**

The undersigned is familiar with, or has made a reasonable effort to become familiar with, Vendor's business structure and the geographic extent of its operations. By executing the Statement, Vendor certifies that it complies with the requirements of the Resolution and that if any time during the term of the contract it ceases to comply, Vendor will promptly notify the City Manager in writing.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

Business Entity: \_\_\_\_\_

I am unable to execute this Statement; however, Vendor is exempt under Section VII of the Resolution. I have attached a separate statement explaining the reason(s) Vendor cannot comply and the basis for any requested exemption.

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

Contract Description/Specification No. **AQUATIC PARK PADDLING AND ROWING CLUB  
PARK LOT IMPROVEMENTS / 22-11514-C**

**CITY OF BERKELEY  
HARDWOOD DISCLOSURE FORM**

**For use by vendors on contracts utilizing lumber**

1. I understand that on December 12, 1995, the City Council directed staff not to purchase lumber from companies that purchase or sell wood or paper products that come from tropical rainforests. I understand that wood species with tropical origins include, but are not limited to: Apitong, Banak, Bocote, Bubinga, Cocobolo, Cordia, Ebony, Goncalo alves, Greenheart, Iroko, Jelutang, Koa, Luauan, Mahogany, Meranti, Padauk, Purpleheart, Ramin, Rosewood, Satinwood, Teak, Virola, Wenge, and Zebrawood.
2. I am knowledgeable about the wood and paper products purchased and sold by this company.
3. This company does not currently purchase or sell wood or paper products having their origins in tropical rainforests. In addition, this company will not, for the duration of its contract with the City of Berkeley, purchase or sell wood or paper products having their origins in tropical rainforests.

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

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

Printed Name & Title:

\_\_\_\_\_

Company:

\_\_\_\_\_

I am unable to sign this disclosure form for the following reason(s):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CITY OF BERKELEY  
MEMORANDUM OF UNDERSTANDING (MOU)

1. In the performance of this contract the Contractor (and all Sub-contractors) agree not to discriminate pursuant to Section 13.26 of the Berkeley Municipal Code.
2. In the performance of this contract the Contractor agrees that he/she is also responsible for his/her Sub-Contractors' Compliance with Section 13.26 of the Berkeley Municipal Code.
3. For contracts that are not governed by a Community Workforce Agreement, the Contractor agrees to comply with Section 13.26 of the Municipal Code as it applies to the First Source Program (see Section 13.26.080).

The Contractor agrees to submit periodic employment and wage reports to the City's Contract Compliance Officer upon reasonable request.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
City Engineer or designee

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

AGREEMENT FOR CHANGE IN SUB-CONTRACTORS

I agree to use the Subcontractor(s) listed in the signed contract with the City of Berkeley. If it should become necessary to change Subcontractors, I will notify the Public Works Engineering Division by completing the following information:

Current Subcontractor(s)	Alternate Subcontractors	Reason for Change	Date

Signed by:

Verified by:

\_\_\_\_\_  
 Prime Contractor

\_\_\_\_\_  
 Subcontractor

\_\_\_\_\_  
 City of Berkeley City Engineer or designee

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

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

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



## OCCUPATIONAL CATEGORIES

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**Officials and Administrators:** Occupations in which employees set broad policies, exercise overall responsibility for execution of these policies, or provide specialized consultation on a regional, district or area basis. Includes: department heads, bureau chiefs, division chiefs, directors, deputy superintendents, unit supervisors and kindred workers.

**Professionals:** Occupations which require specialized and theoretical knowledge which is usually acquired through college training or through work experience and other training which provides comparable knowledge. Includes: personnel and labor relations workers, social workers, doctors, psychologists, registered nurses, economists, dietitians, lawyers, systems analysts, accountants, engineers, employment and vocational rehabilitation counselors, teachers or instructors, and kindred workers.

**Technicians:** Occupations which require a combination of basic scientific or technical knowledge and manual skill which can be obtained through specialized post-secondary school education or through equivalent on-the-job training. Includes computer programmers and operators, technical illustrators, highway technicians, technicians (medical, dental, electronic, physical sciences) and kindred workers.

**Protective Service Workers:** Occupations in which workers are entrusted with public safety, security and protection from destructive forces. Includes: Police officers, fire fighters, guards, sheriffs, bailiffs, correctional officers, detectives, marshals, harbor patrol officers and kindred workers.

**Paraprofessionals:** Occupations in which workers perform some of the duties of a professional or technician in a supportive role, which usually requires less formal training and/or experience normally required for professional or technical status. Such positions may fall within an identified pattern of a staff development and promotion under a "New Careers" concept. Includes: library assistants, research assistants, medical aides, child support workers, police auxiliary, welfare service aides, recreation assistants, homemaker aides, home health aides, and kindred workers.

**Office and Clerical:** Occupations in which workers are responsible for internal and external communication, recording and retrieval of data and/or information and other paperwork required in an office. Includes: bookkeepers, messengers, office machine operators, clerk-typists, stenographers, court transcribers, hearings reporters, statistical clerks, dispatchers, license distributors, payroll clerks, and kindred workers.

**Skilled Craft Workers:** Occupations in which workers perform jobs which require special manual skill and a thorough and comprehensive knowledge of the processes involved in the work which is acquired through on-the-job training and experience or through apprenticeship or other formal training programs. Includes: mechanics and repairpersons, electricians, heavy equipment operators, stationary engineers, skilled machining occupations, carpenters, compositors and typesetters, and kindred workers.

**Service/Maintenance:** Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene or safety of the general public or which contribute to the upkeep and care of buildings, facilities or grounds of public property. Workers in this group may operate machinery. Includes: chauffeurs, laundry and dry cleaning operatives, truck drivers, bus drivers, garage laborers, custodial personnel, gardeners and groundskeepers, refuse collectors, and construction laborers.

NOTICE REGARDING THE EQUAL BENEFITS ORDINANCE

As a condition of being awarded a contract with the City of Berkeley, the selected Contractor shall be required, during the performance of the agreement, to comply with the City's non-discrimination provisions of the Equal Benefits Ordinance (EBO) as set forth in Berkeley Municipal Code, Chapter 13.29.

The EBO requires that during the performance of a contract, the Contractor shall provide equal benefits to its employees with spouses and employees with domestic partners.

The EBO is applicable to the following employers:

- For-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$25,000 or more
- Non-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$100,000 or more
- Lessees of public property, licensees, concessionaires, and franchises that generate \$350,000 or more in annual gross receipts
- Entities which receive a grant agreement of \$100,000 or more

Contractors who are subject to the EBO must certify to the City that they are in compliance with the EBO and post this notice in a conspicuous place where all employees can see it. Subject contractors must also allow authorized City representatives access to records so the City can verify compliance with the Ordinance.

**Compliance with the EBO**

If a Contractor has not received a waiver from complying with the EBO and the timeframe within which it can delay implementation has expired but it has failed to comply with the EBO, the Contractor may be deemed to be in material breach of the City agreement. In such cases, the City may cancel, terminate or suspend the City agreement, in whole or in part. The City also may deem the Contractor an irresponsible bidder and disqualify the Contractor from contracting with the City for a period of five years. In addition, the City may assess liquidated damages against the Contractor which may be deducted from money otherwise due the Contractor, and pursue any other remedies available at law or in equity.

**Violations:** Any suspected violations of the EBO should be reported to:

EBO Compliance Officer  
City Manager's Office  
2180 Milvia St

CITY OF BERKELEY  
EQUAL BENEFITS ORDINANCE DISCLOSURE FORM

As a condition of being awarded a contract with the City of Berkeley, the selected Contractor/Vendor (“Contractor”) may be required, during the performance of the contract, to comply with the City’s non-discrimination provisions of the Equal Benefits Ordinance (“EBO”) as set forth in Berkeley Municipal Code, Chapter 13.29. The EBO requires that during the performance of a contract, the Contractor shall provide equal benefits to its employees with spouses and employees with domestic partners. Benefits include, but are not limited to, health benefits, bereavement leave, family medical leaves, membership and membership discounts, moving expenses, retirement benefits, and travel benefits. A cash equivalent payment is permitted if an employer has taken all reasonable efforts to provide domestic partner’s with access to benefits but is unable to do so. A situation in which a cash equivalent payment might be used is if the employer has difficulty finding an insurance provider that is willing to provide domestic partner benefits

The EBO is applicable to the following employers:

- For-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$25,000 or more
- Non-profit employers that have a contract with the City for the purchase of goods, services, public works or improvements, and other construction projects in the amount of \$100,000 or more
- Lessees of public property, licensees, concessionaires, and franchises that generate \$350,000 or more in annual gross receipts
- Entities which receive a grant agreement of \$100,000 or more

Contractors who are subject to the EBO must certify to the City before execution of the contract by completing form EBO-1 that they are in compliance with the EBO or have been issued a waiver by the City. Contractors must also allow authorized City representatives access to records so the City can verify compliance with the Ordinance.

The EBO includes provisions that address difficulties associated with implementing procedures to comply with the EBO. Contractors can delay implementation of procedures to comply with the EBO in the following situations:

- (1) until the first effective date after the first open enrollment process following the contract execution date, not to exceed two years if the Contractor submits evidence of engaging in reasonable efforts to comply with the EBO;
- (2) until administrative steps can be taken to incorporate nondiscrimination in benefits in the contractor’s infrastructure, not to exceed three months, unless extended at the discretion of the City Manager; and

(3) until the expiration of a Contractor's current collective bargaining agreement(s)

**Compliance with the EBO**

If a Contractor has not received a waiver from complying with the EBO and the timeframe within which it can delay implementation has expired but it has failed to comply with the EBO, the Contractor may be deemed to be in material breach of the City agreement. In the event of a material breach, the City may cancel, terminate or suspend the City agreement, in whole or in part. The City also may deem the Contractor an irresponsible bidder and disqualify the Contractor from contracting with the City for a period of five years. In addition, the City may assess liquidated damages against the Contractor which may be deducted from money otherwise due the Contractor, and pursue any other remedies available at law or in equity.

By my signature below, I acknowledge that the Contractor understands that to the extent it is subject to the provisions of B.M.C. Chapter 13.29, the Contractor shall comply with this provision.

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

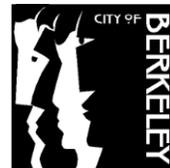
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Business Entity:  
\_\_\_\_\_

Contract Description/Specification No: **AQUATIC PARK PADDLING AND ROWING CLUB PARKING LOT IMPROVEMENTS PROJECT / 22-11514-C**

To be completed by Contractor/Vendor
---

**Form EBO-1  
 CITY OF BERKELEY**



**CERTIFICATION OF COMPLIANCE WITH EQUAL BENEFITS ORDINANCE**

If you are a **contractor**, return this form to the originating department/project manager. If you are a **vendor** (supplier of goods), return this form to the Purchasing Division of the Finance Dept.

**SECTION 1. CONTRACTOR/VENDOR INFORMATION**

Name:		Vendor No.:	
Address:	City:	State:	ZIP:
Contact Person:		Telephone:	
E-mail Address:		Fax No.:	

**SECTION 2. COMPLIANCE QUESTIONS**

- A. The EBO is inapplicable to this contract because the contractor/vendor has no employees.  
 Yes  No *(If "Yes," proceed to Section 5; if "No," continue to the next question.)*
- B. Does your company provide (or make available at the employees' expense) any employee benefits?  
 Yes  No  
 If "Yes," continue to Question C.  
 If "No," proceed to Section 5. (The EBO is not applicable to you.)
- C. Does your company provide (or make available at the employees' expense) any benefits to the spouse of an employee?.....  Yes  No
- D. Does your company provide (or make available at the employees' expense) any benefits to the domestic partner of an employee? .....  Yes  No  
**If you answered "No" to both** Questions C and D, proceed to Section 5. (The EBO is not applicable to this contract.)  
**If you answered "Yes" to both** Questions C and D, please continue to Question E.  
**If you answered "Yes"** to Question C and **"No"** to Question D, please continue to Section 3.
- E. Are the benefits that are available to the spouse of an employee identical to the benefits that are available to the domestic partner of the employee?.....  Yes  No  
**If you answered "Yes,"** proceed to Section 4. (You are in compliance with the EBO.)  
**If you answered "No,"** continue to Section 3.

**SECTION 3. PROVISIONAL COMPLIANCE**

- A. Contractor/vendor is not in compliance with the EBO now but will comply by the following date:
  - By the first effective date after the first open enrollment process following the contract start date, not to exceed two years, if the Contractor submits evidence of taking reasonable measures to comply with the EBO; or
  - At such time that administrative steps can be taken to incorporate nondiscrimination in benefits in the Contractor's infrastructure, not to exceed three months; or

Upon expiration of the contractor's current collective bargaining agreement(s).

B. If you have taken all reasonable measures to comply with the EBO but are unable to do so, do you agree to provide employees with a cash equivalent?\* .....  Yes  No

\* The cash equivalent is the amount of money your company pays for spousal benefits that are unavailable for domestic partners.

### SECTION 4. REQUIRED DOCUMENTATION

At time of issuance of purchase order or contract award, you may be required by the City to provide documentation (copy of employee handbook, eligibility statement from your plans, insurance provider statements, etc.) to verify that you do not discriminate in the provision of benefits.

### SECTION 5. CERTIFICATION

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I am authorized to bind this entity contractually. By signing this certification, I further agree to comply with all additional obligations of the Equal Benefits Ordinance that are set forth in the Berkeley Municipal Code and in the terms of the contract or purchase order with the City.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, in the year \_\_\_\_\_, at \_\_\_\_\_, \_\_\_\_\_  
(City) (State)

\_\_\_\_\_  
Name (please print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Federal ID or Social Security Number

#### Article I. FOR CITY OF BERKELEY USE ONLY

Non-Compliant (The City may not do business with this contractor/vendor)

One-Person Contractor/Vendor  Full Compliance  Reasonable Measures

Provisional Compliance Category, Full Compliance by Date: \_\_\_\_\_

Staff Name(*Sign and Print*): \_\_\_\_\_ Date: \_\_\_\_\_

CITY OF BERKELEY  
SANCTUARY CITY COMPLIANCE STATEMENT

The undersigned, an authorized agent of \_\_\_\_\_ (hereafter "Contractor"), has had an opportunity to review the requirements of Berkeley Code Chapter 13.105 (hereafter "Sanctuary City Contracting Ordinance" or "SCCO"). Contractor understands and agrees that the City may choose with whom it will maintain business relations and may refrain from contracting with any person or entity that provides Data Broker or Extreme Vetting services to the U.S. Immigration and Customs Enforcement Division of the United States Department of Homeland Security ("ICE"). Contractor understands the meaning of the following terms used in the SCCO:

- a. "Data Broker" means either of the following:
  - i. The collection of information, including personal information about consumers, from a wide variety of sources for the purposes of reselling such information to their customers, which include both private-sector business and government agencies;
  - ii. The aggregation of data that was collected for another purpose from that for which it is ultimately used.
  
- b. "Extreme Vetting" means data mining, threat modeling, predictive risk analysis, or other similar services." Extreme Vetting does not include:
  - i. The City's computer-network health and performance tools;
  - ii. Cybersecurity capabilities, technologies and systems used by the City of Berkeley Department of Information Technology to predict, monitor for, prevent, and protect technology infrastructure and systems owned and operated by the City of Berkeley from potential cybersecurity events and cyber-forensic based investigations and prosecutions of illegal computer based activity.

Contractor understands that it is not eligible to receive or retain a City contract if at the time the Contract is executed, or at any time during the term of the Contract, it provides Data Broker or Extreme Vetting services to ICE.

Contractor further understands and agrees that Contractor's failure to comply with the SCCO shall constitute a material default of the Contract and the City Manager may terminate the Contract and bar Contractor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.

By executing this Statement, Contractor certifies that it complies with the requirements of the SCCO and that if any time during the term of the Contract it ceases to comply, Contractor will promptly notify the City Manager in writing. Any person or entity who knowingly or willingly supplies false information in violation of the SCCO shall be guilty of a misdemeanor and up to a \$1,000 fine.

Based on the foregoing, the undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, at \_\_\_\_\_, California.

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

Business Entity: \_\_\_\_\_

CITY OF BERKELEY  
PERFORMANCE BOND  
CALIFORNIA PUBLIC WORKS

KNOW ALL MEN BY THESE PRESENTS,

That we, \_\_\_\_\_  
\_\_\_\_\_ as Principal, and  
\_\_\_\_\_, a Corporation organized and  
existing under the laws of the State of \_\_\_\_\_ and authorized to  
transact surety business in the State of California, as Surety, are held and firmly bound unto the City  
of Berkeley (hereinafter called Obligee), in the sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_), for the payment whereof well and truly to be made and  
we each of us bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and  
severally, firmly by these presents.

THE CONDITION of the above obligation is such that, Whereas, the above named bounden  
principal entered into a contract dated \_\_\_\_\_, 20 \_\_\_\_ with the said Obligee to  
do and perform the following work, to-wit:

which contract is hereby referred to, incorporated by reference, and made a part hereof as fully  
and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That  
if the above bounden Principal shall well and truly keep, do, pay and perform, each and every, all and  
singular, all the matters, provisions, undertakings, covenants, terms, conditions, agreements and  
things in said contract set forth and specified to be by the said principal kept, done, paid and performed  
at the time and in the manner in said contract specified, and shall pay over, make good and reimburse  
to the above-named Obligee, all loss and damages which said Obligee may sustain by reason of failure  
or default, or breach on the part of said Principal, then this obligation shall be void; otherwise to be  
and remain in full force and effect.

Whenever Principal shall be, and is declared by Obligee to be in default under the Contract,  
the Obligee having performed Obligee's obligations thereunder, the Surety may promptly remedy the  
default, or shall promptly:

- 1) Complete the Contract in accordance with its terms, provisions, undertakings, covenants,  
agreements, clauses, and conditions, or
- 2) Obtain a bid or bids for completing the Contract in accordance with its terms, provisions,  
undertakings, covenants, agreements, clauses, and conditions, and upon determination by Surety of  
the lowest responsible bidder, or, if the Obligee elects, upon determination by the Obligee and the  
Surety jointly of the lowest responsible bidder, arrange for a contract between such Bidder and  
Obligee, and make available as work progresses (even though there should be a default or a succession  
of defaults under the contract of completion arranged under this paragraph) sufficient funds to pay  
the cost of completion less the balance of the contract price, but not exceeding, including other costs

and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the amount

payable by Obligee to principal under the contract and amendments, thereto, less the amount properly paid by Obligee to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Obligee named herein or the heirs, executors, administrators or successors of Obligee.

If any action or law or in equity is brought to enforce or interpret the provisions of this bond, the prevailing party shall be entitled to reasonable attorney's fees in addition to any other relief to which it may be entitled.

SIGNED AND SEALED THIS \_\_\_\_\_ day of

\_\_\_\_\_, 20 \_\_\_\_\_.

\_\_\_\_\_

\_\_\_\_\_  
Principal

\_\_\_\_\_

\_\_\_\_\_  
Surety Attorney In Fact

COMMERCIAL GENERAL AND AUTOMOBILE LIABILITY ENDORSEMENT

The attached Certificates of Insurance are hereby certified to be a part of the following policies having the following expiration dates:

Policy No.	Company Providing Policy	Expir. Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

The scope of the insurance afforded by the policies designated in the attached certificates is not less than that which is afforded by the Insurance Service Organization's or other "Standard Provisions" forms in use by the insurance company in the territory in which coverage is afforded.

Such Policies provide for or are hereby amended to provide for the following:

1. The named insured is \_\_\_\_\_.
2. CITY OF BERKELEY ("City") is hereby included as an additional insured with respect to liability arising out of the hazards or operations under or in connection with the following agreement:  
\_\_\_\_\_.

The insurance provided applies as though separate policies are in effect for both the named insured and City, but does not increase the limits of liability set forth in said policies.

3. The limits of liability under the policies are not less than those shown on the certificate to which this endorsement is attached.
4. Cancellation or material reduction of this coverage will not be effective until thirty (30) days following written notice to City Engineer, Engineering Division, Department of Public Works, Berkeley, CA.
5. This insurance is primary and insurer is not entitled to any contribution from insurance in effect for City.

The term "City" includes successors and assigns of City and the officers, employees, agents and volunteers.

\_\_\_\_\_  
Insurance Company

Date: \_\_\_\_\_ By: \_\_\_\_\_  
Signature of Underwriter's  
Authorized Representative

CITY OF BERKELEY  
RIGHT TO AUDIT FORM

The contractor agrees that pursuant to Section 61 of the Berkeley City Charter, the City Auditor's office may conduct an audit of Contractor's financial, performance and compliance records maintained in connection with the operations and services performed under this contract.

In the event of such audit, Contractor agrees to provide the Auditor with reasonable access to Contractor's employees and make all such financial, performance and compliance records available to the Auditor's office. City agrees to provide Contractor an opportunity to discuss and respond to/any findings before a final audit report is filed.

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

Print Name & Title: \_\_\_\_\_

Company: \_\_\_\_\_

Questions regarding this form may be directed to the Auditor's Office, at (510) 981-6750

PART A – GENERAL PROVISIONS

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**SECTION 1 - DEFINITION OF TERMS**

- 101.1 -- Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms are used, they shall have the following meanings:
- 101.2 AASHTO -- The latest revised specifications of the American Association of State Highway and Transportation officials.
- 101.3 As Directed -- As directed by the Engineer or his designated representative.
- 101.4 ASTM -- The latest revised specifications of the American Society for Testing Materials.
- 101.5 Standard Specifications -- The latest revised "Standard Specifications for Public Works Construction" by the Southern California Chapter, American Public Works Association, Part 2 and Part 3, construction materials and construction methods respectively, as amended herein.
- 101.6 Bidder -- Any individual, firm, partnership, or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.
- 101.7 City, Agency -- City of Berkeley.
- 101.8 Council -- City Council of the City of Berkeley.
- 101.9 Engineer -- The Assistant City Manager for Public Works of the City of Berkeley or his designated representatives.
- 101.10 Contract -- The written agreement covering the performance of the work.

- 101.11 Contractor -- The person or persons, partnership, association or corporation, private or municipal, who have entered into a contract with the City, as party or parties of the second part of his or their legal representatives.
- 101.12 Laboratory -- The official testing laboratory of the City or other laboratories authorized by the Engineer.
- 101.13 Proposal -- The written offer of the bidder for the work when made out and submitted on the prescribed proposal form, properly signed and guaranteed.
- 101.14 Proposal Guaranty -- The security required by the notice to bidders to be furnished by the bidder as a guaranty that the bidder will enter into a contract for the construction of the work if it is awarded to him.
- 101.15 Plans -- The official plans, profiles, cross-sections, details working drawings, and mental drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as a part of the contract supplementary to these specifications.
- 101.16 Purchasing Agent -- The Purchasing Agent of the City of Berkeley.
- 101.17 Specifications -- The directions, provisions, and requirements contained herein, supplemented by special provisions, pertaining to the method and manner of performing the work, and to the quantities and qualities of materials to be furnished under the contract. The term specifications shall include the General Provisions, Detailed and Technical Specifications, Special Provisions, Standard Details, the Contract Documents, and all supplementary agreements entered into between the contracting parties.

- 101.18 Subcontractor -- The person or persons, partnership, association, or corporation, private or municipal, who have a direct contract with the contractor. It includes one who furnishes material worked to a special design according to the plans or specifications of the work, but does not include one who merely furnishes material.
- 101.19 Street -- Any dedicated right-of-way for public use as an avenue, highway, lane alley, court, crossing, or intersection.
- 101.20 The Work -- All the work described in the specifications and contract or indicated on the plans as the contemplated improvement covered by the contract.
- 101.21 Contract Change Order -- A written order to the Contractor signed by the Engineer directing an addition, deletion or revision in the work, or an adjustment in the contract price or the contract time issued after the effective date of the contract. A change order may or may not also be signed by the Contractor.
- 101.22 Allowance -- An inexact bid quantity listed on the Bidder's Proposal in anticipation that work of the particular nature will be required, but the quantity is not known until the work of the whole is in progress or completed. The quantity listed is for comparison of total bids. Bidder agrees to do each unit of work for the unit price bid in the proposal.
- 101.23 Resident Engineer -- Designated inspection representative(s) of the Engineer.

## SECTION 2 - PROPOSAL REQUIREMENTS AND CONDITIONS

201.1 Availability of Plans and Specifications. Plans and specifications may be examined at the office of the Engineering Division. Copies of the plans and specifications are available at the office of the Engineering Division. Copies of the Notice to Bidders and proposal forms may be obtained from the Engineering Division.

201.2 Approximate Estimate. The quantities given in the Notice to Bidders, proposal, and contract forms are approximate only, being given as a basis for the comparison of bids, and the City does not, expressly or by implication, agree that the actual amount of work will correspond therewith. For work bid on a lump sum price basis, any estimate of quantities is provided only for the convenience of Bidders and is not guaranteed correct by the City.

