

DEPARTMENT OF PUBLIC WORKS

CITY OF BRISBANE

STATE OF CALIFORNIA



PLANS AND SPECIFICATIONS

(INCLUDING NOTICE TO CONTRACTORS, SPECIAL PROVISIONS,
PROPOSAL AND CONTRACT)

FOR THE
CONSTRUCTION OF

Guadalupe Channel Erosion Control Project

Project No. 9018

For use in connection with California
State Department of Transportation
STANDARD SPECIFICATIONS dated 2018
STANDARD PLANS dated 2018
and LABOR SURCHARGE and EQUIPMENT RENTAL RATES

DATED 05/12/20

SUBMITTED

RANDY BREAUT
Director of Public Works

Contents

NOTICE TO CONTRACTORS INVITING BIDS	1
PROPOSAL	4
BIDDER'S BOND TO ACCOMPANY PROPOSAL.....	6
SCHEDULE OF BASE BID ITEMS	9
EQUIPMENT/MATERIAL SOURCE INFORMATION	11
LISTING OF CONSTRUCTION TRADES.....	12
NON-COLLUSION AFFIDAVIT	13
STATEMENT OF EXPERIENCE OF BIDDER	14
NOTICE OF REQUIRED INSURANCE	15
PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE	16
PUBLIC CONTRACT CODE SECTION 10232 STATEMENT	16
PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT	16
BUSINESS AND PROFESSIONS CODE	17
SECTION 7028.15 STATEMENT.....	17
CONSTRUCTION AGREEMENT.....	18
CONTRACTOR'S PAYMENT BOND	21
FAITHFUL PERFORMANCE BOND	23
SECTION 1. SPECIFICATIONS AND PLANS; DEFINITIONS	25
SECTION 2. PROPOSAL REQUIREMENTS AND INSTRUCTIONS TO BIDDERS	27
2.1. GENERAL INFORMATION	27
2.2. BID OPENING.....	27
2.3. BID RIGGING.....	27
2.4. APPROXIMATE ESTIMATE	28
2.5. RIGHT TO REJECT.....	28
2.6. AWARD OF CONTRACT.....	28
2.7. WITHDRAWAL OF BID	28
2.8. CONTRACTOR'S LICENSE	28
2.9. SUBCONTRACTING	29
2.10. BIDDER'S PRINTS	29
2.11. BIDDER'S REFERENCE	29
2.12. DESIGNATION OF SUBCONTRACTORS	29
2.13. BID FORMS	29
2.14. INVESTIGATION OF SITE, EXAMINATION OF PROJECT PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS	30

2.15. ADDENDA.....	30
2.16. PROPOSAL GUARANTY.....	30
2.17. RELIEF OF BIDDERS.....	31
2.18. DISQUALIFICATION OF BIDDERS.....	31
2.19. NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID.....	31
2.20. PREVIOUS DISQUALIFICATION, REMOVAL OR OTHER PREVENTION OF BIDDING.....	31
2.21. DEPARTMENT OF INDUSTRIAL RELATIONS REQUIREMENTS.....	31
3.1. AWARD OF CONTRACT.....	33
3.2. CONTRACT BONDS.....	33
3.3. RETURN OF PROPOSAL GUARANTEES.....	33
3.4. PRECEDENCE OF CONTRACT.....	33
SECTION 4. BEGINNING OF WORK, PRE-CONSTRUCTION CONFERENCE, TIME OF COMPLETION, AND LIQUIDATED DAMAGES.....	35
SECTION 5. GENERAL PROVISIONS.....	36
5.1. REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK.....	36
5.1.1. PROGRESS SCHEDULE.....	36
5.1.2. CONTACTS FOR IMMEDIATE PROBLEM RESOLUTION.....	36
5.1.3. INDEMNIFICATION.....	36
5.1.4. INSURANCE REQUIREMENTS.....	36
5.1.5. PRICE SUBMITTAL.....	38
5.2. REQUIREMENTS RELATING TO LABOR.....	38
5.2.1. PREVAILING WAGE RATES.....	38
5.2.2. HOURS OF LABOR.....	39
5.2.3. LABOR NONDISCRIMINATION.....	39
5.2.4. EXCAVATION SAFETY PLANS.....	39
5.2.5. ASBESTOS-RELATED WORK.....	39
5.2.6. APPRENTICES.....	40
5.2.7. EMPLOYMENT ELIGIBILITY.....	40
5.3. REQUIREMENTS RELATING TO PERFORMANCE OF THE WORK.....	40
5.3.1. WORK TO BE DONE.....	40
5.3.2. COOPERATION.....	40
5.3.3. STAKING.....	40
5.3.4. PUBLIC SAFETY.....	40
5.3.5. ACCIDENT PREVENTION.....	41
5.3.6. OBSTRUCTIONS.....	41

5.3.7. INTERFERENCE WITH FIRE HYDRANTS, HIGHWAYS, AND FENCES.....	41
5.3.8. PRESERVATION OF PROPERTY	42
5.3.9. DAMAGE REPAIR	42
5.3.10. TRESPASS.....	42
5.3.11. PROJECT APPEARANCE.....	43
5.3.12. AREAS FOR CONTRACTOR'S USE	43
5.3.13. COMPLIANCE WITH MITIGATION MONITORING AND REPORTING PROGRAM.....	43
5.3.14. SOUND CONTROL REQUIREMENTS.....	44
5.3.15. DUST CONTROL.....	44
5.3.16. WATER CONSERVATION.....	44
5.3.17. ARCHAEOLOGICAL MONITORING	45
5.3.18. QUALITY ASSURANCE.....	45
5.3.19. SUBMITTALS TO BE FURNISHED BY THE CONTRACTOR.....	45
5.3.20. SUBCONTRACTING	46
5.3.21. SERVICES DURING AN EMERGENCY	46
5.3.22. INSPECTION.....	46
5.3.23. FINAL CLEANUP	46
5.3.24. COMPLIANCE WITH COUNTYWIDE HEALTH ORDER	47
5.4. TERMINATION OF OR CHANGES IN CONTRACT; CLAIMS.....	47
5.4.1. TERMINATION OF CONTROL.....	47
5.4.2. DIFFERING SITE CONDITIONS.....	48
5.4.3. REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES.....	48
5.4.4. SUSPENSIONS OF WORK ORDERED BY THE ENGINEER.....	49
5.4.5. SIGNIFICANT CHANGES IN THE CHARACTER OF WORK	49
5.4.6. TERMINATION OF CONTRACT	50
5.4.7. CHANGE ORDER BY THE ENGINEER	50
5.4.8. CHANGE IN CONTRACT PRICE	50
5.4.9. CHANGE OF CONTRACT TIME	50
5.4.10. PROTESTS	51
5.4.11. CLAIMS	51
5.4.12 PUBLIC CONTRACT CODE (PCC) SECTION 9204 SUMMARY	52
5.5. PAYMENT	53
5.5.1. FORCE ACCOUNT PAYMENTS.....	53
5.5.2. RELIEF FROM MAINTENANCE AND RESPONSIBILITY	53
5.5.3. ACCEPTANCE OF CONTRACT	53