201.3 Examination of Plans, Specifications, and Site of the Work. The Bidder shall examine carefully the site of the work contemplated and the proposal, plans, specifications, and contract forms therefore. It will be assumed that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of these specifications, the plans, and the contract.

201.4 Proposal Form. All proposals must be submitted on forms for that purpose furnished by the City. Letters of transmittal cannot be considered as part of the bid.

All proposals shall give the prices proposed, and shall be signed by the Bidder, who must give his address. The Bidder shall fill out all blanks in the proposal form as therein required. In case of error, unit prices will govern over extensions and written words will govern over numerals, unless it can be established that an obviously incorrect entry has been made.

201.5 Rejection of Proposals Containing Alterations or Irregularities. Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, or irregularities of any kind. When proposals are signed by an agent, other than an officer or manager of a corporation or a member of a partnership, a power of attorney or written authorization must be on file with the City prior to opening bids or shall be submitted with the proposal; otherwise, the proposal will be rejected as irregular and unauthorized.

201.6 Proposals Guaranty. All bids shall be presented in a sealed envelope and shall be accompanied by a "proposal guaranty" made payable to "City of Berkeley" and for the amount equal to at least ten percent (10%) of the bid unless otherwise specified on the "Notice to Bidders". Said guaranty shall be an unconditional certified or cashier's check, or a bank or postal money order, or bid bond executed as surety by a corporation authorized to issue surety bonds in the State of California.

201.7 Withdrawal of Proposals. Any bid may be withdrawn at any time prior to but not after, the hour fixed in the public notice for the opening of bids, provided that a request in writing executed by the Bidder or his duly authorized representative, for the withdrawal of such bid is filed with the Purchasing Agent. The withdrawal of a bid shall not prejudice the right of a Bidder to file a new bid.

201.8 Disqualification of Bidders. More than one proposal from an individual, a firm or partnership, a corporation or an association under the same or different names will not be considered. Reasonable ground for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. If there is a reason of believing that collusion exists among the Bidders, none of the participants in such collusion will be considered in this or future proposals. Proposals in which the prices are unbalanced may be rejected.

201.9 Competency of Bidders. Prior to the submission of bids, the Contractor shall be licensed in accordance with the provisions of Chapter 9 of Division III of the Business and Professional Code of the State of California and evidence of such license shall be presented to the Engineer on request.

The Engineer may require the Bidder to present satisfactory evidence that he has sufficient experience and that he is fully prepared with the necessary capital, materials, machinery, and skilled workmen to carry out the contract.

201.10 Material Guaranty. Before any contract is awarded, Bidders may be required to furnish a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work, together with samples, which samples may be subjected to the tests provided for in these specifications to determine their quality and fitness for the work.

201.11 Addenda. Prior to the time set for opening of bids, the Engineer may issue addenda for clarification of the plans or specifications or for minor alterations in the work. Such addenda shall take precedence over plans, specifications, and all other Contract Documents issued prior to the opening of bids.

### SECTION 3 - AWARD AND EXECUTION OF CONTRACT

301.1 Consideration of Bids. Bids will be opened publicly by the Purchasing Agent of the City on the date and at the time set forth in the "Notice to Bidders." The right is reserved by the City by action of the Council to reject any or all bids, to advertise for new proposals, to negotiate in the open market for a contract at a reasonable price, to purchase in the open market, or to have the work performed by City employees, or to abandon the work, if in the judgement of the Council, the best interests of the City will be promoted thereby.

DETERMINATION OF LOW BIDDER. The low Bidder for purposes of award will be the conforming responsible Bidder offering the lowest total amount for the Total Base Bid shown in the Bidder's Proposal.

301.2 Award of Contract. The award of the contract, if awarded, will be to the lowest responsive Bidder whose proposal complies with all the requirements prescribed. The award, if made, will be made within seventy-five (75) calendar days after the opening of the proposals.

All bids will be compared on the basis of the Engineer's estimate of the quantities of work to be done.

301.3 Return of Proposal Guarantees. All proposal guarantees will be held by the City until the contract has been authorized by Council resolution and signed by the City Manager after which guarantees for unsuccessful proposals will be returned to the unsuccessful Bidders. If bids are rejected, the proposal guarantees will be returned after the date of the rejection.

301.4 Contract Bonds. At the time of execution of the contract by the City Manager, the Contractor will be required to furnish a Surety Company contract bond for faithful performance in the sum of not less than one hundred percent (100%) of the amount of his contract, in addition to which he will be required to furnish a Surety Company labor and material bond in the sum of not less than one hundred percent (100%) of the amount of the contract in accordance with the provisions of state laws.

Alterations, extensions of time, extra and additional work, and other changes authorized by these specifications or any part of the contract may be made without securing the consent of the Surety or Sureties on the contract bonds.

301.5 Execution of Contract. The Bidder's Proposal (offer) shall become a binding contract on the parties when the award of a contract pursuant to said proposal is authorized by resolution of

the City Council. The proposal will then be executed in writing by the City Manager, or his/her authorized representative, in the name of the City.

- 301.6 Failure to Perform Contract. If the successful Bidder fails to begin performance of the contract within thirty (30) calendar days from the date of the award of the contract, the City will either let the contract to the next lowest Bidder or will reject all other bids and call for new bids. The successful Bidder who has failed to begin performance of the contract shall be liable to the City for the sum, not exceeding the amount of such cash, check, money order or bond as shall have been deposited as a proposal guaranty, by which the amount of the contract, covering the said proposal, executed by and between the City and some third party, may exceed the amount bid by the original successful Bidder. Such portion of said cash, check, money order, or original bond as equals said sum shall be deemed to be liquidated damages and shall be declared forfeited to the City and shall be collected and paid to the City.

## SECTION 4 - SCOPE OF WORK

401.1 Work to be Done. The intent is to prescribe complete work or improvement which the Contractor undertakes to do in full compliance with the plans, specifications, and contract. The Contractor shall perform all items of work covered and stipulated in the specifications and contract, together with any extra work, all in accordance with lines, grades, cross-sections, and dimensions shown on the plans. It is further intended that all miscellaneous work required to make driveways, sidewalks, intersections, roof drains, and other privately owned improvements conform to the new work shall be performed by the Contractor. The Contractor shall furnish, unless otherwise provided in these specifications, all material, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work.

All work described in the plans and specifications will be let under one contract unless otherwise set forth in the Notice to Bidders or on the Bidder's Proposal.

401.2 Alterations and Increased or Decreased Quantities. The City reserves the right in writing, to increase or decrease the quantity, to order additions to, omissions from, or corrections, alterations and modifications in the line, grade, form dimensions, plan or kind or amount of work, or materials herein contemplated, or any part thereof, either before or after the beginning of construction, as may be deemed necessary or advisable by the Engineer, provided such alterations do not change the total cost of the project, based on original estimated quantities and the unit prices bid, by more than twenty percent (20%), and provided further that such items do not change the total cost of any major item by more than fifty percent (50%). (A major item is one, the total cost of which is more than ten percent (10%) of the total contract price.) Any alterations in excess of these limits will be treated as extra work and will be covered by a contract change order, the same as though the alteration were an extra work item.

Should conditions during the progress of the work make it impossible for the Contractor to comply strictly with the terms of the contract, the Contractor shall apply in writing to the Engineer for an alteration, provided that it is not detrimental to the work or does not entail additional cost. If such alteration is acceptable to the Engineer, the Contractor shall be notified in writing, whereupon the alteration may be made. When such alteration is not acceptable to the Engineer, the Contractor shall determine some other method of doing the work which shall be acceptable.

Such alteration and increased or decreased quantities shall in no way affect or make void this contract or any part thereof, except what is necessarily affected by such alteration and is clearly the evident intention of the parties to this contract.

401.3 Extra Work. New and unforeseen items of work will be classed as extra work when they

cannot be covered by any of the various items for which there is a bid price or by combinations of such items, or if the character of an item is materially changed on which the Contractor based his bid price, and that change materially increases or decreases the cost of the item as outlined in Section 401.2 hereof.

Prices for extra work shall be itemized and covered by a contract change order submitted by the Contractor and approved by the Engineer prior to actual starting of such work.

Should the parties be unable to agree on unit prices for the extra work, or if it is impractical, the Engineer may instruct the Contractor to proceed with the work by force account and he shall be paid as provided in Section 901.2 of these specifications.

401.4 Unauthorized Work. Work done without lines and grades being given, work done beyond the lines and grades shown on the plans, work done in the absence or without the knowledge of the Engineer, including any work performed by subcontractors without proper superintendence by the Contractor, as provided for in Section 501.6, or any extra work done without written authority, will be considered as unauthorized and at the expense of the Contractor and will not be measured or paid for by the City.

401.5 Protection of Utilities. A preliminary study of the location of underground utilities within the limits of the work has been made. The location of the underground utilities indicated on the plans is not guaranteed to be accurate or complete, but is plotted for the general information of the Contractor. The Contractor shall contact Underground Service Alert (USA) at (800) 227-2600 at least four (4) working days before excavating, to allow utility companies to mark and identify their respective utilities within the limit of the work. Aboveground utilities are not shown on the plans. It shall be the responsibility of the Contractor to coordinate and determine the exact locations and/or depths of all of the aboveground utilities, underground utilities, and their service locations.

The Contractor shall be responsible for protecting and supporting the aboveground utilities and the identified underground utilities that occur in the limits of the work with a method acceptable to the respective utility owners. The cost of protecting and supporting the utilities shall be included in the bid prices for the various items of work. Any identified damage to the SBC Telephone, PG&E, EBMUD, or Cable TV lines shall be repaired by the respective utility owner at the Contractor's expense.

See also Sections 701.25.1 and 701.25.2.

401.6 Cleaning Up. The Contractor shall not allow the site of the work to become littered with trash, rubbish, and waste material but shall maintain the same in a neat and orderly condition throughout the construction period. The Engineer shall have the right to determine what is or is not trash, rubbish or waste material and the place and manner of disposal.

The Contractor shall maintain a neat appearance to the work. Contractor shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids and cleaning solutions from surfaces to prevent marring or other damage.

Broken concrete debris, and unsuitable excavated native soil during construction shall be disposed of concurrently with its removal. If stockpiling is necessary all debris shall be placed in trash bins daily and shall be removed or disposed of weekly. Any waste shall not be buried on the site or disposed of into storm drains, sanitary sewers, streams, or waterways.

Forms or falsework that are to be re-used shall be stacked neatly concurrently with their removal. Forms and falsework that are not to be re-used shall be disposed of concurrently with their removal.

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Sidewalks, street area, parking strips, and driveway approaches must be kept reasonably clean at all times during construction and be completely and carefully cleaned after the work has progressed beyond the immediate vicinity to the satisfaction of the Engineer. Reasonable cleanup is defined as no dust, rock, or mud on any portion of the public right-of-way or the private properties as a result of the Contractor's work.

401.7 Dust and Debris Control. The Contractor shall be responsible for controlling dust in the air and rocks, debris, mud or dirt which are scattered as a result of his operations on the job. The Contractor shall be responsible for cleaning all mud, rock, dust, dirt, and debris-producing materials that originate in the project area and are deposited on other public or private property by truck tires, spillages, or by other means. The Contractor shall have suitable and adequate street cleaning equipment on the project site at all times.

The Contractor shall begin cleanup operation by 3 PM and before the end of each day's work, clean all paved portions of the project and paved streets leading from the project that have dust-producing materials or debris deposited upon them. The work areas shall be swept clean at the end of each day's work and at other times when directed by the Engineer.

The Contractor shall endeavor, whenever possible, to restrict the use of water to control dust for his convenience in order to conserve water during drought situations or mandated rationing required by the Water Utility Company. Whenever flushing of streets or any other work is necessary, the Contractor shall provide filter materials at the catch basin to retain any debris and dirt flowing into the City's drainage system.

The cost of the above work, including the providing of barricades, water and other materials, labor, and equipment shall be at the sole cost and expense of the Contractor.

The Engineer may determine that an emergency exists when dust, rocks, debris, mud, or dirt are scattered in the public right of way or in the private properties as a result of Contractor's activities and/or deterioration of such conditions due to rain. The emergency conditions may also be declared when traffic or the Contractor's equipment travelling through a job causes dust to fly or rocks, debris, mud, or dirt to be scattered. Similar emergency conditions may be determined by the Engineer if the storage of materials, tools, or any other equipment related to the project, in the public rights of way, is causing any obstruction or blocks access to the neighboring properties and/or dangerously placed without proper barricades and lights and/or backfill stockpiles or debris washing away into the street gutter and catch basins.

401.7-1 Emergency Cleanup Work. In any case in which the Contractor fails to satisfactorily complete the cleanup work described in this section, the Engineer or his representative may determine that an emergency exists. In the event an emergency is determined by the Engineer, the Contractor shall immediately make available manual labor or mechanical equipment capable of handling the cleaning process. During such an emergency, City forces may be called upon to complete the cleanup work, or the City may contract for the cleanup work. All construction work shall be shut down during this cleanup work by the City/contract forces. The Engineer may shut down further construction work until the violations are corrected to the satisfaction of the Engineer. The cost of the work performed by City/Contract forces plus an additional 70% surcharge shall be paid by the Contractor by deduction from payment due him on the contract. No compensation shall be given to the Contractor for stoppage of work.

Such action by the Engineer, however, shall not relieve the Contractor of his responsibility for any damages which may occur before, during or after such action has been taken by the Engineer, and shall place no liability upon the City or the Engineer.

401.8 Noise Control. All construction machinery and vehicles employed on the project shall be equipped with approved sound muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the work. Section 701.11 specifies time limitation in which engine driven equipment shall not be operated.

401.9 Temporary Light, Power, and Water. The Contractor shall at its own expense, furnish, install, maintain, and remove all temporary light, power, and water, including piping, wiring, lamps, and other equipment, necessary for the work. The Contractor shall not draw water from any fire hydrant, except to extinguish a fire, without first obtaining permission from the water agency concerned.

401.10 Coordination With Affected Residents. This contract may include a significant amount of work within construction easements in private property. The Contractor shall be required to provide

adequate notification to, and coordination with, the affected residents. At least 1 week prior to working in easements, the Contractor shall notify the affected residents in writing of the intention to perform work within their properties, the starting dates of work, and duration of the work. The Contractor shall only initiate an amount of work that can be reasonably completed on the same day. If the initiated work is unfinished, the Contractor shall provide adequate covers and appropriate barricades and warning signs to ensure public safety to the satisfaction of the Engineer. After completion of work in the easement area, the Contractor shall obtain written release from the property owners and give a copy to the Engineer. Any damages to the properties shall be restored and handled in accordance with Section 401.11 of this specification.

In addition, service connections may be required to be temporarily stopped for rehabilitation of the sewer mains and/or laterals. At least 1 week prior to working in a particular area, the Contractor shall notify the affected residents in writing of the intended work, the starting date and duration, and any coordination requirements to facilitate work progress. The Contractor shall be required to adequately notify affected residents of schedule changes.

For service connection disruptions required to make system improvements, the Contractor shall provide a second notice to residents/businesses not less than 48 hours prior to service interruption. For interruptions in service longer than the limits specified below, the Contractor shall at his cost arrange for and provide in-kind services. Maximum interruption time without provision of in-kind services for private residences shall be as follows:

Water Services: 4 hours  
Sewer Services: 7 hours

All interruptions shall be restored by the Contractor at the end of each day.

The Contractor shall plan for and provide the services of a septic tank pumper truck to periodically pump out any sewage which may accumulate in excavation pits at the two-way cleanout location. Alternatively, the Contractor may utilize submersible sewage pumps or trash pumps to convey the sewage from the pits to a functional portion of the existing sanitary sewer within the project area.

The Contractor shall at all times perform his lateral connection work so as to minimize the quantity of sewage which may accumulate, to minimize adverse impacts on public health and sanitation and to minimize the potential for odors. The Contractor shall at all times maintain an adequate supply of bottled chlorine bleach (sodium hypochlorite solution) to treat any accumulated sewage should this be determined necessary by the Engineer to minimize odors and to protect the public and workers' health.

All costs to the Contractor for coordination with the affected residents shall be included in bid prices for the replacement or rehabilitation of sewer mains and laterals.

401.11 Protection and Restoration of Existing Improvements. The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements and street pavements which are not designated for removal (e.g., street sections, curbs, gutters, driveways, fences, walls, structures, landscaping, etc.) which are damaged or removed as a result of its operations. Repairs and replacements shall be at least equal to existing improvements, and shall match them in finish and dimensions.

Prior to initiating work in the public right of way and in the easements, the Contractor shall make an audio/video cassette tape recording of the affected areas showing all existing improvements, and their conditions. The tapes shall be turned over to the Engineer and shall be used as a historical recording of the pre-construction conditions. The costs of the pre-construction audio-visual survey shall be the responsibility of the Contractor.

Any damages to the private properties will be restored to the satisfaction of the property owners/Engineer within seven (7) days of the damage(s).

Damages within the public right of way including street pavement will be restored to the satisfaction of the Engineer after work on that particular block is completed.

401.12 Submittals. Where required by the specifications, the Contractor shall submit descriptive information which will enable the Engineer to advise the Agency whether the Contractor's proposed materials, equipment or methods of work are in general conformance to the design concept and in compliance with the drawings and specifications. The information to be submitted shall consist of proposed construction schedule, traffic control plan, shoring, sheeting and bracing as required drawings, specifications, descriptive data, certificates, samples, test results and such other information, all as specifically required in the specifications. In some instances, specified submittal information described some, but not all, features of the material, equipment, or method of work. Features not requiring submittals shall be as specified.

401.12-1 Contractor's Responsibilities. Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the drawings. Submittal documents shall be clearly edited to indicate only those items, models, or series of equipment, which are being submitted for review. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall insure that there is no conflict with other submittals and notify the Engineer in each case where his submittal may affect the work of another contractor or the Agency. The Contractor shall insure coordination of submittals among the related crafts and subcontractors.

401.12-2 Transmittal Procedure

401.12-2a General. Submittals regarding material and equipment shall be accompanied by a transmittal form. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

401.12-2b Deviation from Contract. If the Contractor proposes to provide material, equipment, or method of work which deviates from the requirements of the plans and specifications, he shall indicate as "deviation" on the transmittal form accompanying the submittal copies.

401.12-2c Submittal Completeness. Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review.

401.12-3 Review Procedure. Submittals are specified for those features and characteristics of materials, equipment, and methods of operation which can be selected based on the Contractor's judgment of their conformance to the requirements of the plans and specifications. Other features and characteristics are specified in a manner which enables the Contractor to determine acceptable options without submittals. The review procedure is based on the Contractor's guarantee that all features and characteristics not requiring submittals conform to the plans and specifications. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights or gages, or fabrication processes except where specifically indicated or required by the contract documents or to safety precautions or programs incident thereto. Review of a separate item, as such, will not indicate approval of the assembly in which the item functions.

When the contract documents require a submittal, the Contractor shall submit the specified information as follows:

1. One reproducible original of all the submitted information. When individual sheets in the submittal exceed 8-1/2 inches x 11 inches, a sepia shall be submitted.
2. Four copies of all the submitted information.

Unless otherwise specified, within 10 calendar days after receipt of the submittal, the Engineer shall review the submittal and return one copy of the marked-up reproducible original noted in 1 above. The reproducible original will be retained by the Engineer. The returned submittal shall indicate one of the

following actions:

1. If the review indicates that the material, equipment or work method complies with the contract documents, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.

2. If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections.

3. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT." Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

4. If the review indicates that the material, equipment, or work method does not comply with the contract documents, copies of the submittal will be marked "REJECTED -SEE REMARKS." Submittals with deviations which have not been identified clearly may be rejected. Except at his own risk, the Contractor shall not undertake the work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or " MAKE CORRECTIONS NOTED."

401.12-4 Effect of Review of Contractor's Submittals. Review of drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Engineer or the Agency, or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the Agency has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.

401.13 Final Cleaning Up. Upon completion of the work, and before acceptance and final payment, the Contractor shall clean the project areas and remove all surplus and discarded materials, falsework, rubbish and temporary structures and restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the work, and shall leave the improvement in a neat and presentable condition throughout the entire length of the improvement under contract to the satisfaction of the Engineer. If the Conditions as noted above are not corrected immediately, the Engineer may declare an emergency and take necessary action in accordance with Section 401.7-1 of this specification.

401.14 Changed Conditions. The Contractor shall notify the Engineer in writing of the following Work site conditions, hereinafter called changed conditions, promptly upon their discovery and before they are disturbed.

1. Subsurface or latent physical conditions differing materially from those represented in the Contract; and

2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed.

The Engineer will promptly investigate conditions when notified or any conditions discovered by him which appear to be changed conditions. If the Engineer determines that the conditions are changed conditions and that they will materially increase or decrease the costs of any portion of the Work, a Change Order will be issued adjusting the compensation for such portion of the work in accordance with Subsection 401.3. If the Engineer determines that conditions of which has been notified by the Contractor do not justify an adjustment in compensation, the Contractor will be so advised in writing. Should the Contractor disagree with such determination, it may submit a notice of potential claim to the Engineer, as provided in Subsection 501.12.

If the Engineer determines that the conditions are changed conditions and that they will materially affect the performance time, the Contractor, upon submitting a written request, may be granted an extension of time subject to the provisions of Subsection 801.7.1.

The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

401.15 As-Built Records. The Contractor shall maintain at the jobsite one (1) set of Plans marked to show any deviations which have been made from the Plans, including buried or concealed construction and utility features revealed during the course of construction. Record the horizontal and vertical location of all buried utilities that differ from the Plans. These Plans shall be available for review by the Engineer at all times. Upon completion of the work, deliver the marked set of prints in good condition to the Engineer for incorporation into the original drawings.

## SECTION 5 - CONTROL OF THE WORK

501.1 Authority of the Engineer. The Engineer shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner or performance and rate of progress of the work; all questions which may arise as to the interpretation of the Plans and Specifications; all questions as to the acceptable fulfillment of the contract on the part of the Contractor; and all questions as to compensation. His decision shall be final and he shall have authority to enforce and make effective such decisions and orders which the Contractor fails to carry out promptly.

501.2 Plans. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made in any plan or drawing after the same has been approved by the Engineer, except by direction of the Engineer. Where at any time reference is made to the plans, the interpretation shall be the plans as affected by all authorized alterations then in effect.

501.3 Conformity with Plans and Allowable Deviation. Finished surfaces in all cases shall conform with the lines, grades, cross sections, and dimensions shown on the approved plans. Deviation from the approved plans, as may be required by the exigencies of construction, will, in all cases, be determined by the Engineer and authorized in writing.

501.4 Coordination with Contract Documents. These specifications, the plans, and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be cooperative, to describe and provide for a complete work. If there is a conflict between Contract Documents, the document highest in precedence shall control. The precedence shall be:

1. Federal and State requirements.
2. Permits from other agencies as may be required by law.
3. Special Provisions
4. General Provisions
5. Contract Plans, including General Notes.
6. Standard Details.
7. Amendments to the Standard Specifications for Public Works Construction, 1985 Edition.

8. Standard Specifications for Public Works Construction, 1985 Edition, Part 2 - Construction Materials and Part 3 - Construction Methods.
9. Reference Specifications.

Change orders, supplemental agreements, and approved revisions to Plans and Specifications will take precedence over documents listed above. Detailed plans shall have precedence over general plans.

501.5 Interpretation of Plans and Specifications. Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Plans or Specifications, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to the same as part of the contract, so far as may be consistent with the original specifications; and in the event of any doubt or question arising regarding the true meaning of the Specifications, reference shall be made to the Engineer, whose decision thereon shall be final.

In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.

Any part of the work which is not mentioned in the Specifications, but is shown in the Plans, or any part not shown on the Plans but described in the Specifications, shall be performed by the Contractor.

501.6 Superintendence. The Contractor will be supplied with three copies of the Plans and Specifications. Additional sets of Plans and Specifications shall be provided at the Contractor's cost which shall be equal to the City's reproduction costs. The Contractor shall have available on the work, at all times, one copy of each of said Plans and Specifications; he shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Engineer and with other contractors in every way. The Contractor shall, at all times, have a competent superintendent capable of reading and thoroughly understanding the Plans and Specifications, as his agent on the work, who shall receive instructions from the Engineer or his authorized representatives.

The superintendent shall have full authority to execute the order or directions of the Engineer without delay and to promptly supply such materials, tools, plant equipment, and labor as may be required. Such superintendent shall be furnished irrespective of the amount of work sublet.

501.7 Lines and Grades. Lines and grades for the work will be given by the Engineer. The Contractor shall give at least 48 hours' notice when he will require the services of the Engineer for laying out any portion of the work.

The Contractor may be required to furnish labor, at no extra cost to the City, to assist the City survey party. In general, this would mean the occasional furnishing of a laborer to drive stakes, pull manhole covers,

move obstructions, etc., in order to expedite the work.

The Contractor shall protect stakes set by City surveyors by placing guard stakes or large objects to protect them from damage. The Engineer shall charge the Contractor for all time spent resetting stakes.

501.8 Authority and Duties of Resident Engineer. Duly authorized Resident Engineers, who shall perform their duties under the direction of the Engineer, will be assigned to the project or each part thereof. The presence of the Resident Engineer shall in no way lessen the responsibility of the Contractor. In case of any dispute arising between the Contractor and the Resident Engineer as to materials furnished or the manner of performing work, the Resident Engineer shall have authority to reject materials or suspend the work until the questions at issue can be referred to and decided by the Engineer. The Resident Engineer is not authorized to revoke, alter, enlarge, relax, or release any requirement to these specifications, nor to approve or accept any portion of the work, nor to issue instructions contrary to the Plans and Specifications.

501.9 Inspection. The Contractor shall furnish the Engineer or his designated representative with access to the work for ascertaining whether the work performed and materials used are in accordance with the requirements and intent of the specifications and contract.

The Contractor shall give the Engineer or his representative notice of the time when he or his subcontractors will start the various units or operations of the work. Notice shall be given at least 24 hours in advance of starting or resumption time exclusive of Saturdays, Sundays, or holidays, for the purpose of permitting the Engineer to make the necessary assignment of his representative or inspector on the work. Any work performed by the Contractor or his subcontractors in conflict with said notice shall be removed if so ordered by the Engineer, his representative or inspector on the work.

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the contract as prescribed. Defective work shall be made good, and unsuitable materials may be rejected, notwithstanding the fact that such defective work or unsuitable materials may have been previously overlooked by the Engineer and accepted or estimated for payment.

501.10 Traffic Control. The Contractor shall submit three copies of proposed traffic control plan to the Engineer for approval at least five (5) working days prior to commencement of work. No work will be started unless the traffic plan and requirements in Section 801.2 is duly approved. This plan will be submitted in the form of a drawing locating the project area and all major and minor access and exits to and out of this area. The plan will also include the immediate neighboring areas where the traffic shall be directly or indirectly affected as a result of construction work in the project area.

The traffic control plan shall be developed for various traffic situations and street configurations in the work and surrounding areas in full conformance with the "State of California Business, Transportation and housing Agency Department of Transportation Manual of Traffic Controls for Construction and

Maintenance Work Zone" dated 1985, hereinafter referred to as Traffic Control Manual.

At main entry and exit points of each work location, the Contractor shall provide a 30" x 30" sign advising the public of the anticipated period of time that traffic delays may be anticipated. This sign will also include name and telephone number of the Contractor along with starting and completion dates of the contract. Sign will be erected 7 days in advance of any work.

If traffic is to be detoured over a centerline or detoured in advance of the work, detour plan must be incorporated in the traffic control plan. Police, Fire, and Public Works Department shall be notified at least 48 hours in advance of any work which will interfere with the normal flow of vehicular or pedestrian traffic. Intersection closure may only occur if, in the traffic plan, the two adjacent intersections remain open, unless otherwise approved by the Engineer.

All signs and devices proposed to warn, direct, and control traffic in the vicinity of the work shall conform in size, shape, and color to the requirements set forth in the Traffic Control Manual mentioned above and approved by the Engineer in accordance with the traffic control plan.

The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, designated legal holidays, after 5:00 P.M. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress.

Cost of traffic controls, including flag person, shall be included and spread among appropriate bid items as determined by the Contractor.

Public parking on streets may be restricted as necessary.

The Contractor shall furnish, erect, and maintain all signs except "No Parking" signs which shall be obtained by the Contractor from the City of Berkeley. All signs shall be placed as directed by the Engineer. The "No Parking" signs must be posted by the Contractor no later than 48 hours or as directed by the Engineer in advance of the time of need. "No Parking" signs shall bear the name of the Contractor and shall also specify the "No Parking" dates and locations.

The Contractor shall replace within a 24 hour period any sign that has been damaged, lost, or worn out.

The Traffic Engineer shall have authority to change the traffic plan and make recommendations through the Engineering Inspector after the project has started and throughout the project.

The Contractor shall comply with the traffic engineering recommendations within a 24 hour period or immediately if requested. Failure to comply with this item shall be enough reason for the Engineer to stop the project.

501.11 Defective and Unauthorized Work. All work which is defective in its construction or deficient in any of the requirements of these specifications shall be remedied, or removed and replaced by the Contractor in an acceptable manner, and no compensation will be allowed for such correction. Upon failure of the Contractor to comply forthwith with any order of the Engineer made under the provisions of these specifications, the Engineer shall have the authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed, and to deduct the costs thereof from any monies due or to become due the Contractor.

501.12 Disputed Claims. In any case where the Contractor deems extra compensation is due him for work or materials not clearly covered in the contract, or not ordered by the Engineer as extra work, the Contractor shall notify the Engineer in writing of his intention to make claim for such extra compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper facilities by the Contractor for keeping strict account of actual cost, then the Contractor hereby agrees to waive the claims for such extra compensation.

Such notice by the Contractor, and the fact that the Engineer has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim. The claim must be passed upon by the Engineer. In case the claim is found to be just, it shall be allowed and paid for as extra work. Unless the Contractor gives notice of his claim to the Engineer within 10 calendar days, or before he begins the work on which he bases his claim, whichever is sooner, it will not be considered.

501.13 Arbitration. Disputed claims may be settled by arbitration if both parties mutually agree. The arbitration procedures shall be in accordance with the construction industry arbitration rules of the American Arbitration Association. Arbitration awards shall be presented in writing and shall include the following elements: (1) legal "finding of fact" established by the arbiter; (2) specific breakdown of the dollar amounts allocated for each issue under arbitration; (3) the arbiter's "conclusion of law"; (4) a summary of the evidence; and (5) reasons underlying the arbiter's award.

501.14 Final Inspection. Whenever the work provided and contemplated by the contract shall have been satisfactorily completed and the final cleaning up performed, the Engineer will make the final inspection.

501.15 Progress Meetings. The Contractor shall schedule and hold regular on-site progress meetings weekly and at other times as requested by the Engineer or as required by progress of the Work. The Contractor, Engineer, and all subcontractors active on the site shall be represented at each meeting. The Contractor may, at its discretion, request attendance by representatives of its suppliers, manufacturers, and other subcontractors. The purpose of the meetings will be to review the progress of the work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop.

501.16 Substitution. Any materials, process, or article may be requested for a substitution by the Contractor, in lieu of that specified or shown, under the following conditions:

1. Requests must be submitted in writing sixty (60) days prior to starting the work, as established by the Engineer, so as not to cause any delay in completion of the project.

2. The Contractor shall, at no cost to the City, furnish all testing, data, engineering, and design services (including the review costs incurred by the Engineer) for items offered as equivalent to those specified. Test methods and findings shall, prior to installation, be subject to approval of the Engineer.

3. On sewer rehabilitation projects, the sewer rehabilitation methods shown on the Plans are the minimum levels acceptable for the respective reaches. The three sewer rehabilitation methods, in descending order of acceptability, are as follows:

Replacement  
Inversion-Lining  
Sliplining

Substitution with a lower level rehabilitation method will not be permitted unless field conditions dictate that a lesser method will provide comparable sewer integrity. A credit change order will be prepared accordingly. The foregoing shall require the approval of the City and the Engineer. Substitution with higher level rehabilitation method may be acceptable subject to approval of the Engineer.

1. No requests for substitution will be considered during the bidding period.

2. Any substitution of any material, process, or article shall be at no additional costs to the City. Substitution with a lesser level rehabilitation method shall be accomplished by credit change order. Substitution with a higher level method shall be accomplished by a no cost change order.

The Engineer reserves all rights and will have final approval as to the substitution of alternative rehabilitation methods.

501.17 Reinspection, Retesting, and Re-staking. All costs incurred by the City for reinspection of poor workmanship, failing air tests, failing compaction tests, failing tests of any kind, and re-staking caused by the Contractor shall be deducted from the amounts due the Contractor by contract change order. The Engineer's decision as to determination of poor workmanship shall be final.

## SECTION 6 - CONTROL OF MATERIAL

601.1 Sample and Tests. At the option of the Engineer, the source of each of the materials shall be approved by the Engineer before delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of all materials to be used in the work, for testing or examination as desired by the Engineer.

All tests of materials furnished by the Contractor shall be made in accordance with commonly recognized standards as set forth in the specifications and such other special methods and tests as may be prescribed.

The Contractor shall furnish such samples of materials as are requested by the Engineer, without charge. No material shall be used until it has been approved by the Engineer. Samples will be secured and tested by the laboratory whenever necessary to determine the quality of material.

601.2 Defective Materials. All materials not conforming to the requirements of these specifications shall be considered as defective, and all such defective materials, whether in place or not, shall be rejected. They shall be removed immediately from the site of the work unless otherwise permitted by the Engineer. No rejected material, the defects of which have subsequently been corrected, shall be used until approved in writing by the Engineer.

Upon failure on the part of the Contractor to comply with any order of the Engineer made under this provision of these specifications, the Engineer shall have authority to remove and replace defective material and deduct the cost of removal and replacement from any monies due or to become due the Contractor.

601.3 Storage of Materials. Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. Stored materials shall be so located as to facilitate prompt inspection. Space for main storage/construction yard shall be the Contractor's responsibility.

No construction material shall be stockpiled in the street for a period of more than five (5) days at a particular location. Contractor shall coordinate with the Engineer to designate such temporary storage areas. The delivery of materials on site should be scheduled in installments in such a way that all stockpiled materials are used within the above specified period. Proper lighted barricades and other required traffic controls shall be maintained at all times around the stored materials. No material shall be stored on the sidewalk area and/or in front of driveways or within 15 feet of a fire hydrant or catch basin, passageways, or in such a way as to hinder pedestrians, vehicular flow, or drainage.

Street curbs and gutters shall be clear from stockpiled materials. To maintain flow of unobstructed surface water on the street, 4" diameter minimum drain pipes shall be provided along the gutters if any materials are stockpiled in those areas.

At least one lane shall be kept open in the street at every time during the time material is stockpiled in the public right of way. Any violation of the above requirements will result in a declaration of an emergency situation by the Engineer and proper remedial action shall be taken in accordance with Section 401.7 of this specification.

Clean up and tidiness under Section 401.6 shall be adhered to and enforced.

601.4 Trade Names or Alternatives. Whenever any article or any class of materials is specified by a trade name or by the name of any particular patentee, manufacturer or dealer, it shall be and is mutually understood to mean and specify the article or class of materials described, or any other equal thereto in quality, finish, and durability, and equally as serviceable for the purpose for which it is intended, subject to the approval and acceptance of the Engineer.

## SECTION 7 - LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

701.1 Laws to be Observed. The Contractor shall keep himself fully informed of all state and national laws and all municipal ordinances and regulations of the City which in any manner affect those engaged or employed in the work, or which in any way affect the conduct of the work, and or all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

The Contractor shall at all times observe and comply with, and shall cause all agents and employees to observe and comply with all such laws, ordinances, regulations, orders and decrees, including all provisions of the Occupational Safety and Health Act of 1979 and all amendments thereto, and all applicable federal, state, municipal, and local safety regulations; and shall protect and indemnify the City, the Council, and the Engineer, and all of its and their officers and agents and servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees. If such discrepancy or inconsistency is discovered in the plans, drawings, specifications, or contract for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same, in writing, to the Engineer.

701.2 Hours of Labor. Eight (8) hours of labor shall constitute a legal day's work for all workers employed on 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 as set forth in Division 2, Part 7, Chapter 1, Article 3 of the Labor Code of the State of California as amended.

The Contractor shall forfeit, as penalty to the City of Berkeley, twenty-five dollars (\$25.00) for each laborer, worker, or mechanic employed in the execution of the contract, by him or any subcontractor under him, upon any of the work hereinbefore mentioned, for each calendar day during which said laborer, worker, or mechanic is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of said Labor Code.

701.3 Apprentices. The Contractor and any subcontractor working under him must comply with and be governed by the laws of the State of California having to do with the employment of apprentices on public works as set forth in Sections 1777.5 and 1777.6 of the Labor Code of the State of California.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

701.4 Nondiscrimination. There shall be no discrimination against any employee who is employed in the work covered by this contract, or against any applicant for such employment, because of race,

religion, color, disability, national origin, or sexual preference. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship.

In order that this provision against discrimination shall achieve the intended result, before a contract is awarded to the apparent successful bidder there shall be a pre-award conference between such apparent successful bidder and the City Manager, or the City Manager's designated representative. Such pre-award conference shall be held after the opening of bids and before award of the contract at a date and time to be designated by the City Manager, or his representative, and at such pre-award conference the apparent successful bidder shall present to the City Manager, or his authorized representative, the program of affirmative action he proposed to undertake to ensure that persons are employed and employees are treated so that they receive equal opportunities without regard to race, religion, color, disability, national origin, or sexual preference. Such program shall include not only the affirmative action proposed to be undertaken by the apparent successful bidder in his own employment practices but also the affirmative action that he proposes to undertake to assure that all subcontractors working under him provide equal employment opportunities for all without regard to race, religion, color or national origin. Failure to carry out the proposed program of affirmative action shall be deemed to be a violation of the contract within the meaning of Section 701.26 of the General Provisions.

In the event that the apparent successful bidder refuses or fails to participate in such pre-award conference or refuses or fails to present a program of proposed affirmative action, the Council may determine that he is not the lowest responsive bidder and his bid shall be rejected. In such event, the City Council shall have the right to declare such apparent successful bidder to be a nonresponsive bidder, in which case no contract shall be awarded to him by the City for a period of at least three (3) years from the date of the declaration by the Council that he is a nonresponsive bidder, and then only after satisfactory evidence that he will comply with the requirements of this Section of the General Provisions.

If the bid of the apparent successful bidder is rejected by the Council and the Council wishes to award the contract to another bidder, such contract shall not be awarded until such bidder has complied with the requirements of this Section relating to pre-award conference and the effects thereof, as hereinabove set forth, shall be applicable to said other bidder, except that such pre-award conference shall be held within five (5) days following the action of the Council in rejecting the bid. The other bidders shall be considered for award pursuant to this paragraph in the order of their bids starting with the next lowest responsive bidder and continuing until a bidder complies with the requirements of this Section, or until the council takes other action as authorized by Section 67 of the Charter.

701.5 Prevailing Wage. The Contractor and any subcontractor working under him must comply with and be governed by the laws of the State of California having to do with the prevailing wage to be paid as is set forth in Division 2, Part 7, Chapter 1, Article 2 of the Labor Code of the State of California

as amended.

The Contractor shall forfeit, as penalty to the City, twenty-five dollars (\$25.00) for each laborer, workman, or mechanic employed, for each calendar day or portion thereof, such laborer, workman, or mechanic is paid less than the general prevailing wages hereinafter stipulated for any work done under the attached contract, by him or by any subcontractor under him, in violation of the provisions of said Labor Code. In addition, the Contractor shall pay to the workmen the wages resulting from the difference between the stipulated wage rate and the wages actually paid.

The Engineer has a current copy of general prevailing wage rates applicable to the work, a copy of which is made part of these specifications by reference.

701.6 Compensation Insurance. Before beginning work, the Contractor shall furnish to the Engineer a certificate of insurance as proof that he has taken out full compensation insurance for all persons whom he may employ directly or through subcontractors in carrying out the work specified herein, in accordance with laws of the State of California. Such insurance shall be maintained in full force and effect during the period covered by this contract.

701.7 Governmental Regulations. Bid price shall not be in excess of maximum prices permitted by the federal or state government.

All orders are subject to ability to obtain and use materials and deliver finished products under federal and state regulations and orders. If shipping dates are subject to delays resulting from preference rating or priority shipments order or requested by the United States Government or by any department, commission or agency thereof, the Contractor shall not be held liable for such delay.

701.8 Taxes. The City is liable for the State Sales Tax and where the County of purchase has adopted the Uniform Sales Tax law and a City and/or County tax is collected by the State, the City of Berkeley is liable for this tax also.

The City if exempt from the Federal Excise Tax and exemption certificates will be furnished. In certain instances, the bidder and subcontractor may be liable for Federal Excise Tax. Bidder must determine whether Federal Excise Tax is chargeable to him and if so, the amount of the tax should be included in the amount bid.

Any new or additional taxes levied after the adoption of these specifications that are payable by the City are not to be included in the price bid, but added thereto when invoiced.

701.9 Permit and Licenses. The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notice necessary for the lawful prosecution of the work.

701.10 Royalties and Patents. The Contractor shall pay all royalties and patent fees. He shall defend all suits and claims for infringements of any patent rights and shall save the City harmless from loss on account thereof, except that the City shall be responsible for all such loss when a particular process or the product of a particular manufacturer is specified. If, however, the Contractor has information that the procedures or article specified is an infringement of a patent, he shall be responsible for any loss unless he promptly gives said information to the City.

The Contractor shall assume all responsibilities arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work.

All fees and royalties for any patented invention or process used in connection with the work shall be included in the price bid for such work, and the Contractor shall obtain a permit from the patentee for use of the same.

701.11 Public Convenience and Safety. The Contractor shall so conduct his operations as to cause the least possible obstruction and inconvenience to the public.

Residents along the work shall be provided passage as far as practicable. Convenient access to driveways, houses, and buildings along the work shall be maintained and temporary crossings shall be provided and maintained in good conditions. Contractor shall maintain access to all driveways except when actually doing construction within the driveway boundaries, at which time parking access will be maintained unless alternate arrangement can be made with the property owners or tenants in advance. No more than one intersection street shall be closed at any one time without the approval of the Engineer.

The Contractor shall furnish all flagpersons, barricades, barriers, lanterns, flares, "DR" type detour signs, and other devices which may be necessary for adequate and safe traffic control, and in accordance with the approved traffic control plans per Section 501.10 of this specification.

Traffic control shall be performed in accordance with the following requirements:

- o Safe pedestrian passage shall be provided at all times on the project site.
- o All open trenches will be covered with appropriately thick steel plates in accordance with page 25 of the "Work Area Traffic Control Handbook" published by Building News, Inc. (213) 870-9871. Safe passage for all vehicles shall be maintained at all times in both directions.
- o Sufficient number of reflectorized signs shall be supplied and used on the job site at all times to efficiently control traffic in accordance with this specification. Each and all barricades shall be equipped with operative automatic flashers.

- o Berkeley Police and Fire Departments, Berkeley School District, City Streets and Utilities Division, and A.C. Transit shall be advised of the planned construction, blocked streets, and other changes affecting traffic conditions (48 hours in advance), every work day -- or more frequently. Additionally, the Police and Fire Departments and Resident Engineer must be given telephone numbers where the Contractor may be reached at all hours in the event of an emergency involving the work. Appropriate Police, Fire, Berkeley School District, City Streets and Utilities Division, and A.C. Transit telephone numbers are as follows:

Police: 981-5900  
Fire: 981-5900  
School: 644-6182  
Streets & Utilities: 981-6620  
A.C. Transit: (where applicable) 891-4777

Proper signs and devices shall be used to warn, direct, and control traffic in the vicinity of the work and shall conform in size, shape, and color to the requirements set forth in the specifications and approved by the Engineer in accordance with the Traffic Control Plan.

Where such facilities are not provided or are out of service, and an emergency exists that necessitates protective measures, the Engineer or his representative, may provide such facilities during the emergency and the cost thereof shall be paid by the Contractor or deducted from monies due or to become due him on the contract. Such action by the Engineer, however, shall not relieve the Contractor of his responsibility for any damages which may occur before, during or after such precaution has been taken by the Engineer, and shall place no liability upon the City or the Engineer.

To keep evening and night noise levels to a minimum, no engine driven equipment shall be operated between 5:00 p.m. and 7:30 a.m. unless previously authorized by the Engineer.

701.12 Responsibility for Damage. The City, the Council, or the Engineer shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any materials or equipment used in performing the work; or for injury or damage to person or persons, either workmen or the public; or for damage to adjoining property from any cause whatsoever during the progress of the work or at any time before final acceptance.

The Contractor shall be held responsible for any and all loss, accidents, injury or damage to persons or property which may be the result of this contract and for which the City might be held liable. The Contractor shall protect and indemnify the City and save it harmless in every way from all claims, suits or actions of law for damage or injury to persons or property that may arise or be occasioned in any way because of this contract. The Council may retain so much of the money due the Contractor as shall be

considered necessary, until disposition has been made of such suits or claims for damages as aforesaid.

701.13 Public Liability and Property Damage Insurance. Before commencing the work, the Contractor shall furnish to the City Attorney of the City satisfactory evidence of public Liability and Property Damage insurance with limits of liability as listed in the Notice to Bidders and as approved by the City's Risk Manager. Such insurance shall name the City of Berkeley officers, employees, agents and its consultants associated with the project (City to provide names of the consultant(s)) as additional named insured and it shall be provided that any cancellation or reduction in coverage of the insurance by either the assured or the insurance company will not be effective until thirty (30) days after written notice thereof has been given to the City.

701.14 Contractor's Responsibility for Work. Until the formal acceptance of the work by the Engineer, the Contractor shall have the charge and care thereof, except as provided in Section 701.11, Public Convenience and Safety, and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any cause before final acceptance and shall bear the expense thereof, except such injuries or damages as occasioned by acts of war.

701.15 Entry Rights. The right is reserved to the City, and also to railway, water, gas, telephone, telegraph, cable television and electric power transmission companies to enter upon the work for the purpose of making repairs and changes that have become necessary by reason of work. Projects financed in whole or in part with State funds shall be subject to inspection at all times by the State of California agency having jurisdiction or his agent.

701.16 Cooperation between Contractor and Utility Companies. The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The City, its workers and contractors, and others shall have right to operate within or adjacent to the workers to perform such work.

The City, the Contractor, and each of such workers, contractors, and others shall coordinate their operations and cooperate to minimize interference.

The Contractor shall include in its bid all costs involved as a result of coordinating its work with others. The Contractor will not be entitled to additional compensation from the City for damages resulting from such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage, or delay, the Contractor shall redeploy its work force to other parts of the work.

Should the Contractor be delayed by the City, and such delay could not reasonably have been foreseen and prevented by the Contractor, the Engineer will determine the extent of the delay, the effect of the delay

on the project as a whole, and any commensurate extension of time.

If the work of the Contractor is delayed because of any acts or omissions of any other contractor or utility company, the Contractor shall on that account have no claim against the City other than for an extension of time.

701.17 Obstruction. No material or other obstruction shall be placed within fifteen (15) feet of fire hydrants, which must be at all times readily accessible to the Fire Department.

Where the completion of the work requires their removal, the Contractor shall remove and dispose of all structures, debris, or other obstructions encountered in making the improvement.

701.18 Sanitary Conveniences. Necessary sanitary facilities for the use of workers properly secluded from public observation and in compliance with health ordinances and laws, shall be constructed and maintained in an approved manner by the Contractor, and their use shall be strictly enforced.

701.19 Preservation of Monuments. The Contractor shall carefully preserve bench marks, reference points and stakes, and in case of willfully or careless destruction, he will be charged with the entire cost of replacing them and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance. Monuments which have to be removed shall not be disturbed until authorized by the Engineer.

The Contractor shall provide the City with a minimum of 48 hours notice of any activities which may result in the displacement damage or destruction of monuments.

701.20 Opening Sections of New Work. Whenever, in the opinion of the Engineer, any section of the work is in a condition for beneficial use by the City it may be opened for use. Such openings, when authorized in writing by the Engineer shall not represent acceptance of that portion of the work unless all specified testing has been satisfactorily completed.

The Contractor will be responsible for all necessary repairs on any section of work, so opened, due to defective material or work, damage by Contractor's operation, or to natural causes other than ordinary wear and tear until final completion and acceptance of the work. Such repairs shall be at the expense of the Contractor.

701.21 Acceptance of Work on Contract. When the final inspection is completed and it has been determined that the work is in accord with the plans and specifications, the Engineer will formally accept the contract. After such acceptance, the Contractor will be relieved of protecting the work, except for such correction or repair as shall be required to correct any defect in the work. The Contractor will not be required to perform any further work thereon except such items as may be reserved specifically in the

specifications or formal written acceptance, and he shall be relieved of responsibility for injury to persons or property or damage which occurs after the formal written acceptance.

701.22 Correction of Errors, Recovery for Errors, Dishonesty or Collusion. The City reserves the right to correct any error that may have been made in any estimate that has been paid. The City also reserves the right to claim and recover by process of law any sums sufficient to correct any error or make good any deficiency in the work, regardless of when such error, dishonesty or collusion shall be discovered.