5.5.4. PAYMENT	53
5.5.5. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS.....	53
5.5.6. FINAL PAYMENT	54
5.5.7. PAYMENT OF TAXES	54
SECTION 6. RESERVED	55
SECTION 7. PERMITS AND LICENSES AND PUBLIC UTILITY COORDINATION.....	55
7.1. PERMITS AND LICENSES	55
7.2. PUBLIC UTILITY COORDINATION, MATERIALS, INSTALLATION AND RELOCATIONS	55
SECTION 8. MATERIALS & SUBMITTALS.....	56
8.1. GENERAL	56
8.2. CITY-FURNISHED MATERIALS	56
8.3. SUBMITTALS TO BE FURNISHED BY THE CONTRACTOR.....	56
8.4. MATERIAL SUBMITTAL LIST.....	56
SECTION 9. DESCRIPTION OF WORK	60
SECTION 10. RESERVED	60
SECTION 11. STORMWATER POLLUTION PREVENTION BEST MANAGEMENT PRACTICES	60
ORGANIZATION OF SPECIAL PROVISIONS.....	61
12 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES.....	61
12-1.01A TRAFFIC MAINTENANCE	61
12-1.02 TRAFFIC CONTROL PLAN	61
13 WATER POLLUTION CONTROL	62
13-12.01 GENERAL	62
13-12.01A Summary	62
13-12.01B Definitions	62
13-12.01C Submittals.....	62
13-12.01D Quality Assurance.....	63
13-12.02 MATERIALS.....	64
13-12.02A Gravel	64
13-12.02B Impermeable Plastic Membrane	64
13-12.02C Gravel-Filled Bags	64
13-12.02D Plastic Pipes.....	64
13-12.02E Rock	65
13-12.02F Pumping System	65
13-12.02G Seepage Pumping System	65
13-12.02H Discharge Water Energy Dissipation and Erosion Control	65

13-12.03 CONSTRUCTION	65
13-12.03A General	65
13-12.03B Maintenance.....	66
13-12.03C Removal.....	67
13-12.04 PAYMENT	67
17 GENERAL	67
19 EARTHWORK	67
19-2.01B Definitions	68
19-2.04 PAYMENT	68
20 RESTORATION LANDSCAPE	68
20-01.01 GENERAL	68
20-01.01A Description of Work	68
20-01.01B Reference Standards	69
20-01.01C Submittals.....	69
20-01.01D Timing and Coordination.....	71
20-01.01E Quality Control.....	71
20-01.01F Warranty.....	71
20-01.01G General System Design.....	71
20-01.01H Bubbler System Design.....	72
20-01.02 MATERIALS.....	72
20-01.02A Pipe and General Irrigation Products	72
20-01.02B Valves and Other Devices	73
20-01.02C Bubbler Distribution System Products	74
20-01.02D Backflow Prevention Device.....	74
20-01.02E In-Line Flow Meter.....	74
20-01.02G Other Materials	74
20-01.02H Water.....	75
20-01.03 CONSTRUCTION	75
20-01.03A Field Quality Control.....	75
20-01.03B Point of Connection.....	75
20-01.03C Layout	76
20-01.03D Pipe Installation.....	76
20-01.03E Backflow Prevention Device Installation	78
20-01.03F Valves and Other Devices Installation	78
20-01.03G Bubbler Distribution System Installation	78

20-01.03H Controller (Battery-Operated) Installation.....	79
20-01.03I Testing Pipe and System Adjustment	79
20-01.03J Acceptance of Irrigation	79
20-01.04 PAYMENT	79
20-02.01 GENERAL	80
20-02.01A Description of Work	80
20-02.01B Reference Standards	80
20-02.01C Submittals.....	80
20-02.01D Timing and Coordination.....	80
20-02.02 MATERIALS.....	81
20-02.02A Seed.....	81
20-02.02B Hydroseeding Materials	81
20-02.02C Water	82
20-02.02D Straw	82
20-02.02E Hydroseeding Equipment	82
20-02.03 CONSTRUCTION	82
20-02.03A Field Quality Control.....	82
20-02.03B Hydroseeding.....	82
20-02.03C Site Cleanup.....	84
20-02.03D Acceptance of Seeding	84
20-02.04 PAYMENT	84
20-03.01 GENERAL	84
20-03.01A Description of Work	84
20-03.01B Reference Standards	85
20-03.01C Submittals.....	85
20-03.01D Timing and Coordination.....	86
20-03.01E Delivery, Storage, and Handling	86
20-03.01F Substitutions.....	86
20-03.02 MATERIALS.....	86
20-03.02A General	86
20-03.02B Container Plants	86
20-03.02C Other Materials	86
20-03.02D Water.....	87
20-03.03 CONSTRUCTION	87
20-03.03A Field Quality Control.....	87