701.23 Rights in Materials and Salvage. Ownership of materials incorporated in the work is vested in the name of the City. Any material delivered and paid for in part by the City or any material furnished by the City to be incorporated in the work, is or becomes the property of the City. Any salvageable materials or installations existing at the site of the work (such as manhole rings and covers, catch basin gratings, angle iron, pipe railings, valve boxes and lamphole boxes, and other steel, cast iron or metallic materials) that are the property of the City, if they are to be removed shall be delivered F.O.B. to the storage yard designated by the City. The salvageable materials shall be cleaned of clinging concrete and debris and delivered to the storage yard in the same condition as it existed prior to removal, unless the Contractor is instructed otherwise by the Engineer.

701.24 Right-of-Way. The right-of-way for the work to be constructed will be provided by the City. The Contractor shall make his own arrangements, and pay all expenses for additional area required by him outside the limits of the right-of-way, unless otherwise provided in the Special Provisions.

701.25.1 Underground Facilities. The City has investigated underground conditions to the extent allowed by the City records and has indicated on the drawings such underground structures and conditions as are known to exist. In addition, the drawings indicate information furnished to the City by the utility agencies concerning their facilities. The City does not guarantee, either expressly or by implication, that the underground conditions indicated are either complete or exact as to locations and depths. No additional allowance will be made in cases where underground conditions vary as to number, structures, depths, locations or any other condition from the information shown on the drawings. In all cases, the cost of dealing with the identified underground facilities encountered will be considered as being included in the bid prices for the various items of work.

701.25.2 Protection of and Liability for Unidentified Underground Public Utilities. The following is pursuant to California Government Code Division 5, Chapter 3.1, Section 4215. The City is responsible for the removal, relocation or protection of existing utilities located on the construction site that is subject of these plans and specifications if such existing underground utilities are not identified in the plans and specifications and made a part of the invitation for bids. The Contractor will not be assessed liquidated damages for delay in completion of the contract, when such delay is caused by failure of the City or utility owner to provide for removal or relocation of the unidentified existing utility facilities.

701.26 Compliance with Contract. In the event any provision of the contract including the General Provisions and specifications, is violated, and the Contractor refuses to comply after 10 days written notice is given by the City, the City shall have the additional right, without further notice, to cancel the contract and/or declare such Contractor to be a nonresponsive bidder, in which case no contract shall be awarded him by the City of a period of at least three (3) years from the date of violation, and then only after satisfactory evidence that he will comply with City specification and contract provisions.

## SECTION 8 - PROSECUTION AND PROGRESS

801.1 Subletting and Assignment. The Contractor shall give his personal attention to the fulfillment of the contract and shall keep the work under his control. The contract may be assigned only upon written consent of the Engineer.

Subcontractors will not be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor, and their work shall be subject to the provisions of the contract and specifications.

When a portion of the work sublet by the Contractor is not being prosecuted in a manner satisfactory to the Engineer, the subcontractor shall be removed immediately on the written request of the Engineer and shall not again be employed on the work.

801.2 Progress of the Work and Time for Completion. The Contractor shall begin work within 30 calendar days after the award of the contract and shall diligently prosecute the same to completion before the expiration of the time specified in the Bidding Documents. After issuing of Notice to Proceed and prior to commencement of mobilization and construction, the Contractor shall be required to attend a pre-construction meeting.

The Engineer may extend the starting date.

801.3 Programming Work. After notification of award and at least five (5) working days prior to start of any work, the Contractor shall submit to the Engineer for approval its proposed construction schedule. No construction work will start unless the schedule is approved by the Engineer. The construction schedule shall be in the form of a tabulation, chart, or graph and shall be in sufficient detail to show the chronological relationship of all activities of the project including, but not limited to, estimated starting and completion dates of various activities, submittal of shop drawings to the Engineer for approval, procurement of materials, and scheduling of equipment. The construction schedule shall reflect completion of all work under the contract within the specified time and in accordance with these specifications. The schedule shall include completion dates of all major activities on a block to block basis.

If the Contractor desires to make a major change in the method of operations after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Agency a revised construction schedule in advance of beginning revised operations.

Loss of work for any cause during the period of time prior to the submission of the progress schedule will

not be considered by the Engineer in his computation of time extensions. In addition, the Contractor shall submit a complete list of subcontractors who will perform the work on this project and a list of all major material suppliers. No substitutions of any kind will be allowed, either of subcontractors or material suppliers without the written approval of the Engineer.

In case of any delays from the original schedule due to any reason, the Contractor will immediately notify the Engineer and resubmit the revised schedule within forty-eight (48) hours of that change. Any request for change in the original schedule shall be evaluated and approved or denied in accordance with requirements listed in these specifications.

All work on the project shall be performed between the hours of 7:00 AM and 5:00 PM on a regular work day. No work shall be scheduled beyond these hours on a regular work day, holiday, or weekend without prior approval from the Engineer. The Contractor shall submit this request in writing at least one week in advance. The Contractor shall pay for the inspection time of the City's resident Engineer or his designated representative on an overtime basis for required inspection of work performed beyond the mentioned regular day working hours and on holidays or weekends. This inspection charge will be deducted from the Contractor's progress payment.

All work, including finish paving on a City block and final clean up, shall be completed within five (5) weeks from the start of construction on the respective City block.

801.4 Character of Workers. If any subcontractor or person employed by the Contractor shall refuse to carry out the provisions of the plans and specifications or shall appear to the Engineer to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the written request of the Engineer, and such person shall not again be employed on the work.

801.5 Temporary Suspension of Work. The Engineer shall have the authority to suspend the work wholly or in part, for such period as he may deem necessary due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the work, or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given, or to perform any provisions of the work. In addition, the Contractor shall comply with the Traffic Engineering recommendation within a 24-hour period or immediately if requested. Failure to comply with this shall be sufficient reason for the Engineer to suspend the work. The Contractor shall immediately obey such orders of the Engineer and shall not resume the work until ordered in writing by the Engineer.

801.6 Liquidated Damages for Failure to Complete Work in Specified Time. Time is of the essence and an essential condition of the Contract. If all the work called for under the contract is not completed before or upon the expiration of the time set forth in the Bidding Documents, damage will be sustained by the City. Since it is and will be impracticable to determine the actual damage which the City will sustain in the event of and by reason of such delay, it is therefore agreed that the Contractor will pay to the City

the sum specified in the Bidding Documents for each and every working day beyond the time prescribed to complete the work, not as a penalty, but as a predetermined liquidated damage. The Contractor agrees to pay such liquidated damages as are herein provided, and in case the same are not paid, agrees that the City may deduct the amount thereof from any money due or that may become due the Contractor under the contract.

801.7 Extension of Time. If the work called for under the contract is not completed within the time specified, the Engineer may extend the time for completion if it serves the best interest of the City. If the time limit for the completion of the contract is extended, the Engineer may charge to the Contractor or deduct from the final payment for the work, all or any part of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are incident to the work, and which accrue during the period of such extension. The cost of final surveys and preparation of final estimate shall not be included in such charges.

801.7.1 Extension of Time Due to Extra Work and Inclement Weather. Extensions of time for extra work, when granted, shall be based upon the effect of delays to the Work and will not be granted for noncontrolling delays to minor portions of the work unless it can be shown that such delays did or will delay the progress of the Work. Extensions of time for inclement weather, when granted, shall be based upon impacts to the Contractors work operations causing not less than 50 percent of the effort to be shut down.

801.8 Delays and Suspension of Work. The Contractor shall not be assessed with liquidated damages nor the cost of engineering and inspection during any delay in the completion of the work caused by the wrongful act or negligence of the City or its employees, agents or representatives, by acts of God, acts of the public enemy, fire, floods, epidemics, quarantine restrictions, labor disputes, freight embargoes, materials delays when approved by the Engineer, inclement weather or delays of subcontractors due to such causes; provided, that the Contractor shall within five (5) working days from the end of any such delay notify the Engineer in writing of the cause of delay. The Engineer will determine the extent of delay and his findings of the facts thereon shall be final.

In the event the Contractor is delayed in the work by the wrongful act or negligence of the City or its employees, agents or representatives, which said delay is not caused by or the continuance of which is not due to any act or conduct on the part of the Contractor, reimbursement or payment to the Contractor for such delay, if at all, shall be limited to any money actually and necessarily expended on the job during the period of delay, solely by reason of said delay. No reimbursement, payment or allowance will be made for anticipated profits, rental charges for equipment owned by the Contractor, or any overhead or indirect costs.

801.9 Acceptance of Payment Does Not Constitute Waiver. If the City accepts any work or makes any payment under this contract after a default by reason of delays, the payment or payments shall in no

respect constitute a waiver or modification of any of the provisions in regard to time of completion and liquidated damages.

801.10 Suspension of Contract. If at any time the Contractor has failed to supply an adequate working force or materials of proper quality, or has failed in any other respect to prosecute the work as intended by the terms of the contract, notice thereof in writing will be served upon him and his surety by the Engineer. Should the Contractor neglect or refuse to provide means for satisfactory compliance with the contract within three (3) working days, the Engineer shall have the power to suspend the operations of the Contractor. Upon receiving notice of such suspension, the Contractor shall discontinue said work or such parts of it as the Engineer may designate. Upon such suspension, the Contractor's control of the work shall terminate. The City or its duly authorized representative, may take possession of all or any part of the Contractor's materials, tools, equipment, and appliances upon the premises, and use the same for the purpose of completing said contract, and hire such force and buy or rent such additional machinery, tools, appliance and equipment, and buy such additional materials and supplies at the Contractor's expense as may be necessary for the proper conduct of the work and for the completion thereof. The City may employ other parties to carry the contract to completion, employ the necessary workmen, substitute other machinery or materials, and purchase the materials contracted for, in such manner as the Engineer may deem proper. The City may annul and cancel the contract and re-let the work or any part thereof.

801.11 Liability of Contractor in Event of Suspension or Cancellation. Any excess of cost over and above the contract price because of suspension of the contract will be charged against the Contractor and his sureties, who will be liable therefor. In the event of such suspension, all moneys due the Contractor or retained under the terms of this contract shall be forfeited to the City until all obligations of the contract have been met. Such forfeiture will not release the Contractor or his sureties from liability for failure to fulfill the contract.

The Contractor and his sureties will be credited with any surplus of money so forfeited by the suspension or cancellation of the contract after the completion of the work by the City as above provided. The Contractor or his surety may claim any surplus remaining after all just claims for such completion of the contract have been paid.

801.12 Decision of Council Binding on All Parties. The final determination of the question as to whether there has been non-compliance with the contract sufficient to warrant the suspension or annulment thereof, rests with the Council. Its decision shall be binding on all parties to the contract.

801.13 Guarantee. The Contractor shall guarantee the entire work constructed by him under the Contract to be free of defects in materials and workmanship for a period of one year after completion and acceptance by the Agency. The date of initiation of this guarantee period shall be the date of the filing of the notice of completion by the Agency. The Contractor shall agree to make, at his own expense, any repairs or replacements made necessary by defects in materials and workmanship which become evident

within said guarantee period. The Contractor hereby agrees to defend, to indemnify and hold harmless the Agency; its officers, agents and employees, and its consultants associated with the Project (City to provide name of consultant), against and from all claims and liability arising from damage and injury due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written order from the Engineer. If the Contractor fails to make the repairs and replacements promptly, the Agency may do the work and the Contractor and his surety shall be liable to the Agency for the cost of such work.

The performance of guarantee and conditions specified above shall be secured by a surety bond which shall be delivered by the Contractor to the Agency prior to the date on which final payment is made to the Contractor. Said bond shall be in an approved form and executed by a surety company or companies satisfactory to the Agency, in the amount of 10 percent of the Contract price. Said bond shall remain in force for the duration of the guarantee period.

## SECTION 9 - MEASUREMENT AND PAYMENT

901.1 Measurement of Quantities. For all items of work, other than those to be paid for by lump sum, after the work is completed and before final payment is made therefore, the Engineer shall make final measurements to determine the quantities of various items of work performed as the basis for final settlement. The Contractor, in case of unit price items, will be paid for the actual amount of work performed and for the actual amount of materials in place, in accordance with these specifications as shown by the final measurements. All work completed under this contract shall be measured by the Engineer according to the standards of weight and measures recognized by the National Bureau of Standards. A ton shall consist of two thousand (2,000) pounds avoirdupois.

Measurement for items paid for on the basis of lineal or surface area shall be along centerline distances and in horizontal planes. In computing volumes, the method of average end areas will be used with the aid of planimeter. The pay weight for all items to be paid for by weight shall be determined by actual certified scale weight, certified shipping weight or computed weight if so specified.

In order that the City of Berkeley shall have control over materials paid for on a tonnage basis, certain procedures, as outlined below, shall be followed.

1. The Resident Engineer shall be notified prior to the delivery of materials which are to be paid for on a tonnage basis.
2. Material delivered must be accompanied by a weight tag at the time of delivery.
3. The Resident Engineer must validate each tag at the time of delivery.
4. Tags will be accepted and initialed only on the date shown on the tag, which shall be the date of delivery.
5. Final quantities will be based on initialed tags only.

Materials specified for measurement by tallying of vehicles having predetermined carrying capacity shall be hauled only in approved units, struck off at the top of the carrying unit or to permanent lines at the loading point and tallied at the point of delivery. Unless all vehicles have uniform carry capacity, each hauling unit shall be marked identifying the approved capacity.

901.2 Extra and Force Account Work. Extra work as defined in Section 401.3, when ordered and accepted, shall be paid for under a contract change order in accordance with the terms therein provided.

Payment for extra work will be made at the unit price or lump sum previously agreed upon by the Contractor and the Engineer; or by force account.

If the work is done on force account, an amount equal to the sum of the following items shall be used as full and proper compensation therefor, and such amount shall be added to the price fixed by the terms of this contract for the part of the work affected:

1. The actual cost to the Contractor of the material required for the work as furnished and delivered by him at the site of the work.
2. The actual cost to the Contractor of the labor (including foremen devoting their exclusive attention to the work in question) required to incorporate all of said material into the work and to finish the work in accordance with directions and the cost of workers compensation insurance premiums for said labor.
3. The actual cost to the Contractor of equipment required for the extra work, except that the rate paid shall not exceed the current prevailing equipment rental rates. The charge for equipment shall be only for that time of actual operation devoted exclusively to the work in question.
4. Ten percent (10%) of Item 2, which shall be considered as covering the cost of small tools, plant and superintendence, and clerical work in connection with the changes.
5. Fifteen percent (15%) of the sum of Items 1., 2., and 3. which shall be considered as covering all other expenses and profit.

The City reserves the right to furnish such materials required as it deems expedient, and the Contractor shall have no claim for profit on the cost of such materials.

In order that a proper estimate may be made by the Engineer of the net cost of labor and materials entering into extra work, in accordance with the procedure herein stated, the Contractor shall furnish daily an itemized statement of materials and labor supplied, together with the cost of such material and the wages paid and shall furnish vouchers for quantities and prices of such labor, material or work. In case the Contractor fails to comply with the above provisions, he shall have no claim for compensation against the City for such extra work.

This method of determining the price of work shall not apply to the performance of any work or the furnishing of any materials which is susceptible of classification under the items for which prices are established in this contract as is required or reasonably implied to be performed or furnished under this contract.

901.3 Progress Payments. The Engineer shall, once in each month, cause an estimate in writing to be made of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used to the time of such estimate, and the value thereof according to the schedule of prices contained in the accepted bid for work. The Engineer may make an estimate of such items of work that are only partially completed on a prorating basis and pay for that portion of the item of work completed as work done. The Contractor may request the Engineer to establish a basis for prorating the unfinished items of work, but must use such a schedule for said prorating as will then be established by the Engineer. In order to receive payment, the Contractor shall make his bills in triplicate and deliver to the office of the Engineer.

901.3.1 Bid Item Breakdown. The Contractor shall submit proposed bid item breakdowns for progress payment purpose within 5 days following Award. Engineer shall establish a basis for prorating unfinished items of work utilizing Contractor's proposal, but Engineer shall not be limited to breakdown of items as proposed by the Contractor. Unbalanced or "front loaded" breakdowns shall be rejected.

901.4.1 Retained Funds. Pursuant to Article XI, Section 66 of the City Charter, the City shall retain five percent (5%) of such estimated value of work done as part security for the fulfillment of this contract by the Contractor and shall monthly pay to the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payment and all sums to be kept or retained under the provisions of this contract. No such estimate or payment shall be required to be made when in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of this contract or when, in his judgment, the total value of the work done since the last estimate amounts to less than one thousand dollars (\$1,000.00).

901.4.2 Payment of Retained Funds. Attention is directed to Section 901.3 of the General Provisions "Progress Payments" and in particular to the retention provisions of said section.

1. At the request and expense of Contractor, the City will make payments of funds withheld from progress payments to Contractor or to an Escrow Agent, pursuant to the terms of Government Code Section 4590 if Contractor deposits with the City or with a state or federally chartered bank as escrow agent an equal value of securities eligible for substitution pursuant to Government Code Section 4590. Contractor agrees that any escrow agreement under this contract provision must substantially conform to the form escrow agreement in Government Code 4590. Securities will be held in the name of the City, with the Contractor as beneficial owner. The City will determine market value of substituted securities. Contractor will deposit additional securities to restore the total market value of deposited securities if the market value decreases below the retention amount.

2. The Contractor shall bear the expense of the Escrow Agent who may be either the City Treasurer or the bank, in connection with the escrow deposit made.

3. The Contractor shall obtain the written consent of the surety to such agreement.

901.5 Final Payments. The Engineer shall, after the completion of the requested work in each area, make a final estimate of the amount of work done thereunder, and the value of such work, and the City shall pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be kept and all amounts subject to correction in the final estimate and payment.

The final payment shall not be due and payable until the expiration of thirty-five (35) calendar days from the date of acceptance of a specific phase of the work by the Engineer, and upon receipt of a bill for the amount due on the work from the Contractor.

No certificate given or payments made under the contract, except the final certificates or final payment, shall be conclusive evidence of the performance of the contract, either wholly or in part, against any claim of the Contractor, and no payment shall be construed to be an acceptance of any defective work or improper materials.

The payment of the final amounts due under the contract, and the adjustment and payment for any work done in accordance with any alterations of same, shall release the City, the Council, and the Engineer from any and all claims or liability on account of work performed under the contract or any alteration thereof.

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## **SPECIAL PROVISIONS**

### **1. Standard Specifications**

The Pavement Resurfacing work embraced herein shall be done in accordance with the project plans, the City's General Provisions, these Special Provisions, and the State of California Department of Transportation (Caltrans) 2015 Standard Specifications and Standard Plans, revised July 21, 2017, herein, called the "Standard Specifications" and "Standard Plans" respectively unless otherwise noted. In case of conflict between the Standard Specifications and Plans and the Special Provisions and/or General Provisions, the Special and/or General Provisions shall prevail. It is the intent of this contract to obtain a finished, workmanlike job, complete in place.

### **2. Locations of Work**

The work described in these specifications is located within the City of Berkeley, as shown on the plans. The exact limits of work are shown on the project plans, Specification #22-11514-C.

### **3. Nature of Work**

**Scope of Work – Aquatic Park Paddling and Rowing Club Parking Lot Improvements Project:** The work done under these Plans and Specifications includes but is not limited to: mobilization, traffic control, public convenience, construction phasing, erosion control, clearing, grubbing, tree protection, root pruning, excavating and pulverizing an existing asphalt concrete parking lot, minor concrete building pad and ADA parking spot, asphalt concrete with stabilized base, porous flexible paver parking area, minor header board wall, importing topsoil for conform area, striping, parking markings, installing accessible parking sign, adjusting a quick-coupling valve box, salvaging and reinstalling wood wheel stops, header at AC and porous flexible paver, while maintaining access and public use of the Paddling and Rowing Club Boathouse and dock, as specified.

### **4. Contractor's License: State SB #223**

State Senate Bill No. 223, signed into law by the Governor on September 27, 1985, requires all public entities to specify the type of Contractor's license which a prime Contractor must possess at the time a contract is awarded. In order to be considered for award of this contract, the prime Contractor must possess one of the following Contractor's licenses:

A        -        General Engineering Contractor

**5. State Senate Bill SB #854**

Per State Senate Bill No. 854, signed into law by the Governor on June 20, 2014:

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

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

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

**6. Performance Bond**

The required 100% performance bond must be submitted on the attached performance bond form provided by the City. The form must be properly executed by the Contractor and a duly authorized representative of a surety company licensed to offer surety bonds in the State of California. All signatures must be properly authorized and notarized.

**7. Labor and Material Bond**

The required Labor and Material Bond in the sum of not less than 100% of the amount of the contract may be submitted on your Surety Company's standard certificate with original signatures.

**8. Oppressive States Compliance Statement**

“Oppressive State” means: 1) **Tibet Autonomous Region and the Provinces of Abo, Kham, and U-Tsang.**

Resolution No. 59,853-N.S. allows the City to refrain from entering into personal services contracts with certain entities that maintain business relationships with morally repugnant regimes.

A Contractor is not eligible to receive or retain a City contract if at the time the contract is

executed, or at any time during the term of the contract, it provides Personal Services to:

- a. The governing regime in any Oppressive State.
- b. Any business or corporation organized under the authority of the governing regime of any Oppressive State.
- c. Any person for the express purpose of assisting in business operations or trading with any public or private entity located in any Oppressive State.

The Contractor must further understand and agree that Contractor's failure to comply with the Resolution shall constitute a default of the contract and the City Manager may terminate the contract and bar Contractor from bidding on future contracts with the City for five (5) years from the effective date of the contract termination.

In compliance with this Section, the Contractor must submit the attached Oppressive States Compliance Statement along with the bid.

**9. Nuclear Free Zone Disclosure Form**

Contractor agrees to comply with the provisions of Nuclear Free Berkeley Ordinance No. 5784-N.S. as described in the Nuclear Free Zone Disclosure Form included herein. Contractor must submit said Disclosure Form along with the bid.

**10. Equal Benefits Ordinance Disclosure Form**

Contractor agrees to comply with the provisions of Berkeley Equal Benefits Ordinance No. 6623-N.S. Contractor must submit both the Equal Benefits Ordinance Disclosure Form and the Certification of Compliance with Equal Benefits Ordinance (Form EBO-1) included herein along with the bid prior to execution of the contract.

**11. Sanctuary City Compliance Statement**

Contractor agrees to comply with the provisions of Berkeley Sanctuary City Contracting Ordinance No. 7650-N.S., Berkeley Municipal Code Chapter 13.105. In accordance with this Chapter, Contractor agrees not to provide the U.S. Immigration and Customs Enforcement Division of the United States Department of Homeland Security with any Data Broker or Extreme Vetting Services as defined herein:

- a. "Data Broker" means either of the following:
  - i. The collection of information, including personal information about consumers, from a wide variety of sources for the purposes of reselling such information to their customers, which include both private-sector business and government agencies;
  - ii. The aggregation of data that was collected for another purpose from that for which it is ultimately used.

- b. “Extreme Vetting” means data mining, threat modeling, predictive risk analysis, or other similar services. Extreme Vetting does not include:
  - i. The City’s computer-network health and performance tools;
  - ii. Cybersecurity capabilities, technologies and systems used by the City of Berkeley Department of Information Technology to predict, monitor for, prevent, and protect technology infrastructure and systems owned and operated by the City of Berkeley from potential cybersecurity events and cyber-forensic based investigations and prosecutions of illegal computer based activity.

In compliance with this Section, the Contractor must submit the attached Sanctuary City Compliance Statement along with the bid.

**12. Community Workforce Agreement**

Contractor and any subcontractor at any tier shall comply with the City’s Community Workforce Agreement included herein.

Under the Community Workforce Agreement, Contractor must sign and comply with the Agreement to be Bound prior to execution of the Contract. Subcontractors at any tier must also sign and comply with an Agreement to be Bound prior to execution of their respective subcontracts. The signing of an Agreement to be Bound is a condition precedent to entering into any contract for this project.

**13. Insurance Certificate**

The required insurance certificate must be accompanied by the General and Automobile Liability Endorsement contained herein. The endorsement must be properly executed by a duly authorized representative of the insurance company. All signatures must be original in blue ink.

**14. Progress Schedule**

A detailed progress schedule will be required for this contract. The progress schedule shall be submitted prior to commencement of work **and updated weekly**. The Contractor shall provide a graphic description, in the form of a bar chart that outlines the items of work to be completed, and provide weekly updated written documentation that the work is proceeding on schedule and will be completed within the specified time frame. This schedule will assist the City in advanced notification of adjacent residents and businesses. Therefore, the schedule and any changes to the schedule must be approved by the City and adhered to by the Contractor.

**15. Holidays**

The full width of the street's traveled way shall be opened for use by public traffic on

designated legal holidays.

No work shall be performed on City of Berkeley holidays unless previously authorized by the Engineer.

[https://www.cityofberkeley.info/IT/Holiday\\_and\\_Reduced\\_Service\\_Days.aspx](https://www.cityofberkeley.info/IT/Holiday_and_Reduced_Service_Days.aspx)

## 16. **Obstructions**

Attention is directed to the possible existence of abandoned underground utilities, manholes, monuments, or any other facilities which may exist within the limits of work. The Contractor shall exercise due caution in performing his work so as not to damage said facilities.

The Contractor shall be responsible for the preservation of existing survey monuments, benchmarks, reference points, and stakes. The Contractor shall replace City Monuments and reference marks removed during the performance of the work. Whenever a City Monument is disturbed or removed during the performance of work it shall be replaced in accordance with Standard Plan 7940, 8090, 8091, or 8179, as applicable.

Attention is also directed to the presence of overhead and underground utilities in the construction area. The Contractor shall exercise due caution in performing his work so as not to damage said utilities.

The work specified shall be so conducted as to permit the utility companies to maintain their services without interruption.

Utilities and underground pipelines are to remain in place and shall be worked around and protected from damage or interruption of service. All costs caused by delays or extra work associated with maintaining utilities and pipelines shall be borne by the Contractor.

The Contractor shall determine the unknown location of main and service utilities in advance in order not to delay the schedule of construction. Advance potholing shall be included in the planning and execution of the work. No additional compensation will be paid by the City for the performance of this work. At the direction of the Engineer, it is the Contractor's responsibility to make corrections if conflicts arise among utilities. If conflict arises, the Contractor shall inform the Engineer in advance before any correction is made.

Where various utilities are to be relocated or set to grade by the utility companies, the Contractor shall notify the various utility companies well in advance so as not to impede this work. Contractor shall mark locations of such utilities and maintain said markings for a period of 30 days after final paving.

## 17. **Weight Certificates**

A duplicate certified ticket, giving weight of material in the truck and the date and time of weighing, shall be given to the Engineer on the job as soon as the truck arrives at the site. All trucks used for hauling hot mix asphalt shall be weighed empty daily at such times as directed by the Engineer.

**18. Public Relations Requirements**

Public Relations Policy. In the course of serving its citizens, it is the policy of the City of Berkeley to be responsive, helpful and courteous to its residents at all times. Any City employee or CITY CONTRACTOR that will be in contact with residents, in person or by telephone, will adhere to this policy.

The Contractor is required to prepare a Public Relations Plan to implement the above policy. The Plan shall be submitted for approval before commencing the work under this contract. The Contractor shall certify that he understands and will adhere to the City's Public Relation Policy, and that all Contractor employees will be briefed on proper relations with the public in accordance with above policy statement.

Contractor employees without specific public relations responsibilities shall be informed of the name of the Contractor's and the City's Public Relation Coordinators for referral purposes.

ANY CONTRACTOR EMPLOYEE WHO DOES NOT ADHERE TO THE ABOVE PUBLIC RELATIONS POLICY BY DISPLAYING RUDE, OFFENSIVE AND UNCOOPERATIVE BEHAVIOR SHALL BE DISCHARGED IMMEDIATELY ON WRITTEN REQUEST OF THE ENGINEER PER SUBSECTION 801.4.

**Public Relations Plan.** The Public Relations Plan shall include but is not limited to the following:

- a. Name of the Contractor's Public Relations Coordinator and his/her experience with interfacing with the public.
- b. Plans for conducting public impact assessments prior to commencing the total project, each stage of the project, as necessary to execute the provisions of this contract without undue impact on the public.
- c. Techniques or plans for interfacing with the public and agencies at various stages of the project.
- d. Method of notifying and informing the public and agencies prior to construction stages, providing ample time to address their concerns.
- e. Plans for coordinating public relations matters with the City during the pre-construction conference, weekly meetings and during review of the construction schedule.
- f. Provisions for and frequency of briefing employees on the details of executing the Public Relations Plan.

POOR PERFORMANCE AND NON-ADHERENCE TO THE CITY'S PUBLIC

RELATIONS POLICY ARE GROUNDS FOR BEING DECLARED A NON-RESPONSIVE CONTRACTOR THAT MAY RESULT IN THE CITY REJECTING BIDS ON FUTURE CONTRACTS.

No additional compensation will be paid by the City for implementing Public Relations Policy requirements. All such related effort is a mandatory requirement of the contract.

**19. Lines and Grades**

This section hereby revises section 501.7 of the General Provisions of these specifications.

Construction surveys and stakes to establish the lines and grades and to establish the replacement position for Survey Monuments will be the responsibility of the Contractor and not provided by the City.

The Contractor will be responsible for setting lines and grades for the execution and completion of the work in accordance with the Plans and Specifications. The Contractor will be held responsible for all errors in staking discovered during the performance of the work and no additional compensation shall be charged to the City for correction of such deficiency.

Stakes or marks will be set by the Contractor, utilizing a qualified land surveyor in conformance with the requirements in Chapter 12, "Construction Surveys," of the California Department of Transportation's Surveys Manual.

In all other respects, Section 501.7 and the General Provisions of these specifications remain in full force and effect.

**20. Protection and Preservation of Survey Monuments**

The Contractor shall be responsible for the preservation of existing survey monuments, benchmarks, reference points, and stakes. The Contractor shall replace City Monuments and reference marks removed during the performance of the work. Whenever a City Monument is designated to be removed during the performance of the work, the Contractor shall replace the monument in accordance with Standard Plan 7940, 8090, 8091 or 8179, as applicable. Monument casings (boxes and lids) shall be provided by the contractor, and dome brass markers shall be supplied by the City.

Monument replacement must be done in a neat, workman-like manner. Pavement cuts shall be accurate, with vertical cuts to exact dimensions as shown on the Standard Plan. Each replacement monument shall be constructed such that the center of the dome brass marker is set within 0.04 foot of the referenced position. Monument boxes and lids shall be placed at the proper finished grade and as detailed by Standard Plan 7940, 8090, 8091 or 8179, as applicable. Existing monument lids shall be salvaged by the Contractor and delivered to the City Survey Staff or Project Inspector.

If the City has elected to reference known monuments within the project site, copies of the corner records for the referenced monuments shall be provided to the Contractor prior to the start of construction. Otherwise, monument referencing shall be done by a licensed land surveyor hired by the contractor, and copies of the corner records for the referenced monuments shall be provided to the City prior to the start of construction. For each monument that has been removed, the replacement monument location(s) will be established by the referencing surveyor after final pavement is completed. The new dome brass marker shall not receive final punching prior to seven (7) days after completion of the monument construction.

In the event that any non-referenced monuments or monument reference points become in danger of being disturbed due to construction, the Contractor shall cease the threatening activity and notify the Project Manager and City Survey Staff immediately. Response to endangered monuments or reference points is a priority and they shall be referenced in accordance with the City of Berkeley Monument Reference Guidelines (see Appendix). In no case may an unreferenced monument or monument reference point be damaged during construction.

Should any monument not designated for replacement be disturbed or sustain damage during construction, the Contractor shall bear the expense for rebuilding it as well as for the survey work the City survey crew or its survey consultant must perform in the process. In any instance where the City deems a damaged monument to be irreplaceable, whether designated or not designated for replacement, the Contractor shall be fined \$20,000 per monument.

**21. Revocable Bid Items**

Bid items noted as "revocable items" may be deleted entirely or in part from the Work at the option of the City. The provisions in Section 401.2, "Alterations and Increased or Decreased Quantities," of the Standard Provisions shall not apply to such omission, and no compensation will be allowed the Contractor by reason of such omission.

**22. Construction on Hill Streets**

When streets to be rehabilitated are located in the hill areas, lightweight trucks, loads, or equipment, (e.g., 10 wheelers) shall be required in order to deter subgrade damage (pumping or distortion) and due to accessibility issues on narrow, winding roads.

**23. Overage Permits**

Contractor is hereby notified that permits must be obtained for transporting overheight, overwidth, and/or overweight loads within the limits of the City of Berkeley. These permits which may be obtained from the Engineering Counter of the City's Permit Service Center **are enforced** by the Berkeley Police Department. **Truck routes shall be approved by the City's Traffic Engineer prior to start of work. Truck traffic is not**

**allowed on Marin Avenue within the City of Albany.**

**24. Stormwater Pollution Control**

The intent of these requirements is compliance with federal, state, City, and other local agencies' regulations that prohibit non-stormwater discharges from construction sites. Pollutants (any substance, material, or waste other than rainfall derived stormwater) discharged to storm drains is strictly prohibited. Further, the Contractor is informed that Federally Endangered species have been identified in creeks within the City limits. Point source, pollutants, stormwater, and other relevant information are defined in Berkeley Municipal Code (BMC) Chapter 17.20 – DISCHARGE OF NON-STORMWATER INTO CITY'S STORM DRAIN SYSTEM – REDUCTION OF STORMWATER POLLUTION, and the City's stormwater NPDES (National Pollutant Discharge Elimination System) Permit No. CAS612008. These documents are available upon request.

**Best Management Practices (BMP) and Source Control.** The Contractor shall use appropriate BMPs and source control techniques on the site(s) at all times, regardless of time of year or rainfall conditions, in order to prevent non-stormwater discharges from construction sites. BMPs shall be in conformance with the California Stormwater Quality Association's "Stormwater Best Management Practice Handbook," current edition.

**Water Pollution Control Plan (WPCP) and Coordinator.** The Contractor shall prepare, submit for favorable review by the City, and implement a WPCP which shall contain at a minimum the items included in this section. The WPCP shall show the locations of all storm drains, storm drain pipes, creeks, creek culverts, points of entry (catch basins, inlets, outlets), and other features through which stormwater flows. The WPCP shall identify each point of entry and show how each entry point will be protected. The WPCP shall include a protocol for allowing drainage to flow properly during rainfall events WHILE STILL PREVENTING non-stormwater discharges from entering the storm drains, creeks, and Bay. The Contractor shall designate an individual (to be approved by the City) available at all times of sufficient authority to halt work and implement BMPs and source control measures for the Contractor and all sub-contractors, suppliers, and other personnel that may be at the construction site(s), to prevent non-stormwater discharges from the construction site(s). This individual shall be the contact person for all matters of the project regarding non-stormwater discharges. The WPCP shall include descriptions and sketches of all BMPs, show locations and describe protocols for implementing and maintaining the following BMPs for but not limited to material storage, dewatering operations, bypass pumping, saw-cutting operations, pavement operations, concrete operations, grading and excavation operations, spill prevention and control, vehicle and equipment cleaning, vehicle and equipment operation and maintenance, litter control, dust control, pavement cleaning, and construction waste management. All employees, subcontractors, suppliers, and any others involved with the construction site(s) shall be trained in implementing, the importance of, and purpose of the WPCP. Training records shall be submitted to the City along with requests for progress payment. Where BMPs affect traffic or parking, they shall be shown on the traffic control plans for the construction site(s). The WPCP shall be updated to meet changing stages of the construction site(s). Work shall not begin without the City completing its review and finding no exceptions taken on the

WPCP and finding at City's sole discretion that the WPCP meets the intent and goals of the project.

In addition, the Contractor shall observe the following guidelines:

- Paving during wet weather:
  - a. No paving while it is raining.
  - b. No paving of the top lift of asphalt concrete (AC) on any day that experiences ¼" of rain in a twenty-four period
  - c. No paving of bottom lift if previous seventy-two (72) hour period experienced more than ½" of rain, unless directed by the City Engineer or his/her designee.
- Store materials as required under Section 6-1.01, "Control of Materials, General," of the Standard Specifications.
- Cover inlets and manholes when applying asphalt, seal coat, tack coat, slurry seal, fog seal, etc. in conformance with the provisions in Section 13-4.03E(7), "Paving, Sealing, Sawcutting, Grooving, and Grinding Activities," of the Standard Specifications.
- Place drip pans or absorbent materials under paving equipment when not in use.
- During wet weather store paving equipment indoors or cover with tarp or other waterproof covering.
- Sweep site daily to prevent sand, gravel or excess asphalt from entering or being transported by rain into the storm drain system.
- Keep ample supplies of drip pans or absorbent materials on-site.
- If paving involves Portland cement concrete, refer to Concrete Waste Management Section of the Standard Specifications.

**Do not wash out concrete trucks into storm drains, open ditches, streets, streams, etc.**

The Contractor shall prevent the discharge of pollutants from concrete operations by using measures to prevent run-on and run-off pollution, properly disposing of wastes, and by implementing the following BMPs:

- Store all materials in waterproof containers or under cover away from drain inlets or drainage areas.
- Avoid mixing excess amounts of Portland cement materials. Dispose of any excess materials properly.
- Whenever possible, perform washout of concrete trucks off-site where discharge is controlled and not permitted to discharge to the storm drain system. For on-site washout:
  - Locate washout area at least fifty (50) feet from storm drains, open ditches or other water bodies, preferably in a dirt area. Confine run-off from this area by constructing a temporary pit or bermed area large enough for the liquid and solid waste.

- Wash out concrete wastes into the temporary pit where the concrete can set, be broken up and then disposed of properly. If the volume of water is greater than what will allow concrete to set, allow the wash water to infiltrate and/or evaporate, if possible. Remove or vacuum the remaining silt and debris from the ponding or bermed area and dispose of it properly.
- Dispose of waste water from washing of exposed aggregate to dirt area. The dirt area shall be adequate to contain all the waste water and once the waste water has infiltrated, any remaining residue must be removed.
- Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in trash container.

**Training.** The Contractor is responsible for ensuring all personnel, laborers, sub-contractors, suppliers, and any other personnel that are involved with the construction site(s) are trained in the importance of preventing non-stormwater discharges. Each worker shall be certified as being trained before being allowed to work. Before any work begins, the Contractor shall submit and certify under penalty of perjury a list of all workers who have been trained on the importance of pollution prevention, BMP and source control operation and maintenance, and recognize the authority of the City to stop the work in the event of a non-stormwater discharge. The training shall include as a minimum, review of the BMP and WPCP, and all BMPs (including BMP operation and maintenance) that are planned for the construction site(s).

**Enforcement.** The City has the authority through this contract and appropriate sections of the BMC to enforce any portions of this section. City enforcement may include but is not limited to: citations, orders to abate, bills for City cleanup costs and administration, civil suits, and criminal charges and enforcement. Enforcement action by the City does not void or suspend any enforcement actions by other agencies and actions by the City and other agencies shall be cumulative.

**Submittals and Contract Time.** Contractor is cautioned and advised to have appropriately trained staff with any applicable certifications prepare all submittals for Storm Water Pollution Controls including the WPCP, and have appropriately trained staff available to meet with City staff to review the submittals. It is considered reasonable that the Contractor shall make a complete and acceptable submittal at least by the second submission. City reserves the right to deduct monies from payments due Contractor to cover additional costs of project manager's and Architect/Engineer's review beyond the second submission. Illegible submittals will be rejected and returned to the Contractor.

## **25. Creek Protection**

The Contractor shall be responsible for and conduct all aspects of the work within the requirements of BMC Chapter 17.08 – PRESERVATION AND RESTORATION OF NATURAL WATERCOURSES (Creek Ordinance), and any other creek protection requirements by other agencies. Portions of the Work involving a creek channel may not be permitted starting October 15 through April 15, or other dates as may be stipulated in

applicable permits. Any work between the creek banks shall be conducted to not create conditions, which will allow erosion, and shall be fully restored to equal or better than the erosion resistant condition as before the work undertaken. Complying with the requirements of creek protection shall include but not be limited to scheduling the Work around any time periods prohibiting work within creek limits, installing erosion control measures and employing appropriate BMPs for controlling erosion, monitoring, updating and modifying BMPs to meet the requirements for changing site conditions to comply with erosion control and creek protection, and replanting creek banks to reestablish erosion resistance and bank stability.

**26. Audio/Video Survey**

The Contractor shall perform a pre-construction audio/video survey in order to adequately document the condition of existing improvements and supplemented by still photographs as needed. It is the responsibility of the Contractor to adequately document the condition of existing improvements and the Contractor may be held liable for any damage or condition whose pre-existence he/she is unable to document. No additional compensation for such audio/video survey and still photographs will be allowed. A copy of this audio/video documentation shall be provided to the City prior to construction.

**27. Tree and Root Protection and Root Pruning**

Care shall be taken when working near trees, public or private. For all phases of the work, the Contractor is responsible for protecting trees and Contractor will replace any trees judged damaged by the City.

In the event that root pruning would compromise the structural stability of the tree, the tree will be removed. Trees may also be removed based on their condition or location. Tree Removal will be decided by the Urban Forestry Representative. Tree removal will be coordinated by the Urban Forestry Representative and scheduled in conjunction with the Contractor.

Underground Service Alert (USA) of Northern/Central California and Nevada

- a) The Contractor will contact USA North 811 Call Before You Dig in accordance with all applicable requirements.
- b) The Contractor will notify USA North that there will be root grinding and root removal in addition to the sidewalk removal.
- c) The Contractor will ensure that the utility location marks are offset so that they are placed on a permanent surface that will not be removed. Offset marks locate the utility by showing the orientation of the utility and the distance from the marks to the utility.

Limb and Trunk Protection

This applies when trees are not surrounded by protective fencing. Trees situated in a tree well or sidewalk planting strip shall have the trunk protected by wrapping it with straw tubes (wattle) or vertical wood slats (*ex.* 2x4), up to a minimum of 8 feet from grade. Wooden slats shall be angled to protect the root flare at the base of the tree and bound securely on the outside. Closed cell foam or an equivalent material shall be used to protect the trunk of the tree where it contacts the slats. Lateral branches below 8 feet shall also be protected. Contractor shall keep deleterious materials associated with project construction from contacting any part of the trees, or being placed or stored in the tree well or planting strip.

#### Root Protection and Preparation for Root Pruning

- a) Existing sidewalk shall be removed in a manner that prevents any machinery, such as a backhoe, Bobcat®, or mini-excavator, from traveling over the exposed root zone.
- b) Contractor shall make every attempt to not scrape, skin, or pull on roots. Hand excavation around roots may be required.
- c) Where roots must be pruned, the area shall be excavated down to the depth required for the improvements prior to the Urban Forestry Representative inspecting the site; and all rock, concrete or other loose material shall be removed.
- d) No roots shall be torn or pulled using any other tools or machinery unless already severed on each end by one of the approved pruning tools.
- e) Exposed roots shall be covered with soil, mulch, or wet burlap if they will be exposed for more than 48 hours without measurable precipitation.

#### Root Pruning Requirements

- a) All pruning of roots shall be performed using a stump/root cutting machine, saw, axe, or any other sharp blade tool; resulting in a flat surface with the adjacent bark firmly attached.
- b) Roots 2 inches in diameter or greater shall be pruned by the Contractor in accordance with these provisions.
- c) Roots smaller than 2 inches in diameter shall be pruned by the Contractor in accordance with these provisions, with the exception of contacting the Urban Forestry Representative.
- d) Large roots may be shaved to a depth of no more than one-third of their thickness, or as approved by the City's Urban Forestry Representative.
- e) At no time will any root pruning cut into the root flare as defined by the City Arborist.

The size of the tree well or planting strip will be assessed by the City Engineer or his/her designee to determine if it can be increased in size and still meet the minimum requirements. **All debris resulting from root pruning shall be removed by the Contractor.**

Should tree, root, and/or bush pruning be required to construct the improvements shown on the plans, specified in these Special Provisions, and as directed by the Engineer, the Contractor will inform the City’s Urban Forestry Representative of the schedule for when the roots are expected to be exposed. The Contractor shall notify the Engineer and contact the Urban Forestry Representative at least 2 business days in advance of tree or root pruning. The Urban Forestry Representative will inspect each site to approve the necessary root pruning, or work with the Engineer to modify the work to accommodate the tree roots. The Urban Forestry Representative will use white, chalk-based paint to indicate which roots may be pruned and where root pruning is prohibited. Root pruning must adhere to the directions of the Urban Forestry Representative.

Damages

Contractor shall make every effort to avoid damaging any City owned property, including (roots, trunk and canopy of) City maintained trees. If damages to trees are found to be as part of Contractor negligence, Contractor shall be responsible for as follows:

- a. Contractor will provide full reparation to include: removal of irreparable tree and replacement with similar approved species. Contractor will perform this work themselves (at Contractor’s expense) under supervision of City’s Urban Forestry Representative, and/or,
- b. Contractor will reimburse City for City expenses incurred in the related reparation work, consisting of but not limited to, site inspections, corrective pruning, tree removal, and tree replacement.
- c. Damages shall be graded 1 (minor) through 5 (replacement), as determined by City forestry department, with monetary values below.

<b>Grade</b>	<b>Description</b>	<b>Value of Damages</b>
1	Minor Damage	\$200
2	Avoidable Damage to a Major Limb or Root	\$400
3	Moderate Damage	\$600
4	Severe Damage, but Recovery Expected	\$800
5	Replacement	\$1,000

**28. Conformance to Plans and Specifications**

The Contractor’s work shall conform to these specifications and project plans.

Upon notification of the Engineer, the Contractor shall correct any deficiencies within 72 hours. The City may request the City crews or contract with another Contractor to perform the necessary work and repairs if the deficiencies have not been corrected after the 72-hour notification. The Contractor shall pay the cost of the work performed by the City crews or other contractor plus an additional seventy percent (70%) surcharge by deduction from payment due on the contract.

**29. Bond Riders for Additional Work during Construction**

During construction, the City may request or authorize additional work as part of the contract. Prior to commencement of any Contract Change Order (CCO) or Contract Amendment (CA), the Contractor shall submit Surety Company Bond Riders for the new contract amount. The new contract amount is the Contractor's bid amount or authorized contract amount plus the CCO or CA. The Riders for any additional work shall be provided at no cost to the City. Typically, the maximum authorized contract amount requiring a Rider is the Contractor's bid amount plus 20%.

**30. Retained Funds**

Pursuant to California Senate Bill 293 (SB 293), Assembly Bill 1705 (AB 1705), and Assembly Bill 92 (AB 92) until January 1, 2023, the City shall retain five percent (5%) of such estimated value of work done as part security for the fulfillment of the Contract by the Contractor. Section 901.4.1 Retained Funds of the General Provisions of these specifications is hereby revised, decreasing the amount of retained funds from ten percent (10%) to five percent (5%). In all other respects, Section 901.4.1 and the General Provisions of these specifications remain in full force and effect.

**31. Clearing and Grubbing**

Clearing and grubbing shall consist of removal and disposal of all objectionable material from the building site, including existing weeds, brush, shrubs, concrete, masonry, other unsuitable material, and obstructions interfering with the new construction. The limits of clearing and grubbing shall be of sufficient area and depth to complete the work as shown on the plans. Clearing and grubbing shall conform to Section 17-2, "Clearing and Grubbing," of the Standard Specifications.

Clearing and grubbing must be performed in advance of any other grading or construction operations. The area to be cleared and grubbed must be within the building work construction area.

Shrubs and hedges shall be designated for removal in the project plans or as directed by the Engineer. Existing landscaping and trees which are to remain in place must be protected from injury or damage. Existing trees must be protected with a temporary fence around the drip line, edge of the tree well or planting strip, or adhere to the requirements set forth in the "Tree and Root Protection and Root Pruning" section of these General Conditions. Unless otherwise specified, the Contractor shall protect trees at the Contractor's expense.

Unless otherwise specified, all materials as shown on the drawings to be removed, or as field marked and as directed by the Engineer to be removed shall be disposed of outside the project limits. The work area shall be left with a neat and finished appearance.

The Contractor shall not store or permit debris to accumulate on site. If the Contractor fails to remove excess debris promptly, the City reserves the right to cause removal at the Contractor's expense.

Residue from cutting operations shall not be permitted to flow into storm drains or across lanes occupied by traffic and shall be removed from the pavement surface, concurrent with the cutting operation.

Clearing and grubbing must be conducted to ensure minimum interference with roads, street, walks, or other occupied areas.

When hauling is done over highways or City streets, and when directed by the Engineer, the loads must be trimmed and all material removed from shelf areas of the vehicles.

### **32. Caltrans Encroachment Permit**

**Requirements:** If required, the construction must not begin until the contractor performing the work applies for and obtains a separate encroachment permit for the work authorized herein. An initial fee/deposit of \$492.00 is required at the time of application for permit processing and inspection.

A pre-job meeting with the State Representative is required at least 7 days prior to the start of any work under this encroachment permit. Failure to do so may result in permit revocation with no prejudice. The permittee must provide the stage construction plans, traffic handling plans, work schedule, and a list of all sub-contractors to the State Representative at the time of the pre-job meeting. Appendix B of these special provisions includes Caltrans encroachment permit application, tentative traffic control plan.

### **33. Mobilization and Demobilization**

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site.

The Contractor shall insure that adequate existing sanitation facilities are available or the Contractor shall provide and maintain adequate sanitation facilities. All wastes and refuse from sanitary facilities provided by the Contractor's operations shall be disposed of away from the site in accordance with all laws and regulations pertaining thereto.

Demobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the removal of personnel, equipment, supplies and incidentals from the project site and for all other work and operations which must be performed or costs incurred after completion of the various contract items on the project site.

**34. Existing Utilities**

It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Engineer assumes no responsibility therefor. Whenever any such utilities are indicated thereon, the Contractor shall be responsible for verifying their actual location and depth in the field. The Contractor shall notify Underground Service Alert at (800) 227-2600 prior to excavation.