20-03.03B	Review and Acceptance of Container Plant Material.....	87
20-03.03C	Plant Layout.....	88
20-03.03D	Plant Installation — General.....	88
20-03.03E	Container Plant Installation Not in Geoweb.....	88
20-03.03F	Container Plant Installation in Geoweb.....	90
20-03.03G	Site Cleanup.....	91
20-03.03H	Acceptance of Restoration Planting.....	91
20-03.04	PAYMENT.....	91
20-04.01	GENERAL.....	92
20-04.01A	Description of Work.....	92
20-04.01B	Reference Standards.....	92
20-04.01C	Submittals.....	93
20-04.01D	General Coordination.....	93
20-04.02	MATERIALS.....	93
20-04.02A	General.....	93
20-04.02B	Replacement Container Plants.....	93
20-04.02C	Replacement Wood Bark Mulch.....	94
20-04.02D	Water.....	95
20-04.03	CONSTRUCTION.....	95
20-04.03A	Field Quality Control.....	95
20-04.03B	Maintenance Schedule.....	95
20-04.03C	Maintenance Logbook.....	95
20-04.03D	Maintenance Inspections.....	96
20-04.03E	Replacement Container Plant Delivery, Storage, and Handling.....	96
20-04.03F	Replacement Container Plant Installation.....	96
20-04.03G	Watering Basin Maintenance.....	97
20-04.03H	Irrigation System Maintenance.....	97
20-04.03I	Optional Manual Irrigation Event – Additive Bid Item.....	97
20-04.03J	Programming Irrigation Battery-Operated Controller.....	97
20-04.03K	Weeding Event.....	98
20-04.03L	Optional Weeding Event – Additive Bid Item.....	99
20-04.03M	Non-Native Plant Control Event.....	99
20-04.03N	Optional Non-Native Plant Control Event – Additive Bid Item.....	100
20-04.03O	Trash/Debris Removal.....	100
20-04.03P	Site Cleanup Following Maintenance Activities.....	100

20-04.03Q Acceptance of Long-Term Maintenance	100
20-04.04 PAYMENT	100
47 EARTH RETAINING SYSTEMS	101
47-6.01 GENERAL	101
47-6.01A Summary.....	101
47-6.01C Submittals.....	101
47-6.01D Quality Assurance.....	102
47-6.02 DELIVERY, STORAGE, AND HANDLING.....	103
47-6.03 MATERIALS.....	103
47-6.03A ACCEPTABLE MANUFACTURER.....	103
47-6.03B GEOWEB CELLULAR CONFINEMENT SYSTEM.....	103
47-6.03C INTEGRAL COMPONENTS	105
47-6.03D CELL INFILL MATERIALS	105
47-6.03E SURFACE TREATMENTS.....	106
47-6.03F ADDITIONAL COMPONENTS	106
47-6.03G WARRANTY.....	106
47-6.04 CONSTRUCTION	106
47-6.04A EXAMINATION	106
47-6.04B INSTALLATION OF STACKED CHANNEL SYSTEM	106
47-6.05 PAYMENT	108
Appendix A Short-Term Seam Strength Test Procedure	109
Frequency of Test	109
Test Sample Preparation.....	109
Short-term Seam Peel Strength Test	109
Definition of Pass / Failure.....	109
The Tested Value	109
Visual Failure Mode	109
Appendix B Long-Term Seam-Strength Test Procedure	110
Frequency of Test	110
Test Sample Preparation.....	110
Long-term Seam Peel Strength Test	110
Definition of Pass / Failure.....	110
51-7.01D Payment	111
72 SLOPE PROTECTION.....	111
72-26.01 GENERAL.....	111