It shall be the Contractor’s responsibility to coordinate with the utility agencies for relocation or adjustment of utilities. Utilities to notify include:

PG&E	(800) 743-5000	Notify 5 working days in advance
AT&T	(510) 864-8255	Notify 2 weeks in advance
East Bay Municipal Utility District (EBMUD)	(510) 986-7733	Notify 2 weeks in advance and 48 hours.
Comcast	(925) 424-0152	Notify 2 weeks in advance

Contact EBMUD before working in the vicinity of all EBMUD facilities.

The Contractor shall be cognizant of the existing utility lines in the proximity of the work area and take precautions, as necessary, to not disturb these facilities.

Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to determine their exact depth and location. Extreme care shall be exercised to avoid damage, and it will be the Contractor’s responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

Styrofoam shall be placed between new storm drain and existing utilities where vertical clearance between utility crossings is less than six (6) inches.

Attention is directed to the possible existence of underground facilities not indicated on the plans or in the Special Provisions and to the possibility that underground main or trunk lines may be in a location different from that which is indicated on the plans or in the Special Provisions. The Contractor shall ascertain the exact location of underground main or trunk lines whose presence is indicated on the plans or in the Special Provisions, the location of their service laterals or other appurtenances, and of existing service lateral or appurtenances of any other underground facilities which can be inferred from the presence of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage any of the facilities or interfere with their service.

If the Contractor cannot locate an underground facility whose presence is indicated on the plans or in the Special Provisions, the Contractor shall so notify the Engineer in writing. If the facility for which the notice is given is in a substantially different location from that

indicated on the plans or in the Special Provisions, the additional cost of locating the facility will be paid for as extra work as provided in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

If the Contractor discovers underground main or trunk lines not indicated on the plans or in the Special Provisions, the Contractor shall immediately give the Engineer and the Utility Company written notification of the existence of those facilities. The main or trunk lines shall be located and protected from damage as directed by the Engineer, and the cost of that work will be paid for as extra work as provided in Section 4-1.05 of the Standard Specifications. The Contractor shall, if directed by the Engineer, repair any damage that may occur to the main or trunk lines. The cost of that repair work, not due to the failure of the Contractor to exercise reasonable care, will be paid for as extra work as provided in Section 4-1.05 of the Standard Specifications. Damage due to the Contractor's failure to exercise reasonable care shall be repaired at the Contractor's cost and expense.

Where it is determined by the Engineer that the rearrangement of an underground facility is essential in order to accommodate the highway improvement and the plans and specifications do not provide that the facility is to be rearranged, the Engineer shall provide for the rearrangement of the facility by other forces or the rearrangement shall be performed by the Contractor and will be paid for as extra work as provided in Section 4-1.05 of the Standard Specifications.

When ordered by the Engineer in writing, the Contractor shall rearrange any utility or other non-highway facility necessary to be rearranged as a part of the street improvement, and that work will be paid for as extra work as provided in Section 4-1.05 of the Standard Specifications.

Should the Contractor desire to have any rearrangement made in any utility facility, or other improvement, for the Contractor's convenience in order to facilitate the Contractor's construction operations, which rearrangement is in addition to, or different from, the rearrangements indicated on the plans or in the Special Provisions, the Contractor shall make whatever arrangements are necessary with the owners of the utility or other non-highway facility for the rearrangement and bear all expenses in connection therewith.

The Contractor shall immediately notify the Engineer of any delays to the Contractor's operations as a direct result of underground main or trunk line facilities which were not indicated on the plans or in the Special Provisions or were located in a position substantially different from that indicated on the plans or in the Special Provisions, or as a direct result of utility or other non-highway facilities not being rearranged as herein provided (other than delays in connection with rearrangements made to facilitate the Contractor's construction operations or delays due to a strike or labor dispute). These delays shall be considered within the meaning of Section 8-1.07, "Delays," of the Standard Specifications, and compensation for the delay will be determined in conformance with the provisions in Section 8 of the Standard Specifications. The Contractor shall be entitled to no other compensation for that delay.

Any delays to the Contractor's operations as a direct result of utility or other non-highway facilities not being rearranged, due to a strike or labor dispute, shall entitle the Contractor to an extension of time as provided in Section 8-1.07B, "Time Adjustments," of the Standard Specifications. The Contractor shall be entitled to no other compensation for that delay.

**35. General Conditions Compensation**

Full compensation for complying with the General Conditions shall be considered as included in the contract prices paid for the various items of work and no separate payment will be made therefor.

**36. Termination of Contract for Convenience**

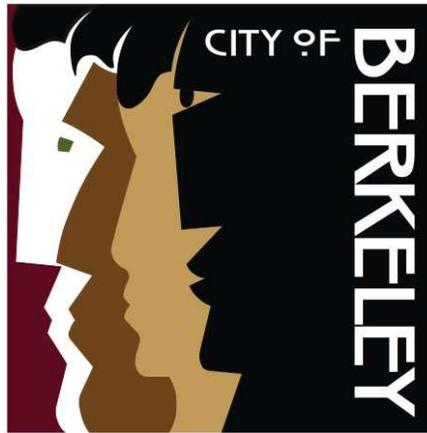
- A. Owner may terminate performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever Owner shall determine that termination is in Owner's best interest. Termination shall be effected by Owner delivering to the Contractor notice of termination specifying the extent to which performance of the Work under the Contract Documents is terminated, and the effective date of the termination.
- B. Contractor shall comply strictly with Owner's direction regarding the effective date of the termination, the extent of the termination, and shall stop work on the date and to the extent specified.
- C. Contractor shall be entitled to a total payment on account of the Contract work so terminated measured by:
  - a. the actual cost to Contractor of Work actually performed, up to the date of the termination, with profit and overhead limited to twelve percent (12%) of actual cost of work performed, up to but not exceeding the actual contract value of the work completed as measured by the Schedule of Values and Progress Schedule,
  - b. offset by payments made and other contract credits. In connection with any such calculation, however, Owner shall retain all rights under the Contract Documents, including but not limited to claims, indemnities, or setoffs.
- D. Under no circumstances may Contractor recover legal costs of any nature, nor may Contractor recover costs incurred after the date of the termination.

**AQUATIC PARK PADDLING AND ROWING CLUB  
PARKING LOT IMPROVEMENTS PROJECT**

**Berkeley, California  
Specifications No. 22-11514-C  
TECHNICAL SPECIFICATIONS**

**January 6, 2023**

**Bid Set**



Owner:

**City of Berkeley**  
Department of Parks, Recreation, and Waterfront  
2180 Milvia Street  
Berkeley, CA 94704

## **PART C – TECHNICAL SPECIFICATIONS**

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### **BID ITEM NO. 1 – MOBILIZATION**

The City will provide a Staging area north of the Project Site, within Aquatic Park for the Contractor's use. Staging area shall be appropriate for stockpiling and storing materials and equipment. Temporary utilities including water shall be arranged solely by the Contractor.

The staging area(s) shall be maintained throughout the duration of the Project such that it is not construed as visual blight in the opinion of the Engineer. All adjoining streets, sidewalks and gutters shall be swept free of construction materials tracked onto them at the end of each day. Failure to do so will result in City forces cleaning the area at the Contractor's expense. The City of Berkeley labor rate to be used shall be \$150 per hour per person.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 1 - MOBILIZATION**

The **LUMP SUM** contract price paid for "**Bid Item No. 1 - Mobilization,**" shall include full compensation for furnishing all labor, supervision, materials, tools, equipment and incidentals, and for all the work involved in mobilization and demobilization, including, but not limited to, furnishing all specified contract bonds and insurance certificates, public notification, furnishing and installing project identification signs and sign posts, transporting equipment to and from the project site, establishing a staging and storage area, sanitary restroom facilities and their maintenance, and all other work as specified in these Technical Specifications and as directed by the Engineer.

### **BID ITEM NO. 2 – TRAFFIC CONTROL, PUBLIC CONVENIENCE, AND CONSTRUCTION PHASING**

**The Contractor shall submit a traffic control plan for City Approval before the start of construction. Truck routes shall be approved by the City's Traffic Engineer prior to start of work.**

Traffic control during construction shall be the responsibility of the Contractor. All traffic control devices shall be in accordance with the latest edition of the California Manual on Uniform Traffic Control Devices (California MUTCD) herein after referred to as Traffic Control Manual. The Traffic Control Manual may be obtained online at <https://dot.ca.gov/programs/safety-programs/camutcd>. The Contractor shall submit to the City Traffic Engineer project specific traffic control plans prior to implementing traffic control measures for the Project. The City of Berkeley reserves the right to modify any portion of the submitted and approved traffic control plans. In general, the following guidelines for traffic control plans shall be followed:

- **Construction hours shall be limited to 7:00 am to 5:00 pm, Monday to Friday, excluding City of Berkeley Holidays and Reduced Service Days** [https://www.cityofberkeley.info/IT/Holiday\\_and\\_Reduced\\_Service\\_Days.aspx](https://www.cityofberkeley.info/IT/Holiday_and_Reduced_Service_Days.aspx). The

portion of West Bolivar Drive adjacent to the construction site may be closed to the public during the specified construction hours.

- While the section of West Bolivar Drive adjacent to the construction site is closed to the public, it shall be the Contractor's responsibility to direct pedestrian and bicycle traffic to use the pathway on the East side of Aquatic Park.
- **Between the hours of 5:00 pm to 7:00 am, Monday to Friday, all day Saturday and Sunday, and City of Berkeley Holidays and Reduced Service Days, West Bolivar Drive shall be fully open to the public.**
- **The Berkeley Paddling and Rowing Club Boathouse, Boathouse back patio, and recreational dock shall remain open during construction. It is the Contractor's responsibility to maintain public access at all times. It is the Contractor's responsibility to phase construction to maintain public access at all times.**
- **The Contractor shall allow access to the quick-coupling water valve and boat washing/lawn area to the Berkeley Paddling and Rowing Club at all times.**

The Contractor shall initially (on the first working day) notify the U. S. Postal Service, the police, fire, garbage collection (City Refuse Service), and Engineer of the need for road closure(s) and areas of construction delays. After the first working day the Contractor shall keep the Engineer updated on road closure(s) and areas of construction delays on a daily basis.

All holes, trenches, etc., in the project site shall be covered with 1-inch steel plates, shimmed with temporary asphalt on edges, by 5 p.m. or at the end of each work day. As an option to the Contractor, the holes, trenches, etc., can be backfilled and all areas within the project site can be backfilled with temporary asphalt toppings. The temporary asphalt shall be regularly maintained. All areas shall be completely restored within ten (10) working days after the work has been completed at that location. All open excavations which are not actively involved in construction activity shall be adequately barricaded against entry by pedestrians or animals.

At the end of each day's work, and at other times when construction operations are suspended, all equipment and other obstructions shall be removed from that portion of roadway open for use by public traffic. No longitudinal joint shall be left during non-working hours.

Where existing road signs are in conflict with the proposed work, the Contractor shall relocate such signs to temporary or permanent locations as directed by the Engineer.

If it becomes necessary, in the opinion of the City Engineer, to properly move traffic through the construction area, flagmen shall be present to slow down and reroute traffic, in which case flagmen shall be on duty the entire period the roadway is constructed. Where flagmen are not visible to each other, additional flagmen shall be added as required by the Engineer or the Contractor shall use radios.

Contractor shall take all necessary measures to obtain a normal flow of traffic to prevent accidents and to protect the work throughout the construction stages until completion of the work. The

Contractor shall make the necessary arrangements to provide and maintain barriers, cones, guards, barricades, and construction warnings and regulatory signs. The Contractor shall take measures necessary to protect all other portions of the work during construction and until completion, providing and maintaining all necessary barriers, barricade lights, guards, temporary crossovers and watchmen.

In addition to the foregoing traffic control and safety measures, the Contractor shall undertake immediately to implement any measures requested by the Engineer, as they deem necessary to ensure the proper flow of traffic and the protection of the public and the safety of the workers. The Contractor shall maintain at all times the ability to respond to calls from the City of Berkeley Police and Fire Departments during non-working hours to replace or provide additional traffic control or safety devices as shall be required by the Police Department.

Extensive traffic signage, e.g., warning signs and detour signs, may be required for this project. Contractor shall be responsible for placing all barricades for perimeter street closures as required.

The Contractor shall be responsible for posting "No Parking" signs a minimum of four days in advance of site mobilization so as to comply with the City's construction notification requirement of 72 hours excluding weekends and holidays hours. Cones shall not be used as barricades. "No Parking" signs may be obtained from the City at no cost to the Contractor. The "No Parking" signs shall be updated as necessary. The Contractor shall check and maintain (e.g., re-install missing signs, reposition displaced barricades, etc.) postings on a regular basis prior to start of work.

Personal vehicles of the Contractor's employees shall not be parked within the area of work.

The Contractor may be allowed to close residential streets if approved in writing in advance by the Engineer. No work that interferes with public traffic shall be performed between 5:00 p.m. and 7:00 a.m.

Start of work shall be no earlier than 7:00 a.m. No work process, including starting, warm up, and delivery of equipment, shall be done outside of work hours. The use of vehicle horns to alert residents to move their vehicles out of the construction zone is not permitted. The Contractor should attempt to locate vehicle owners by knocking on doors. If Contractor violates these provisions, a fine of \$1,000 will be assessed for the first violation, \$5,000 for the second and \$10,000 for the third.

The full width of the traveled way shall be open for use by the public traffic on Saturdays, Sundays and designated legal holidays, and when construction operations are not actively in progress, unless specified otherwise.

Minor deviations from the requirements of this section concerning hours of work may be permitted upon the written request of the Contractor if in the opinion of the Engineer, public traffic will be

better served and the work expedited. Such deviations shall not be adopted until the Engineer provides written approval.

If any component in the traffic control system is damaged, displaced or ceases to operate or function as specified, from any cause during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

The Contractor, at the end of each day, shall provide pedestrian and vehicle crossings at all street intersections. If the project is left open overnight, it shall be graded in such a way that pedestrians and vehicles can safely pass through the project. Temporary concrete, asphalt, or wood ramps shall be installed and maintained at all locations where existing ramps have been temporarily removed.

Where a tack coat has been applied, pedestrian crossing areas shall be covered with sand so that the asphalt does not adhere to shoes.

No vehicular traffic shall be allowed on a tack coat. Cleanliness is extremely important. Dust producing conditions shall be eliminated as soon as they are created. Access and Egress Work shall be accomplished in such a manner as to provide access as shown on the Plans and adjacent properties. The Contractor shall endeavor to cooperate with all business owners and residents occupying properties fronting on the streets in the matter of access and egress. If during the course of the work, it is necessary to restrict access to certain driveways for an extended period of time, the Contractor shall notify the affected residents, in writing, at least forty-eight (48) hours in advance.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 2 - TRAFFIC CONTROL, PUBLIC CONVENIENCE, AND CONSTRUCTION PHASING**

The contract **LUMP SUM** price paid for “**Bid Item No. 2 - Traffic Control, Public Convenience, and Construction Phasing,**” shall include full compensation for furnishing all labor (including flaggers if necessary), materials (including barricades, signs, door hangers and temporary traffic delineation), tools, equipment, and incidentals and for doing all the work involved in traffic control including all work necessary to provide for the convenience and safety of the public and to facilitate the performance of the contract work as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

### **BID ITEM NO. 3 – EROSION CONTROL**

**The Contractor shall submit an erosion control plan to the City for approval.** After approval, the Contractor shall be responsible in implementing the approved erosion control plan submittal.

The Contractor shall comply with all air pollution, water quality, and other environmental control rules, regulations, ordinances and statutes as apply to the project and the executing of the work performed pursuant to the Control.

The Contractor shall implement construction site best management practices for the control of non-storm water and point discharges, erosion and sediment control.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 3 - EROSION CONTROL**

The Contract price paid per **LUMP SUM** for “**Bid Item No. 3 - Erosion Control,**” shall include full compensation for submitting an erosion control plan for approval, furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in implementing erosion control as described in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

### **BID ITEM NO. 4 – CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING**

Clearing, grubbing, tree protection, and root pruning shall conform to Section 17-2, “Clearing and Grubbing,” of the Standard Specifications (CALTRANS 2018).

Work under this section shall only be undertaken during dry weather conditions defined as no rainfall within the prior 24 hours.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 4. – CLEARING, GRUBBING, TREE PROTECTION, AND ROOT PRUNING**

The **LUMP SUM** contract price paid for “**Bid Item No. 4 – Clearing, Grubbing, Tree Protection, and Root Pruning**” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in clearing, grubbing, tree protection, and root pruning, including, but not limited to, removal and disposal of plant material, implementing tree protection measures, and limb and root pruning as shown on the Plans and all other work as specified in the Caltrans Standard Specifications and these Technical Specifications and as directed by the Engineer.

### **BID ITEM NO. 5 - PAVEMENT EXCAVATION**

The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with milling and rubblizing the asphalt concrete pavement as shown on the Plans. The ground up asphalt pavement shall be left within the footprint where it was milled from. The contractor shall spread and grade the material as shown on the Plans.

The work in this section includes: removing cobbles and rocks not suitable for pulverization; demolishing a City project control point; protecting existing underground utilities; and off-hauling and disposal of any surplus excavated material.

### **Protection of Existing Utilities**

Where existing underground utilities or utility services lie within the work site, the Contractor shall verify, by potholing or other means acceptable to and approved by the Engineer, that there is sufficient cover over the utilities to provide clearance for the construction process without damage to the existing utility facilities. This verification shall be carried out where each utility crosses the boundary of the excavation area, and at a minimum of one location in between. This paragraph shall not relieve the Contractor of conforming to all utility protection requirements contained elsewhere in these Contract Specifications.

The Contractor shall be responsible for the protection of existing pipelines, manholes, catch basins, valve boxes and other utility structures that are to remain within the work area. Any such utility facilities that are damaged from excavation work performed by the Contractor shall be either repaired or replaced to the satisfaction of the Engineer at no cost to the City, in accordance with Section 5-1.36, "Property and Facility Preservation" of the Standard Specifications, (CALTRANS 2018).

### **Excavation**

Excavation consists of all excavation to the depths required for installation of **Minor Concrete – Building Pad/ADA Parking Spot, Porous Flexible Paver Parking Area, and Asphalt Concrete with Stabilized Base**. Excavate to the described authorized grade. Sidewalls shall be vertical to the extent possible. If over-excavation occurs, backfill with an authorized material and compact it.

Surplus materials generated by activities associated with, "**Bid Item No. 5 - Pavement Excavation**" not used as part of the stabilized base shall be off-hauled and disposed at the Contractor's expense.

### **Remove Cobbles and Rocks from Excavation Area**

The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with removing cobbles, concrete debris, general debris, asphalt-concrete debris, metal debris, and larger rocks from the on-site soil materials that will be encountered in the area of construction and excavations not suitable for pulverization. Removed cobbles, rocks and debris shall be disposed of or recycled at a licensed facility.

### **AC Pulverization**

The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with milling and pulverizing asphalt concrete pavement and excavating and pulverizing soil material to the specified depth of excavation as shown on the Plans.

Excavated material to be incorporated with Stabilizer for use as stabilized base material for use in **“Bid Item No. 10 – Asphalt Concrete with Stabilized Base” shall be pulverized so that 100 percent shall pass the two-inch (2”) sieve prior to treatment**, unless otherwise approved in writing by the manufacturer of the stabilizer product and the engineer.

### **Material Stockpile**

Place, grade, and shape stockpiles to drain surface water. Stockpile soil materials away from edge of excavations. Do not store stockpiled materials or equipment within drip line of trees.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 5 – PAVEMENT EXCAVATION**

The contract **LUMP SUM** price paid for **“Bid Item No. 5 – Pavement Excavation”** shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work necessary to excavate and pulverize the existing asphalt-concrete roadway, this work includes excavation, demolishing a City of Berkeley project control point, pulverization of asphalt concrete and excavated material, storing pulverized excavated material, and removal and disposal of surplus excavated material, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

### **BID ITEM NO. 6 – MINOR CONCRETE – BUILDING PAD/ADA PARKING SPOT**

The work performed in connection with construction of minor concrete shall conform to the provisions in Sections 5-1.36, “Property and Facility Preservation”, 7-1.05, “Indemnification,” 7-1.06, “Insurance,” 14-10, “Solid Waste Disposal and Recycling,” and 15, “Existing Facilities,” of the Standard Specifications (CALTRANS 2018), as well as these Technical Specifications. Nothing in these Technical Specifications shall relieve the Contractor of the Contractor’s responsibilities as specified in Section 7-1.04, “Public Safety,” of the Standard Specifications, (CALTRANS 2018).

The Contractor shall protect from damage, any utilities and other non-highway facilities that are to remain in place, be installed, relocated, or otherwise rearranged.

All work shall conform to Caltrans Standard Specifications Section 73 “Concrete Curbs and Sidewalks,” except as modified in these Technical Specifications.

The Contractor shall restore all sewer, gas and waterline system markings on the top of curbs. All markings shall be referenced prior to curb removal.

Sawcuts shall be made on the nearest joint or score line. Sawcuts must go entirely through concrete. Cut concrete shall be removed without damaging the concrete that is to remain in place, or any other structures or improvements adjacent to the cut concrete. Damage to concrete or any adjacent existing structure or improvement, which is to remain in place, shall be repaired to a condition satisfactory to the Engineer. Repairing or removing and replacing structures, improvements, and/or the concrete to remain in place, that are damaged outside the limits of concrete to be replaced, shall be at the Contractor's expense and will not be measured nor paid for. City owned electrical facilities may be shallow in sidewalk, curb ramp, curbs, and driveway areas. The Contractor shall protect such facilities during construction. Damage to such facilities and required repairs to return functionality shall be at the Contractor's expense.

Where no joint exists between concrete to be removed and concrete to remain in place, the concrete shall be cut on a neat line to a minimum depth of four (4) inches with a power-driven saw before the concrete is removed.

If existing pavement is asphalt, sawcut line on the pavement in front of curb or gutter lip including gutter for curb ramps shall be at least twelve (12) inches beyond the concrete edge to allow for construction of forms. Payment for restoration of this portion of pavement shall be included in the unit cost of the curb.

Slurry from sawcut operation shall be removed sufficiently by vacuuming or similar method from the concrete surface and shall be prevented from entering any waterway or storm drain system in accordance with best management practices.

### **Placement of Concrete**

Existing subgrade surface shall be re-graded (if necessary) and re-compacted to conform to the grades shown on the plans.

A 6-inch thick Class 2 Aggregate Base shall be placed under all minor concrete surfaces, and shall comply with Section 26, "Aggregate Bases," of the Standard Specifications and these Technical Specifications.

No concrete shall be placed until the Engineer has inspected and approved forms and subgrade. Concrete placed without approval by the Engineer is subject to rejection.

Sidewalk underdrain alignment and facility shall be restored within curb and at face of curb. Concrete mixture design and proportions shall be approved by the Engineer.

Maximum slump of fresh concrete permitted in these items shall be four (4) inches. Slump shall be determined by ASTM C143. Placement and consolidation of concrete shall be in accordance with Section 73 of the Standard Specifications. Concrete finish for minor concrete shall be steel troweled and lightly brushed to remove the trowel marks.

Weakened plane joints at least 1-1/2 inches deep shall be placed to match joints in existing concrete pavement. If the pavement is not concrete, weakened plane joints at least 1-1/2 inches deep shall be placed at ten (10) feet on center.

New work shall match existing in finish, score pattern, and color, or as shown on the Plans, or as directed by the Engineer. The Engineer reserves the right to change the colored concrete specification without any additional compensation to the Contractor.

1. Concrete shall contain 1-1/2 pounds of lampblack per cubic yard.
2. Rose colored concrete shall contain six (6) pounds of Davis #160 (rose) per cubic yard.

Any concrete discolored, defaced, or otherwise damaged before official acceptance shall be cleaned, repaired, or replaced at the Contractor's expense.

Curbs shall have forms removed and be backfilled within three (3) days after placement.

Contractor shall make every effort to avoid damaging any City owned property, including (roots, trunk and canopy of) City maintained trees. Where required by site conditions, protect existing tree roots, and concrete curb and concrete curb & gutter shall be bulbed out at locations determined by the City. The bulb-out shall make room for 18 inches of soil between the trunk/root and the back of curb. Where the bulb-out is greater than 18 inches measured between tree trunk/root and face of curb, the curb / bulb-out shall be painted red.

Restoration work of disturbed grounds or improvements including pavement around new concrete must be done as soon as practicable but no later than seven (7) days after concrete placement.

Any voids left between new concrete and existing unpaved areas adjacent to sidewalks and curbs resulting from excavation, removal, or other construction-related activities, shall be filled with topsoil tamped in place. Backfill work shall be completed within three (3) days of excavation.