72-26.01A Summary	111
72-26.01B References.....	111
72-26.01C Submittals.....	111
72-26.01D Quality Assurance.....	112
72-26.02 DELIVERY, STORAGE, AND HANDLING.....	113
72-26.03 MATERIALS.....	113
72-26.03A ACCEPTABLE MANUFACTURER.....	113
72-26.03B GEOWEB CELLULAR CONFINEMENT SYSTEM.....	113
72-26.03C INTEGRAL COMPONENTS	115
72-26.03D STAKE ANCHORAGE.....	115
72-26.03E TENDON ANCHORAGE	116
72-26.03F CELL INFILL MATERIALS.....	116
72-26.03G ADDITIONAL COMPONENTS.....	116
72-26.04 CONSTRUCTION	117
72-26.04A EXAMINATION	117
72-26.04B INSTALLATION OF THE CHANNEL PROTECTION SYSTEM.....	117
72-26.05 PAYMENT	121
80 FENCES	121
Add to the end of 80-3.01B Definitions:	121

APPENDIX B-1 SMALL CONSTRUCTION PROJECT SAFETY PROTOCOL

APPENDIX B-2 LARGE CONSTRUCTION PROJECT SAFETY PROTOCOL

APPENDIX C MITIGATION, MONITORING AND REPORTING PROGRAM

CITY OF BRISBANE
50 Park Place
Brisbane, CA 94005
(415) 508-2130

NOTICE TO CONTRACTORS INVITING BIDS

Notice is hereby given that sealed written proposals are invited by the CITY OF BRISBANE for the:

GUADALUPE CHANNEL EROSION CONTROL PROJECT

As shown in the 2020 Slurry Seal Project plans and required by these specifications and special provisions, this project includes, but is not limited to slurry seal of various asphalt street sections, as well as all prepping, striping, street sweeping, and traffic control.

The project is to be performed in accordance with and as described and provided in the Plans and Specifications therefore and the proposed form of contract thereof, all of which are on file in the Office of the Director of Public Works and the City Clerk of the said City, and to which special reference is hereby made and which are made a part hereof.

ENGINEER'S ESTIMATE OF QUANTITIES

NO.	BID ITEM	QUANTITY	UNIT
1	Traffic Control and Maintenance	1	LS
2	Aggregate	1	LS
3	Water Pollution Control	1	LS
4	Demolition	1	LS
5	Excavation	650	CY
6	Clearing and Grubbing	1	LS
7	Minor Structures	1	LS
8	Retaining Walls	1	LS
9	Geocell Channel Lining	1	LS
10	Chain Link Fences	300	LF
11	Irrigation System Installation	1	LS
12	Seeding	1	LS
13	Restoration Planting	1	LS
14	Long Term Maintenance (Year 1)	1	LS
15	Long Term Maintenance (Year 2)	1	LS
16	Long Term Maintenance (Year 3)	1	LS

17	Long Term Maintenance (Year 4)	1	LS
18	Long Term Maintenance (Year 5)	1	LS
	ADDITIVE ALTERNATES		
1	Optional Weeding Event	5	EA
2	Optional Non-native Plant Control Event	5	EA
3	Optional Manual Irrigation Event	12	EA

PLANS AND SPECIFICATIONS

Plans and Specifications maybe purchased from the City of Brisbane’s website at www.brisbaneca.org; under “Business” in the upper right, click on “Bids and RFPs”. For further questions please contact the City of Brisbane’s Public Works Department at (415) 508-2130 or email Karen Kinser at kkinser@brisbaneca.org.

Bidders will have fully inspected the project site(s) in all particulars and become thoroughly familiar with the terms and conditions of the Plans and Specifications and other contract documents and local conditions affecting the performance and/or costs of the work prior to submitting their bid proposal.

Note: If during the time that this project is being advertised for bid there is a Countywide Order or other governmental directive that restricts travel within the County, a bidder is stillrequired to visit the project site in person because travel is not prohibited when the travel is related to work necessary to the operation and maintenance of “Essential Infrastructure” and this project is an “Essential Infrastructure” project.

MANDATORY PRE-BID MEETING

A mandatory pre-bid meeting will be held on Wednesday, June 3, 2020 at 11:00 a.m. Bids for this project will only be accepted from qualified contractors who have a representative in attendance at the pre-bid meeting. This meeting will convene at the Brisbane Fire Station at 3445 Bayshore Blvd., Brisbane, CA 94005.