### **MEASUREMENTS AND PAYMENT – BID ITEM NO. 6 – MINOR CONCRETE – BUILDING PAD/ADA PARKING SPOT**

The quantity for “**Bid Item No. 6 - Minor Concrete – Building Pad/ADA Parking Spot,**” shall be the complete in place **SQUARE FOOT** measured surface of Minor Concrete – Building Pad/ADA Parking Spot.

The contract price paid per **SQUARE FOOT** for “**Bid Item No. 6 - Minor Concrete – Building Pad/ADA Parking Spot**” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in placing concrete sidewalk, dowels and rebar, portland cement concrete, score marks, jointing, furnishing and applying curing compound, finishing, formwork as required to match existing or proposed flowlines and top of curb as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Class 2 Aggregate base installed underneath minor concrete shall be compensated in, **“Bid Item No. 7 – Class 2 Aggregate Base.”**

Full compensation for protecting any utility in place, adjusting any and all utility appurtenance boxes (public and private) to finish grade and to an alignment parallel with adjacent buildings, and coordination with utility agencies, and replacement of damaged public utility appurtenance boxes, shall be considered as included in the contract unit prices paid for the bid Items in this Section and no separate payment will be made therefor.

Full compensation for removal and disposal of existing asphalt concrete and underlying base or subgrade material, shall be considered as included in the contract prices paid for **“Bid Item No. 5 – Pavement Excavation”** and no separate measurement or payment will be made therefor.

Full compensation for removal and disposal of pavement material for placement of hot mix asphalt (HMA) plugs, up to 2 feet in front of new curb or gutter shall be considered as included in the various items of work involved and no separate measurement or payment will be made therefor.

#### **BID ITEM NO. 7 – CLASS 2 AGGREGATE BASE**

The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with installing aggregate base where called out on the plans, (i.e. Minor Concrete – Building Pad/ADA parking spot and Asphalt Concrete with Stabilized Base) and as required to construct the improvements requiring aggregate base to be placed.

Class 2 Aggregate Base shall conform to the ¾-inch maximum grading and quality requirements as specified in Section 26, “Aggregate Bases,” of the Standard Specifications (CALTRANS 2018). Class 2 Aggregate color shall be gray.

Aggregate base shall be spread and compacted in accordance with the provisions of Section 26-1.03D, “Spreading,” and Section 26-1.03E, “Compaction,” of the State Specifications (CALTRANS 2018). Spreading and compacting shall be performed by methods that will produce a uniform base, firmly compacted and free from pockets of coarse or fine material. No spreading operation shall begin until the physical characteristics of aggregate base have been approved by the Engineer. Aggregate base exceeding a workable moisture content will be rejected by the City and shall be immediately removed from the project site by the Contractor.

Aggregate base, regardless of its use, shall be compacted to ninety-five percent (95%) relative compaction. The subgrade shall be graded to the prism of the finished grade and shall be moisture conditioned and compacted to ninety-five percent (95%) relative compaction. The Contractor shall take soil samples and provide soil testing to determine maximum dry density and optimum moisture content of the subgrade.

**MEASUREMENT AND PAYMENT – BID ITEM NO. 7 – CLASS 2 AGGREGATE BASE**

Pulverized material used for the stabilized base in, “**Bid Item No. 10 – Asphalt Concrete with Stabilized Base,**” shall not be included in the measurement and payment of, “**Bid Item No. 7 – Class 2 Aggregate Base.**” Drain rock and imported topsoil shall also be paid for under their related bid items and shall not be measured as Class 2 Aggregate.

The quantity of “**Bid Item No. 7 - Class 2 Aggregate Base,**” shall be measured by **US TONS** as delivered, complete in place, of Class 2 Aggregate as reported by certified truck weight tags.

The contract price paid per **US TONS** for “**Bid Item No. 7 - Class 2 Aggregate Base,**” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work necessary to construct the Class 2 Aggregate Base as shown on the Plans, including but not limited to: compacting subgrade; hauling and stockpiling Class 2 Aggregate; placing, spreading, and compacting Class 2 Aggregate; as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

**BID ITEM NO. 8 – IMPORTED TOPSOIL**

The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with installing imported topsoil for the areas shown as “Conform” on the Plans.

Imported topsoil shall be in accordance with the provisions of Section 19-7, “Borrow Material” of the Standard Specifications (CALTRANS 2022). Imported topsoil shall be in accordance with the provisions of Section 21-2.02C, “Imported Topsoil” of the Standard Specifications (CALTRANS 2022).

Truck tags will be used to verify the quantity of imported topsoil delivered to the project.

**MEASUREMENT AND PAYMENT – BID ITEM NO. 8 – IMPORTED TOPSOIL**

Imported soil will be paid at the contract unit price per **US TON** for “**Bid Item No. 8 – Imported Topsoil**” based on certified truck weight tags furnished to the Engineer at the job site.

The contract price paid per **US TONS** for “**Bid Item No. 8 – Imported Topsoil,**” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work necessary to construct the conform areas as shown on the Plans, including but not limited to: compacting subgrade if requested by the Engineer; placing imported soil; hauling and stockpiling imported soil; placing, spreading, and grading imported soil; as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

**BID ITEM NO. 9 – POROUS FLEXIBLE PAVER PARKING AREA**

The work in this section includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with constructing the Porous Flexible Paver Parking Area. The work required for Porous Flexible Paver Parking Area and covered in this section include:

- Geotextile
- 3/4-inch Drain rock
- TRUEGRID PRO PLUS Permeable Paver System or approved equivalent
- TRUEGRID SuperSpots or approved equivalent

Excavation for the Porous Flexible Paver Parking Area shall be to the areas and depths as indicated on the Plans. Sidewalls shall be vertical to the extent possible. Excavation depth shall be reduced in areas of shallow utilities. Contractor shall coordinate with utility companies prior to excavation. **The Contractor’s attention is directed to the presence of a horizontal trench well from Bolivar Drive to the Quick-Coupling Valve as shown on the Plans.**

Header for Porous Flexible Paver Parking Area shall be included in **“Bid Item No. 15 – Header at AC Paving and Porous Flexible Paver.”**

Geotextile shall be non-woven polypropylene used for soil separation like Mirafi® N-Series 140N or approved equivalent. Geotextile shall be installed in conformance with Section 25-1.03C, “Placing Geosynthetic Materials” of the Standard Specifications (CALTRANS 2018).

Subbase and pervious fill for Porous Flexible Paver Parking Area shall be ¾-inch drain rock with a depth as specified on the Plans and these specifications.

Drain rock shall be ¾” crushed drain rock with the gradations shown below. Color shall be gray.

¾” Crushed Drain Rock:	
Sieve Size	Percentage passing
1 inch	100
¾ inch	80
½ inch	20
⅜ inch	11
No.40	4

This section covers TRUEGRID PRO PLUS Porous Paver System with SuperSpots, Reflectors, and Plates. The system provides heavy vehicle and pedestrian load support for gravel surfaces. The system protects gravel from migration, rutting, and erosion from traffic when used in gravel fill applications. The major components of the complete system are base materials, TRUEGRID PRO PLUS units, TRUEGRID delineation products, and appropriate fill. TRUEGRID Paver | 2500

Summer Street, Suite 3225, Houston, TX 77007. Phone 1-855-355-4743. Email: [info@truegridpaver.com](mailto:info@truegridpaver.com); Website: [www.truegridpaver.com](http://www.truegridpaver.com). The manufacturer's product specification is included as Appendix A.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 9 - POROUS FLEXIBLE PAVER PARKING AREA**

The quantity of “**Bid Item No. 9 - Porous Flexible Paver Parking Area**”, shall be the measured complete in place **SQUARE FOOT** surface area of Porous Flexible Paver Parking Area at project completion.

The contract unit price paid per **SQUARE FOOT** for “**Bid Item No. 9 - Porous Flexible Paver Parking Area**” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in constructing the Porous Flexible Paver Parking Area including but not limited to, geotextile, drain rock, TrueGrid Pro Plus Permeable Paver or approved equivalent, and TrueGrid SuperSpots for parking delineation or approved equivalent, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

### **BID ITEM NO. 10 – ASPHALT CONCRETE WITH STABILIZED BASE**

This work includes constructing Asphalt Concrete with Stabilized Base including but not limited to; compacting the subgrade; grading, compacting, and applying EMC Squared Stabilizer or approved equivalent to AC/AB base; and constructing the asphalt-concrete surface as shown on the Plans.

All work to construct the stabilized base with EMC Squared Stabilizer shall be in conformance with manufacture's specifications, attached as Appendix B.

This work includes producing and placing hot mix asphalt (HMA) Type A using the “Standard” process according to Caltrans 2018 Standard Specifications.

Placing of HMA on any given location shall follow finished concrete work (e.g., curb ramps, curb and gutter, sidewalk) not sooner than 14 calendar and within 21 calendar days.

Comply with Section 39, “Hot Mix Asphalt,” of the Standard Specifications (Caltrans 2018). According to Section 39-2.02B (2), for Type A HMA mixtures using RAP, the maximum allowed binder replacement is 25% in the upper 2.5 inches. According to Section 39-2.02B(5), RAP could be substituted for part of virgin aggregate in a quantity up to a 25 percent of the aggregate blend.

The grade of asphalt binder mixed with aggregate for HMA Type A must be PG 64-10.

The aggregate for HMA Type A must comply with the ½” grading for the wearing course, ¾” grading for the base course. Maximum compacted lift thickness shall be as shown on the plans.

Maximum time allowed between paving lifts on any given street included in this project shall be seven (7) calendar days.

Apply SS-1h tack coat to existing pavement and adjacent concrete surfaces prior to overlay and between lifts of new pavement. All pavement must be clean, dry, and free of debris prior to placement of pavement. Before opening to public traffic, pave shoulders and median borders adjacent to a lane being paved.

Do not leave a vertical joint more than 0.15-foot-high between adjacent lanes open to public traffic. Place W8-11 “UNEVEN LANES” signs adjacent to the outside edge of the traveled way. Place the first W8-11 sign where the vertical joint begins in the direction of travel on that lane. Place the W8-11 signs at 1,000-foot maximum intervals and at ramps and public roads entering the traffic lane.

Place additional HMA along the pavement’s edge to conform to road connections, storm drain inlet structures, and private drives. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

HMA shall be placed in accordance with the grades and details shown on the plans. The final grade at the edge of the new HMA pavement shall be nominally 1/2" above the regraded and compacted shoulder.

Contractor shall provide quality control testing and City will perform acceptance testing. The reduced payment factors as outlined in Section 39-2.01A of the Standard Specifications (Caltrans 2018) apply. Contractor shall propose method of filling core holes taken during QC testing.

**MEASUREMENT AND PAYMENT – BID ITEM NO. 10 - ASPHALT CONCRETE WITH STABILIZED BASE**

The quantity of “**Bid Item No. 10 - Asphalt Concrete with Stabilized Base**”, shall be the measured **US TONS** of asphalt-concrete as reported by certified truck weight used in construction of “**Bid Item No. 10 – Asphalt Concrete with Stabilized Base.**”

Stabilized Base will not be measured for payment. Payment for all work and materials to construct the stabilized base is considered included in the contract **US TONS** unit price of **Asphalt-Concrete** for “**Bid Item No. 10 – Asphalt Concrete with Stabilized Base.**”

The contract unit price paid per **US TONS** for “**Bid Item No. 10 – Asphalt Concrete with Stabilized Base**”, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in constructing asphalt-concrete with stabilized base including doing all work required to reclaim and process the pulverized excavation material with stabilizer, cure the resultant mixture and any necessary grading, tack coats, compaction, stockpiling, loading, and hauling and disposal of all excess material, all construction associated with constructing asphalt concrete surface, all milling and construction of

asphalt concrete joints between existing and new asphalt concrete, as specified in these Technical Specifications and as directed by the Engineer.

### **BID ITEM NO. 11 – MINOR HEADER BOARD WALL**

The work in this section, “**Bid Item No. 11 - Minor Header Board Wall**” includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with furnishing and constructing a minor header board wall as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Minor Header Board Wall shall be made out of pressure treated Douglas Fir or approved equivalent. Minor Header Board Wall shall be made out of 2×6 and shall be made of new wood. Two (2) 2×6 header board shall be stacked vertically to make a minor header board wall not to exceed 12 inches in height.

Two (2) 2×6 shall be used for curves and joints shall be lapped. 2×4×36” Stakes shall be installed at 48” OC and at Joints for 2×6 Minor Header Board Wall. 2×6 Header joints shall be spliced with 24” of 2×6. Screws shall be 2 ½” #8 Stainless Steel Screws. Stakes shall be trimmed at tops as shown on the Plans.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 11 – MINOR HEADER BOARD WALL**

Measurement of “**Bid Item No. 11 - Minor Header Board Wall**”, shall be measured by **LINEAR FOOT** complete in place. Lapped sections for curves and joints shall not be measured as two separate lengths. Stakes shall not be included in linear measurement.

The contract price paid per **LINEAR FOOT** for “**Bid Item No. 11 - Minor Header Board Wall**”, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing minor header board wall including all wood material for header, steel screws, jointing material, and stakes as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

### **BID ITEM NO. 12 – STRIPING, PAVEMENT MARKING, AND ADA SIGN**

Pavement markings and traffic striping shall be applied in conformance with the provisions in Section 84-2, “Traffic Stripes and Pavement Markings,” of the Standard Specifications (CALTRANS 2018). The work in this section, **Bid Item No. 12, “Striping, Pavement Marking, and ADA Sign,”** shall include all work and materials required to install traffic striping, pavement markings, and installation of ADA parking sign and post as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Layout markings shall be approved by the Engineer prior to performing the painting. Work shall be in conformance with Section 84, “Markings” of the Standard Specifications (CALTRANS 2018), as modified herein. Striping and marking layout shall be in accordance with the State Traffic Manual details, except as modified by the Engineer.

White paint shall be Waterborne Traffic Line conforming to the requirements of Department of Transportation Specification PTWB-01R2.

Blue shall be Waterborne Traffic Line for the international symbol of accessibility and other markings, Federal Specification TT-P-1952 Type I.

Before the permanent pavement markings are applied, the Contractor shall provide “cat-track” marking layout for review and approval of the Engineer. Changes, if any, to the marking layout as a result of the Engineer’s review shall be the responsibility of the Contractor. If the Contractor fails to obtain the Engineer’s approval of the marking layout prior to the permanent marking installation, changes to the permanent markings as required by the Engineer, including removal and replacement, shall be the Contractor’s responsibility.

The International Symbol of Accessibility (ISA) Marking for the ADA parking stall shall be installed in conformance with the State of California Standard Plans A24C, the project plans, and as directed by the Engineer.

The words “NO PARKING” shall be painted on the surface within the access aisle in white letters a minimum of 12 inches (1.0 foot) in height and located to be visible from the adjacent vehicular way. Access aisle markings may extend beyond the minimum required length. The area within the blue borderlines shall be marked with hatched lines a maximum of 36 inches (3.0 feet) on center in a color contrasting with that of the aisle surface, preferably blue or white. Access aisles shall be marked with blue painted borderline around their perimeter. “NO PARKING” shall be in conformance with Standard Plan A90A of CALTRANS Standards.

Accessible Parking Only sign shall be Sign R99 (CA) and Plaque R99B (CA) or Sign R99C (CA) with “Van Accessible” Sign R7-8b. The bottom of the sign or plaque panel shall be a minimum of 7’-0” above the surrounding surface. ADA Sign shall be installed after conform areas, minor concrete, porous flexible paver parking area, and Asphalt Concrete with stabilized base has been constructed.

### **MEASUREMENT AND PAYMENT – BID ITEM NO. 12 - STRIPING, PAVEMENT MARKING, AND ADA SIGN**

The contract **LUMP SUM** price paid for “**Bid Item No. 12 – Striping, Pavement Marking, and ADA Sign**”, shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in applying striping, pavement markings, and

installing signs complete in place, as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

**BID ITEM NO. 13 – ADJUST QUICK-COUPLING VALVE BOX**

The work in this section, **Bid Item No. 13, “Adjust Quick-Coupling Valve Box”** includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with adjusting the quick-coupling valve box from existing elevation to the final grade as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

The Quick-Coupling Valve box shall be adjusted to be flush with the final grade and elevation of the Asphalt-Concrete with Stabilized Base surface as shown on the Plans. **The Contractor shall keep the valve box open to the use of the Berkeley Paddling and Rowing Club during all times. Work to adjust the Quick-Coupling valve shall be limited to after 11:00 am on workdays.**

**MEASUREMENT AND PAYMENT – BID ITEM NO. 13 – ADJUST QUICK-COUPLING VALVE BOX**

The contract **LUMP SUM** price paid for **“Bid Item No. 13 - Adjust Quick-Coupling Valve Box”**, shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in adjusting the existing quick-coupling valve to final grade as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

**BID ITEM NO. 14 – WOOD POLE WHEEL STOP**

The work in this section, **“Bid Item No. 14 - Wood Pole Wheel Stop”** includes the salvaging and reinstalling wood pole wheel stop located in Aquatic Park. Existing wood pole wheel stop shall be removed, protected from damage and stored until placement. Work in this section includes all labor, equipment, materials, tools, and incidentals and performing all operations in connection with salvaging and installing wood pole wheel stops as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Wood pole wheel stops shall be in good condition and salvaged from existing wood pole located in the parking lot or in Aquatic Park, Berkeley, California. Wood pole wheel stop shall be anchored with #4 Rebar extending at least 2 feet below the ground surface at 6 foot spacing. Rebar shall be driven through pre-drilled 5/8-inch diameter holes through the wooden pole and the rebar shall be bent at the top, as shown on the Plans.

Wood pole wheel stops shall be installed after construction of Porous Flexible Paver Parking Area, Conform Area, Minor Concrete, and Asphalt-Concrete with Stabilized Base have been installed.

**MEASUREMENT AND PAYMENT – BID ITEM NO. 14 - WOOD POLE WHEEL STOP**

The quantity for payment of “**Bid Item No. 14 - Wood Pole Wheel Stop**”, shall be measured by **LINEAR FOOT**, complete in place, of wood pole wheel stop.

The contract price paid per **LINEAR FOOT** for “**Bid Item No. 14 - Wood Pole Wheel Stop**”, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing and salvaging wood pole wheel stop, drilling holes, bending rebar, and driving rebar as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

**BID ITEM NO. 15 – HEADER AT AC PAVING AND POROUS FLEXIBLE PAVER PARKING AREA**

The work in this section, “**Bid Item No. 15 - Header at AC Paving and Porous Flexible Paver Parking Area**” includes the furnishing of all labor, equipment, materials, tools, and incidentals and performing all operations in connection with furnishing and constructing Header at AC Paving and Header at the Porous Flexible Paver Parking Area as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Header board shall be made of pressure treated Douglas Fir or an approved equivalent by the Engineer. Header shall be made of 2×6 header board and shall be new wood. Header joints shall be spliced with 24” wooden piece of 2×6. 2×6 header board shall be fastened to hardwood stakes, 2×4×18” in dimension with 2 ½” #8 stainless steel screws at 48” OC and at joints as shown on the Plans. Stakes shall have tops trimmed as shown on the Plans or shall be flush with the surrounding surfaces.

**MEASUREMENT AND PAYMENT – BID ITEM NO. 15 – HEADER AT AC PAVING AND POROUS FLEXIBLE PAVER PARKING AREA**

Measurement of “**Bid Item No. 15 - Header at AC Paving and Porous Flexible Paver Parking Area**”, shall be measured by **LINEAR FOOT** complete in place. Lapped sections for curves and joints shall not be measured as two separate lengths. Stakes shall not be included in linear measurement.

The contract price paid per **LINEAR FOOT** for “**Bid Item No. 15 - Header at AC Paving and Porous Flexible Paver Parking Area**”, shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing Header at AC Paving and installing Header at Porous Flexible Paver Parking Area including all wood material for header, steel screws, jointing material, and stakes as shown on the Plans, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

## **APPENDIX A**

### **Truegrid Pro Plus Porous Flexible Paver Specifications**

#### **PART 1 – GENERAL**

##### **1.1 Section Includes**

- A. Base Material, over subbase prepared by others.
- B. Porous pavement system with S-flexural joints for seasonal expansion and contraction.
- C. Parking, fire lane, and traffic delineation.
- D. Gravel fill.

##### **1.2 Preinstallation Meetings**

- A. Convene pre-installation meeting a minimum of two weeks prior to start of porous paving systems.
- B. Verify project requirements, subbase and base conditions, manufacturer's installation instructions and coordinate with other related work.
- C. Require attendance of parties directly affecting work of this section, including the contractor, engineer, and installer. Manufacturer's representative may attend by phone conference as needed.

##### **1.3 Submittals**

- A. Product Data: Submit manufacturer's product data.
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- B. Shop drawings: Submit manufacturer's shop drawings including laying pattern and parking delineation locations.
- C. Samples: Submit two square samples of TRUEGRID Paver units.
- D. Manufacturer's Certificates: Certify products meet or specified requirements.
- E. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic maintenance.

##### **1.4 Quality Assurance**

- A. Manufacturer's Qualifications: Manufacturer with a minimum of five years documented experience with products specified.
- B. Installer Qualifications: Installer experienced in performing work of this section that has specialized in installation of work similar to that required for this project. Installer must

also be able to provide skilled workman with satisfactory record of performance on landscaping or paving projects of comparable size and quality.

1.5 Delivery, Storage, and Handling

- A. Store products in manufacturer's unopened packing until ready for installation.
- B. Protect porous paver units from damage during delivery and store under tarp when the time from delivery to installation exceeds 30 days.
- C. Protect materials during handling and installation to prevent damage.

1.6 Sequencing

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.7 Project Conditions

- A. Maintain environmental conditions recommended by manufacturer for desired results. Do not install products under conditions outside manufacturer's absolute limits.
- B. Do not begin installation of porous pavements until all hard surface paving adjacent to porous pavement areas, including concrete walks and asphalt paving, is completed.
- C. In wet weather, do not build on wet, saturated or muddy subgrade.
- D. Protect partially completed porous paving against damage from other construction traffic when work is in progress.

1.8 Warranty

- A. Provide the manufacturer's 5-year limited warranty.

**PART 2 – PRODUCTS**

2.1 Manufacturers

- A. Acceptable Manufacturer: TRUEGRID Pavers; 2500 Summer St., Suite 3225, Houston, TX 77007. Phone: 1-855-355-GRID. Email: [info@truegridpaver.com](mailto:info@truegridpaver.com) Website: [www.truegridpaver.com](http://www.truegridpaver.com).
- B. Substitutions: Not permitted.

2.2 Products

- A. Permeable Pavers, TRUEGRID PRO PLUS for gravel applications.

1. AASHTO H20, HS20 Rated.
2. Manufactured in the USA.
3. High density polyethylene (HDPE): 100 percent post-consumer recycled materials
4. Recycled and recyclable content: 100 percent.
5. S-Flexural joints molded in for soil seasonal expansion and contraction.
6. Color: black- carbon black additive for long-term UV stabilization.
7. Paver size: 24 inches by 24 inches by 1.8 inches.
8. Pre-assembled: 4-foot by 4-foot sections.
9. Cylindrical cell design for column strength.
10. Cell size: 3.30 inch inside diameter.
11. Co-joined cells at 48 places for strength.
12. Wall thickness: 0.150 inches /.250-inch nominal.
13. A minimum of 2 co-joined common walls per cell for structural integrity.
14. Connections:
  - a. No clips or stakes necessary.
  - b. No additional parts or tools needed.
  - c. Integral male-female three-point locking system.
  - d. Wall thickness at tabs: 0.290 inch.
15. Molded in X-anchors to stabilize pavers: no stakes necessary.
16. Nominal Coverage per Paver: 4 square feet.
17. Weight per paver: 5.25 lbs.
18. Permeability of System: 100 percent.
19. Compressive Strength (filled): 1,152,000 psf; 8000 psi.
20. Material Safety: Groundwater neutral, 100 percent inert.
21. Chemical Resistant: Excellent: highly resistant to hydrocarbons, oils.

B. Parking Delineators: TRUEGRID SuperSpots for gravel applications.

1. H20, HS20 rated.
2. Domed and ribbed for super strength.
3. Long-term UV stabilized.
4. 0.90-inch profile above grid.
5. 3.25-inch diameter.
6. Available Colors: Yellow, white, blue, and red.

C. Reflective Parking Delineators: TRUEGRID Reflectors for gravel applications.

1. H20, HS20 rated.
2. 360° Degree omni-directional light reflection.
3. Long-term UV stabilized.
4. 0.90-inch profile above grid.

5. 3.25-inch diameter.
6. Available Colors: Translucent yellow, white, blue, and red.