SUBMITTAL OF BIDS

All bids must be addressed to the City Clerk, City of Brisbane and must be marked BID, followed by the title or name of the work to be constructed. All bid proposals must be received by the City Clerk of the City of Brisbane by **12:00 p.m. on Thursday, June 18, 2020**, either

- by email in PDF format to Ingrid Padilla at ipadilla@brisbaneca.org, with kkinser@brisbaneca.org cc’ed. (File size must be less than 10 MB).
- OR
- by mail to Attn: City Clerk, Guadalupe Channel Erosion Control Bid at City of Brisbane, 50 Park Place, Brisbane, California 94005
- OR
- delivered in person to the City Clerk at Brisbane City Hall, 50 Park Place, Brisbane, California 94005

All bids shall be publicly open and read on said date and at said time.


Note: If during the time that this project is being advertised for bid there is a County wide Order or other governmental directive that restricts travel within the County to only “Essential Travel” or otherwise limits or restricts meetings of groups of people, the City will set up and invite planholders to a video conference meeting in which bids will be publicly open and read on said date and at said time.

Bid questions shall be emailed to Karen Kinser at kkinser@brisbaneca.org by Tuesday, June 9, 2020 at 12:00 p.m.

Each bid must be accompanied by a Proposal Guarantee amounting to no less than ten percent (10%) of the bid as described in the bid specifications. Said guarantee shall be forfeited to the City in case the bidder depositing the same does not enter into a contract within 10 days after written notice that the contract has been awarded to him. At the time of contract execution, the Contractor shall provide proof of insurance as required in the contract and a surety bond for faithful performance of the specified work in an amount equal to at least one hundred percent (100%) of the contract price. The contractor shall also provide at the time of contract a surety bond for labor and material in an amount equal to at least one hundred percent (100%) of the contract price. All bonds shall be submitted on the bond forms contained in the specifications.

The City of Brisbane reserves the right to reject any or all bids, or any part of any bid.

DATED: 5/22/20

By: 

Randy Breault
Director of Public Works/City Engineer

PROPOSAL

TO THE CITY OF BRISBANE FOR THE
GUADALUPE CHANNEL EROSION CONTROL PROJECT

Name of Bidder: _____

Business Address: _____ Phone: () _____

City: _____ Zip Code: _____ FAX: () _____

Email address: _____

California Contractor's License No.: _____ License Exp. Date: _____

Department of Industrial Relations Registration No.: _____ Registration Exp. Date: _____

* * * * *

The work to be done and referenced herein is in the City of Brisbane, State of California, and extends over property owned or controlled by the City of Brisbane, and is to be constructed in accordance with Special Provisions and the contract annexed hereto and also in accordance with adopted Standard Plans and Specifications dated 2018 of the California Department of Transportation, as hereby modified by the special provisions, which are hereby specially referred to and by such reference made a part hereof.

The work to be done is shown upon plans entitled:

GUADALUPE CHANNEL EROSION CONTROL PROJECT

TO THE CITY OF BRISBANE:

The undersigned, as bidder, does hereby declare that the only person, persons or parties interested in this proposal as principals are the undersigned, and this proposal is made without collusion with any other person, firm or corporation; that he or she has thoroughly read and examined and has full knowledge of and understands all the provisions and contents of this proposal and the documents which must be attached hereto; that he or she has carefully examined the location of the proposed work; that he or she has carefully examined the annexed proposed form of contract, and the plans and specifications therein referred to and has full knowledge of and understands said documents and the requirements thereof; and that he or she proposes and agrees, if this proposal is accepted, that he or she will contract with the City of Brisbane, in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus, and other means of construction and to do all the work and furnish all the materials specified in the contract, in the manner and the time therein prescribed, and according to the requirements of the City of Brisbane Public Works Director and City Engineer as therein set forth, to furnish the contract, bonds and insurance specified in the Specifications, and to do all other things required of the Contractor by the contract, and that he or she will take in full payment therefor.