D. ADA, Traffic, and Parking Identifiers: TRUEGRID Plates for gravel applications.

1. Durable, long lasting, weather resistant and highly visible.
2. Slip-resistant tread.

E. Base Material: TRUEGRID PRO PLUS was developed to accept multiple acceptable base materials. Locally sourced angular stone/clean for base material. Crushed granite, sandy gravel material, crushed concrete, limestone rock, and crushed lava are some of the acceptable materials. Common base materials include:

1. Hard, clean, angular, and open-graded (uniform size) drain rock -- from 3/4" to 1-1/2".

F. Gravel Fill: Obtain clean, washed angular rock to fill the 1.8-inch-tall TRUEGRID PRO PLUS cells and spaces between. TRUEGRID PRO PLUS can be filled to top of cells and exposed or overfilled to hide cells. Fill rock should be 5/8 inch to 3/4-inch diameter.

1. TRUEGRID PRO PLUS's design does not require anchors on level ground or slopes up to 10 degrees. TRUEGRID PRO PLUS is designed for slopes above 10 degrees. However, as a precaution, anchors/staking may be considered per each sloped install above 10 degrees.
2. Fill rock, level to the top of cells for ADA compliance.

### **PART 3 – EXECUTION**

#### **3.1 Examination**

- A. Before beginning installation, verify site conditions are as indicated on the drawings. Notify the Engineer if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.
- B. Ensure that adjacent hard-surfaced paving work is completed before installing porous pavement system.

#### **3.2 Preparation**

A. Subgrade:

1. Prepare subgrade as specified elsewhere. Verify subgrade in accordance with porous paving system manufacturer's instructions.

2. Excavate area allowing for unit thickness and the engineered base depth (where required).
  3. Provide adequate drainage from excavated area if area has potential to collect water when working with in-place soils that have poor permeability.
  4. Ensure in-place soil is relatively dry and free from standing water.
  5. Uniformly grade base.
  6. Level and clear base of large objects, such as rocks and pieces of wood.
  7. Install and secure geofabric or geogrid mesh as needed for soil stabilization and loading requirements.
- B. Install drain rock as specified. Verify engineered base is installed in accordance with porous paving system manufacturer's instructions.
1. Coordinate drain rock installation and preparation with subdrains specified.
  2. Place a geotextile separation layer between the natural ground and the engineered base.
  3. Place drain rock over prepared sub base to depths indicated on the drawings.
  4. Drain rock to be leveled and compacted in 6 to 8-inch lifts to settle and lock in angular stone.
  5. Leave minimum 1.8 inches for Permeable Paver unit for final elevation.

### 3.3 Installation

- A. Install in accordance with manufacturer's instructions.
- B. Install TRUEGRID PRO PLUS Permeable Paver units by placing cells face up. Sheets are preassembled in 4-foot by 4-foot sheets are connected with friction fit interlocking connectors. No tooling is required to connect or disconnect units. Sheets may be separated into 4 Individual 24 inch by 24-inch pieces and reconfigured as needed. Cut units around curves and organic shapes with an electrical handsaw. Place units to maintain a 1-inch clearance to any pre-installed object or surface structure. Top of cells shall be between 0.25 inch to 0.5 inch below the surface of adjacent hard-surface pavements. Utilize TRUEGRID's S-Flexural joints for undulations or grade reversals when required by design or in freeze-thaw climates for expansion and contraction.
- C. Parking, Traffic, and Fire Lane Delineators: Install TRUEGRID SuperSpots, TRUEGRID Reflectors, and TRUEGRID Plates as indicated on the drawings or per manufacturer's recommendations.
1. Align SuperSpots, Reflector, and Plate locking tabs with grooves in TRUEGRID PRO PLUS grid.

2. Push SuperSpots, Reflectors, and Plates into TRUEGRID PRO PLUS grid until it locks.
  3. All TRUEGRID delineators and markers can be removed and repositioned by disconnecting the locking tabs and pulling out of the grid.
- D. Gravel Surfacing: Install Gravel into TRUEGRID cavities by back dumping directly from dump truck or from buckets mounted to tractors. Hand shoveling fill gravel into the cells is also acceptable for smaller jobs.
1. Direct vehicles to exit the site by driving forward. Avoid sharp turns over unfilled rings.
  2. Spread gravel fill using steer loaders, power brooms, blades, flat-bottomed shovels, and/or wide “asphalt rakes” to fill the cells.
  3. Compact gravel when the cells are at capacity with a roller for larger areas or vibrating plate for smaller areas.
  4. If fully covering TRUEGRID cells, typical coverage is 0.25 inch to 0.5 inch above cells.

### 3.4 Protection

- A. Protect installed products until completion of project.
- B. Gravel fill: Avoid sharp turns or “jack knives” in trailered vehicles when cells are empty. Damage due to buckling can occur. TRUEGRID can be driven on pre-fill by gravel trucks and construction equipment to speed the installation process.
- C. Repair or replace damaged products before substantial completion.

### 3.5 Maintenance

- A. For gravel fill surfaces, maintain a 0.5 in (13 mm) surcharge of aggregate as a surface wear course. Surface should be inspected from time to time to identify signs of slight cell infill loss.
- B. Monitor pavement to ensure traffic frequency and loading does not exceed the pavement design.

## **APPENDIX B**

### **EMC SQUARED STABILIZATION OF BASE SPECIFICATIONS**

#### **PART 1 – GENERAL**

##### 1.1 SUMMARY

- A. The stabilization of new and/or existing subgrade, by pulverizing, adding the liquid stabilizer treatment, mixing and compacting the mixed material to the required density as specified herein and in conformity with the typical sections, lines and grades as shown on the Plans or as established by the Project Engineer. The liquid stabilizer treatment is applied to subgrade materials for reduction of permeability, moisture susceptibility and swell and to improve strength and stiffness.

##### 1.2 SUBMITTALS

- A. Material Certificates: Certificates signed by supplier certifying that material is of the type, quality and grade specified.

#### **PART 2 – PRODUCTS**

##### 2.1 STABILIZER PRODUCTS

- A. The stabilizer product shall be the **EMC SQUARED®** System product **EMC SQUARED Stabilizer (1000)** as supplied by Stabilization Products LLC of Merced, California, (800) 523-9992 or (209) 383-3296, email [info@stabilizationproducts.net](mailto:info@stabilizationproducts.net). The product shall be nonhazardous, non-toxic, nonflammable, non-corrosive, neutral pH (7 +/- 2), with a Specific Gravity range of 1.2 to 1.3, a minimum percent total solids content of fifty percent (50%), and formulated for application at a rate of one-gallon **EMC SQUARED Stabilizer (1000)** per fifteen cubic yards of soil material.
  1. The product is added to the compaction water for application as dilute solution. The supplier shall be able to provide independent laboratory test reports from a certified analytical laboratory experienced in environmental acceptability testing documenting tests performed on product samples of the **EMC SQUARED Stabilizer (1000)** product. These tests shall include the US EPA 7000 Series (TTLC or CAM17) for metals and Method 8270 testing that verifies no organic solvents or identified EPA 8270 target compounds were detected in amounts which exceed US EPA regulatory standards as applicable to products whose intended use involves incorporation into compacted aggregate materials during construction operations.

2. When applied within the manufacturer's parameters for application, dilution, moisture control, processing, compaction, curing and documented field quality control testing, **EMC SQUARED** System products shall have demonstrated the capability to improve shear strength, bearing strength, and modulus as well as reduce the moisture susceptibility of virgin aggregate and recycled aggregate materials. Material engineering performance tests such as Dynamic Modulus, Repeated Load Triaxial (RLT), Resilient Modulus, Marshall Stability, Unconfined Compression Strength, Shear Strength, Tube Suction and R-Value shall be available from independent materials testing laboratories demonstrating that the products have been effective in improving virgin and recycled aggregate materials. RLT tests shall show that stabilized aggregate materials are resistant to permanent deformation when tested at temperatures from below freezing to 130°F or higher. Dynamic modulus measurements shall show that stabilized aggregate materials retain consistent strength through a full range of temperatures and loading rates. Laboratory test reports shall be available from supplier documenting Modulus values not less than 160,000 psi for stabilized virgin aggregate materials. Falling Weight Deflectometer (FWD) test results shall be available from supplier to confirm that recycled aggregate and virgin aggregate materials treated with the products have achieved these same minimum Modulus values when evaluated in engineering field studies of completed projects. The products shall have been previously utilized for interstate freeway and highway projects that have been in service for not less than ten years and without requirement for repair, and used for stabilized aggregate surfaced roads and stabilized soil applications that remain effective for not less than twenty years. The supplier shall have technical staff available with not less than ten years of experience in supporting construction applications of the products and a record of effectively supporting public agency projects from design through construction phases.

## 2.2 MATERIALS

- A. New or existing subgrade materials to be incorporated with the **EMC SQUARED** Stabilizer (1000) in the surface course shall be pulverized so that 100 percent shall pass the two-inch (2") sieve prior to treatment, unless otherwise approved in writing by the manufacturer of the stabilizer product.
- B. Water shall be furnished by the Contractor and shall be clean and free from industrial wastes and other objectionable matter.

## 2.3 MATERIALS HANDLING AND STORAGE

- A. Unless otherwise approved by the Project Engineer, the liquid stabilizer products may be stored on site with no limitation on air temperature requirements. If the product has been frozen during transport or storage, it should be stirred before using. With proper transport

and storage, **EMC SQUARED Stabilizer** (1000) has the capacity for extended storage. The product must be maintained with an airtight seal to protect against contamination. As portions of product are drawn for use from the containers, caps should be immediately replaced and tightened to maintain an airtight seal to protect against contamination. The **EMC SQUARED Stabilizer** (1000) should always be stirred before use.

### **PART 3 – EXECUTION**

#### **3.1 EXAMINATION**

- A. Verification of General Conditions: The completed courses shall be uniformly treated, free from loose or segregated areas, of uniform density and moisture content for its full depth and shall have smooth surface.
- B. Proof-roll subgrade with pneumatic-tired rollers or other rubber-tired equipment to locate areas that area unstable.
- C. Prior to treating existing materials and/or placing any new material, the existing material shall be shaped to conform to the typical sections, as shown on the Plans or as established by the Project Engineer. The Contractor will not be required to excavate to a secondary grade or windrow the material if a tractor-drawn construction disc with depth gauge wheel is provided which will cut uniformly to the proper depth. The machine shall provide a visible indication of the depth of cut at all times. For plan depths greater than twelve (12) inches, the Contractor will be required to excavate to a secondary grade or windrow the material.

#### **3.2 WEATHER LIMITATIONS**

- A. General: **EMC SQUARED Stabilizer** (1000) shall not be applied when it is raining or when rain is expected. Weather forecasts should indicate no rain during application procedures and for at least 24 hours following application. The **EMC SQUARED Stabilizer** (1000) treatment shall not be started when the air temperature is below 40°F and falling, but may be started when the air temperature is above 35°F and rising.
- B. Weather Events: Stabilization process may proceed when local weather indicates possible showers or scattered showers or when the local weather forecast calls for a 30% or less chance of precipitation during the next 24-hour period or with the approval of the Project Engineer. When possible showers or scattered showers are forecasted, the Contractor must work section sizes of one-half (1/2) the size that normally would be worked in dry weather. All grading and compaction equipment must be available for immediate mobilization and any sections that have given stabilization treatment must be immediately compacted if rain

commences. The section area being treated must be immediately brought to a grade that will allow the rainwater to drain and compacted with all available equipment.

1. Contingent upon the contractor having achieved drainage and compaction adequate to protect the newly applied stabilizer solution from excessive washing of product from the area of treatment by the unexpected rainfall event, and if the partially compacted area of stabilizer application becomes heavily saturated by rainfall while still in the construction phase, then the treated materials to the depth they contain excessive moisture content should be aerated and dried back by discing or by blade mixing with the motor grader blade until excess moisture has been evaporated.
2. The full depth of the treated materials (the full compaction lift) should then be re-mixed full depth to a homogeneous moisture content, tested for moisture content to verify that the materials have been successfully adjusted within the tolerances required for compaction operations, shaped to grade and compacted per specifications.

### 3.3 EQUIPMENT FOR MIXING AND PLACEMENT

- A. The subgrade soil and the stabilizer solution shall be thoroughly mixed by a tractor-drawn construction disc with depth gauge wheel as the primary mixing unit. In addition, a cross-shaft rotary mixer with built-in metering system for application of the stabilizer solution, with accuracy demonstrated to the satisfaction of the Project Engineer, may be used for further mixing. **The Contractor will be required to demonstrate, to the satisfaction of the Project Engineer, that the selected equipment and operator is capable of providing a uniform width and rate of application of measured load of water to a measured area representative of the area to be treated.**
- B. Distributor trucks, water trucks, water tankers and other water spray equipment, which will be used for the application of the stabilizer solution, must have water tanks with liquid volume capacity accurately measured and be equipped with spray equipment capable of delivering a constant rate in a uniform spray pattern. **The Contractor will be required to demonstrate, to the satisfaction of the Project Engineer, that the selected equipment and operator is capable of providing a uniform width and rate of application of a measured load of water to a measured area representative of the area to be treated.**

### 3.4 APPLICATION OF STABILIZER TREATMENT

- A. General: The completed course shall be uniformly treated, free from loose rock or segregated areas, of uniform density and moisture content, for its full depth and shall have smooth surface.
- B. Moisture Tolerance: After pulverization is complete and prior to application of the

stabilizer treatment, the moisture content of the subgrade material may not be more than two (2) percentage points below and not greater than one (1) percentage point above the optimum moisture content determined for the treated material (the optimum moisture content as determined for subgrade materials treated with the liquid stabilizer solution by Test Method ASTM D-1557). Moisture content should be checked at several locations in each section to be treated to ensure that the moisture content of the material is within tolerance throughout the length and width of the section. Materials that are drier than moisture content tolerances should be moisture conditioned by sprinkling with additional water to secure uniform moisture content throughout the layer that is within the required tolerances. Materials that are wetter than moisture content tolerances should be allowed to dry back through natural drying or aerated during suitable weather conditions with mixing equipment as motor graders, tractor-drawn discs or cross-shaft rotary mixers. Aeration by compaction equipment, such as a Sheepsfoot roller, with not be permitted. It will be the responsibility of the contractor to adjust moisture content within the moisture content tolerances as necessary to achieve compaction specification requirements once the stabilizer product has been applied to the subgrade soils.

The addition of cement as a drying agent preparatory to application of an EMC SQUARED System treatment should only be done with the approval of the Project Engineer. Laboratory testing is recommended preliminary to the use of cement in combination with the EMC SQUARED System treatment and the contractor will be fully responsible for the final constructed product. It is recommended that the addition rate of cement be limited to no more than two (2%) by dry weight of the soil in order to reduce the risk of shrinkage cracking generated by the addition of cement.

- C. Application Rate: The application rate for the liquid stabilizer product shall be one (1) gallon EMC SQUARED Stabilizer (1000) per fifteen (15) cubic yards of subgrade soil. The tolerance from the specified application rate shall be plus or minus five (5) percent.
- D. Dilution Ratios: The liquid stabilizer product shall be added to the load of dilution water at a rate of 135 parts water per one (1) part **EMC SQUARED** Stabilizer (1000). The maximum variation from this dilution rate shall be plus or minus twenty (20) percent. Based upon the application rate per cubic volume of material as specified in Section 3.4.C., application of the dilute stabilizer solution will be an addition of approximately two (2) percent moisture content by dry weight of subgrade soil being treated. The dilution ratio does not change the application rate of the **EMC SQUARED** System products. The application rate of one gallon (+/- 5%) of **EMC SQUARED** Stabilizer product per 15 cubic yards of soil materials in constant regardless of the dilution ratio used.
- E. Dilution Procedures: The liquid stabilizer product may be added separately, or simultaneously, to the dilution water by any method acceptable to the Project Engineer. Approximately 90% of the dilution water required to fill a single load of stabilizer solution shall first be added to the mixing tank before the liquid stabilizer products are added. For systems equipped with meters that can meter the stabilizer input throughout the water loading operations, the stabilizers can also be added on a continuous basis. After the addition of the dilution water, start and stop the distributor truck, water truck or water

tanker several times to gently rock the mixing tank and provide a small amount of additional mixing action for the stabilizer solution. For application equipment not outfitted with a re-circulating spray bar, the spray bar and connecting lines should be flushed of any water left therein that does not visibly contain the stabilizer product prior to preceding to the area planned for stabilization treatment. Once diluted, the stabilizer solution shall be applied to project materials the same day. Overnight storage will not be permitted.

F. Applications Preparations: Unless otherwise approved by the Project Engineer, the treated subgrade material shall be constructed in successive layers for the full width of the individual roadway cross section and in such lengths as are best suited to the stabilizer application and compacting methods utilized. The Contractor shall prepare a written summary, for the Project Engineer's review, before stabilizer treatment of each section to be treated. The following information should be included:

1. Insitu moisture content of the subgrade soil of each section to be treated and the treated optimum moisture content for this material
2. Liquid volume capacity and planned fill level for all spreader or water trucks and other equipment that will be used to transport, spread or otherwise distribute the stabilizer solution.
3. Cubic yardage of subgrade soil to be treated for each section of the project.
4. Calculated quantity of liquid stabilizer required for the cubic yardage of subgrade soil to be treated for each section.
5. Calculated quantity of stabilizer solution (the total gallons of liquid stabilizer plus the total gallons of dilution water) required for each section to be treated.

G. Application: Application of the stabilizer solution shall be limited to the area specifically shaped and sized to receive the treatment and shall be limited to a section of such an area such that all operations including mixing, compaction and grading are continuous and completed the same day. If overnight temperatures are not expected to drop below 32° F, it shall be the Project Engineer's option to allow treated material to remain in a stockpile or windrow overnight with the requirement that moisture content must be checked and properly adjusted within moisture tolerances for compaction when construction operations resume the following day.

1. Unless otherwise approved by the Project Engineer, stabilizer treatment shall not be started when the air temperature is below 40°F and falling, but may be started when the air temperature is above 35°F and rising. The stabilizer solution shall not be applied during periods of rainfall. If rainfall is encountered during application of the stabilizer solution, the Contractor shall, at his expense, reapply the stabilizer solution to the affected area at a rate of one-half (1/2) of the original application rate. The Contractor shall then re-mix and compact the material to the same specifications of the original application.
2. During rapid drying conditions, five (5) percent of the stabilizer solution shall be retained and sprinkled on surface materials during final compaction and/or final grading operations to protect the materials from desiccation and segregation while still

- being worked. The five (5) percent stabilizer solution applied to the final surface will be calculated as part of the application applied to the full lift being treated.
3. Lifts greater than eight (8) inches not to exceed twelve (12) inches will be permitted only with the approval of the Project Engineer. The Contractor shall, at his own expense, demonstrate the ability to provide not less than 95 percent of the optimum density as determined by Test Method ASTM D-1557 while working within the requirements of this specification.
  4. The stabilizer solution shall be distributed and applied at a uniform rate and in such a manner that the entire surface area is covered with the solution after visual inspection. If untreated areas are found after inspection, the Contractor may hand apply the stabilizer solution to the untreated areas to achieve full coverage. If the spray pattern is not uniform and failure to achieve full coverage occurs on a repetitive basis, then the Contractor will be required to re-mix the material by methods acceptable to the Project Engineer to achieve a homogeneously moisturized treated material. To prevent excessive application of stabilizer solution and moisture build up, the overlap of each pass shall not exceed twelve (12) inches.
  5. The Contractor shall take precautions when application occurs on unlevelled or sloping terrain or in any situation, such as channelization or rutting of the subgrade soil by the construction equipment, where the stabilizer solution flows and travels away from the area where it was applied. If during application of the stabilizer solution runoff results in loss of the stabilizer solution from the area to be treated or in excessive puddling, then modifications to the application procedure must be made immediately. The Contractor will be required to make an additional application and/or mixing passes in which a reduced quantity of stabilizer solution is applied with each application and/or mixing pass that results in applying the total amount specified without excessive runoff and puddling. Any other method of correction that does not rely on additional application and/or mixing passes must first be demonstrated to the satisfaction of the Project Engineer.
- H. Mixing: The subgrade soil and the stabilizer solution shall be thoroughly mixed by a tractor-drawn construction disc with depth gauge wheel as the primary mixing unit. In addition, a cross-shaft rotary mixer with built-in metering system for application of the stabilizer solution may be used for further mixing. The mixing shall continue until the treated material reaches a homogeneous mixture with a moisture content within specified compaction moisture tolerances as described in 3.4.I.
1. Weather conditions that increase the moisture content beyond specified tolerance, and prior to full and complete compaction, will require re-mixing and air-drying to reduce the moisture content of the treated subgrade soil. Weather conditions that decrease moisture content below specified tolerance, and prior to full and complete compaction, will require moisture conditioning by sprinkling with additional water. Prior to compacting the treated material, the moisture content of the material shall be within specified tolerances for compaction as described in 3.4.I.

2. The operations of stabilizer application, mixing, compacting and finishing should be continuous. If the compacted lift is to be finished by milling or planing equipment, finishing may be completed at a later date as long as the surface is kept damp during the interim period.
  3. If the stabilizer solution is applied at a rate which exceeds the absorbency of the loosened subgrade soil, and ponding, or runoff and flow from the treated area is observed, then adjustments to construction operations should be made immediately, as described in 3.4.G.
- I. Compaction Methods: Prior to compaction, the Contractor shall aerate or sprinkle and test the treated subgrade soil as necessary to provide a moisture content not more than three (3) percentage points above and not less than the optimum moisture content for the treated material (as determined by Test Method ASTM D-1557) or unless otherwise approved by the Project Engineer. Aeration by compaction equipment, such as a sheepsfoot roller, will not be permitted. Compaction of the treated subgrade soil shall begin immediately after the mixing, pulverization and compaction moisture content requirements are met. It will be the contractor's responsibility to adjust moisture content within the moisture content tolerances as necessary to achieve compaction specification requirements. If rutting or deformation in the treated subgrade is observed following final compaction, the moisture content should be reduced as necessary, while staying within tolerances, to produce a compacted subgrade that remains firm and solid under traffic.
1. Sheepsfoot or padfoot rollers should be utilized for initial compaction operations, accompanied by other types of compaction equipment as necessary. The sheepsfoot and padfoot rollers should be operated in continuous passes over all treated areas until they "walk out" of the treated material leaving only minimal indentations in the surface. Grades should be left adequately high and compaction operations conducted so that the final grade is achieved by shaving and trimming with a motor grader to a hard-uniform surface. All material removed should be bladed to the edge of the stabilized area and wasted.
  2. Each layer shall be compacted uniformly to the extent necessary to provide not less than 95 percent of the optimum density as determined by Test Method ASTM D-1557. Field density determination will be made in accordance with Test Method ASTM D-2922. Throughout the compaction operation the shape of the compaction layer shall be kept leveled with suitable equipment to insure uniform compaction over the entire layer.
- J. Reworking a Section: When a section is reworked after application of the stabilizer treatment and within 24 hours after completion of compaction, the Contractor shall rework the section to provide the required compaction. After the 24-hour period following the completion of compaction, the section requiring rework shall be maintained at or above its optimum moisture content until the reworking operation begins.

When a section is reworked 24 hours after completion of compaction, which has been allowed to dry back below its optimum and cure to a dry and hardened state, then the Contractor shall reapply the stabilizer solution at a rate of one-half ( $\frac{1}{2}$ ) of the original application rate to the affected area and remix and compact the material to the same specifications of the original application. When a section is reworked, a new optimum density will be determined from the reworked material in accordance with Test Method ASTM D-1557. Rework of treated materials shall be at the expense of the Contractor.

- K. Finishing and Curing: All placing, compacting and finishing operations shall be completed within the guidelines in the Plans and these specifications. After the final layer or course of the treated subgrade soil has been compacted, it shall be brought to the required lines and grades in accordance with the typical sections.
- L. Restoration of Traffic: If a treated surface must be rapidly returned to service under traffic, layer curing conditions should first be subjected to proof rolling and inspected to verify that the entire installation is adequately cured and firm enough to resist rutting, unraveling or damage by sharp turns and rapid acceleration and braking. [The contractor is] responsible for (1) protection of treated surfaces until adequately cured to support traffic, and (2) repair of any damage to the surface resulting from passage of heavy equipment, trucks or vehicular traffic while the surface is undergoing the first several days of curing. Once the treated material has reached the initial stated of stability where the surface is not subject to damage, the stability of the treated layer will benefit from additional compaction by traffic when placed back into service.

### 3.5 TOLERANCES

A. Tolerances shall conform to the following:

1. Density Tolerance: The Project Engineer may accept the work providing not more than one (1) out of the most recent five (5) density tests performed is below the specified density, provided the failing test is no more than three (3.0) pounds per cubic foot below the density specified in this Item as described in 3.4.I.2. If the material fails to meet the density requirements, it shall be reworked in accordance with section 3.4.J.
2. Thickness Tolerances of Treated Subgrade: At no time during the mixing process shall the Contractor increase or decrease the depth of the subgrade section as detailed on the plans without the approval of the Project Engineer. If any deviation should occur, that section shall be reworked according to construction operations and testing described in 3.4.J.