If the bidder or other interested party is a corporation, state the legal name of the corporation, also the names of the President, Secretary, Treasurer, and the Manager thereof; if a partnership, state the names of all general partners; if bidder or other interested person is a joint venture, state the name of the joint venture, also names of all the joint venturers comprising the joint venture; if any of the joint venturers are individuals, state the name of every individual comprising the joint venture; if any of the joint venturers are corporations or co-partnership, state the information required above for corporations and co-partnerships; if bidder or other interested persons is an individual, state first and last names in full.

If signature is by an agent other than an officer of a corporation, or member of a partnership or a joint venture, a Power of Attorney must be on file with the City Clerk prior to opening bids or submitted with the bid; otherwise, the bid may be disregarded as irregular and unauthorized.

If this proposal shall be accepted and the undersigned shall fail to contract and to give the Bond for Faithful Performance and the Contractor's Payment Bond required by the specifications and contract and by law, and to provide all insurance as required by said contract, within ten (10) days after the bidder has received notice from the City Clerk of the City of Brisbane that the contract has been awarded, the City of Brisbane may, at its option, determine that the bidder has abandoned his or her contract, and thereupon this proposal and the acceptance thereof shall be null and void, and the forfeiture of such security accompanying this proposal shall operate and the same shall be the property of the City of Brisbane.

Accompanying this proposal are the following documents completely filled in by the bidder and the same are incorporated herein by reference:

1. Cash, a cashier's check made payable to the City of Brisbane, certified check made payable to the City of Brisbane, or Bid Bond executed by a corporate Surety insurer authorized to engage in such business in California, in an amount equal to at least ten percent (10%) of the bid.
2. Statement of Experience of Bidder.
3. Non-Collusion Affidavit.
4. List of Subcontractors.
5. Schedule of Bid Items.
6. Notice of Required Insurance.
7. Public Contract Code Section 10162 Questionnaire; Public Contract Code Section 10232 Statement; Public Contract Code 10285.1 Statement; Business and Professions Code Section 7028.15 Statement.

The City of Brisbane may, at its option, request additional information after bidding opens.

Bidder understands that the City of Brisbane reserves the right to reject any or all bids and to waive any informalities in the bidding.

The undersigned declares under penalty of perjury that the foregoing is true and correct.
Executed this ___ day of _____, 2020 at _____, California.

Name of Firm or Corporation

(Signed) Bidder or Authorized Representative

Position in Firm or Corporation

Dated: _____

By: _____

BIDDER'S BOND TO ACCOMPANY PROPOSAL

LET THE FOLLOWING BE KNOWN:

That we, _____

as PRINCIPAL and _____

_____ a corporation duly organized under the laws of the State of _____ and duly licensed to become sole surety on bonds required or authorized by the State of California, as SURETY, are held and firmly bound unto the City of Brisbane (hereinafter called the "City"), in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the City of Brisbane, for the work described below; for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of _____ Dollars (\$_____).

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas the Principal has submitted the above-mentioned bid to the City of Brisbane, for certain construction specifically described as follows, for which bids are to be opened in the Brisbane City Offices, Brisbane, California on _____ for the

GUADALUPE CHANNEL EROSION CONTROL PROJECT

NOW, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed forms, in accordance with the bid, and files a Faithful Performance Bond and a Contractor's Payment Bond, and files the required insurance policies with the City, all as required by the specifications and the contract or by law, then the obligation shall be null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the City may accept such Bid; and said Surety does hereby waive notice of any such extension.

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

IN WITNESS WHEREOF, we hereunto set our hands and seals this _____ day of

_____, 2020

Dated _____, 2020
(SEAL)

(Principal)

By _____

By _____

(SEAL AND NOTARIAL)
(ACKNOWLEDGMENT
OF SECURITY)

Surety

By _____

(Address) Number & Street

City State Zip

The undersigned encloses herewith bidder's bond, cash, certified check, or cashier's check No. _____ of the _____ (Bank) for \$_____, of which is not less than ten percent (10%) of this bid, payable to the City of Brisbane, which is given as a guarantee that the undersigned will enter into the contract if awarded the work.

Signature _____
and
Address _____

Nature of firm (Corporation, Partnership, Individual, etc.) and names of individual members of the firm, or names and titles of officers of the corporation.

If a corporation, organized under the laws of the State of _____, licensed in California in accordance with an act providing for the registration of contractors, License No. _____

SCHEDULE OF BASE BID ITEMS

NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	ITEM TOTAL
1	Traffic Control and Maintenance	1	LS		
2	Aggregate	1	LS		
3	Water Pollution Control	1	LS		
4	Demolition	1	LS		
5	Excavation	650	CY		
6	Clearing and Grubbing	1	LS		
7	Minor Structures	1	LS		
8	Retaining Walls	1	LS		
9	Geocell Channel Lining	1	LS		
10	Chain Link Fences	300	LF		
11	Irrigation System Installation	1	LS		
12	Seeding	1	LS		
13	Restoration Planting	1	LS		
14	Long Term Maintenance (Year 1)	1	LS		
15	Long Term Maintenance (Year 2)	1	LS		
16	Long Term Maintenance (Year 3)	1	LS		
17	Long Term Maintenance (Year 4)	1	LS		
18	Long Term Maintenance (Year 5)	1	LS		

TOTAL BASE BID _____

SCHEDULE OF ADDITIVE ALTERNATE ITEMS

1	Optional Weeding Event	5	EA		
2	Optional Non-native Plant Control Event	5	EA		
3	Optional Manual Irrigation Event	12	EA		

TOTAL ADDITIVE ALTERNATES _____

TOTAL BID – BASE PLUS ADDITIVE ALTERNATES _____

LIST OF SUBCONTRACTORS

NAME & ADDRESS	LIC. #, TYPE, & EXP. DATE	DESCRIPTION OF PORTION OF WORK SUBCONTRACTED	DIR(PWCR) REGISTRATION # & EXPIRATION DATE
----------------	------------------------------	--	---

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Bidder: _____ Date: _____
By: _____
Title: _____
Mailing Address: _____

EQUIPMENT/MATERIAL SOURCE INFORMATION

The undersigned, as Bidder, shall indicate opposite each item of equipment or material listed below, the name of the manufacturer of the equipment or material proposed to be furnished under the Bid. The listing of more than one manufacturer for each equipment or material proposed to be furnished under the Bid. The listing of more than one manufacturer for each equipment/material to be furnished with the words “and/or” will not be permitted. Failure to comply with the requirement may render the Bid nonresponsive and may cause rejection.

Equipment/Material	Manufacturer
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LISTING OF CONSTRUCTION TRADES

The Bidder anticipates that the following construction trades (carpenter, plumber, etc.) will be employed on this project.

- | | | |
|--|--|--|
| <input type="checkbox"/> ASBESTOS | <input type="checkbox"/> BOILERMAKER | <input type="checkbox"/> BRICKLAYERS |
| <input type="checkbox"/> CARPENTERS | <input type="checkbox"/> CARPET/LINOLEUM | <input type="checkbox"/> CEMENT MASONS |
| <input type="checkbox"/> DRYWALL FINISHER | <input type="checkbox"/> DRYWALL/LATHERS | <input type="checkbox"/> ELECTRICIANS |
| <input type="checkbox"/> ELEVATOR MECHANIC | <input type="checkbox"/> GLAZIERS | <input type="checkbox"/> IRON WORKERS |
| <input type="checkbox"/> LABORERS | <input type="checkbox"/> MILLWRIGHTS | <input type="checkbox"/> OPERATING ENG |
| <input type="checkbox"/> PAINTERS | <input type="checkbox"/> PILE DRIVERS | <input type="checkbox"/> PIPE TRADES |
| <input type="checkbox"/> PLASTERERS | <input type="checkbox"/> ROOFERS | <input type="checkbox"/> SHEET METAL |
| <input type="checkbox"/> SOUND/COMM | <input type="checkbox"/> SURVEYORS | <input type="checkbox"/> TEAMSTER |
| <input type="checkbox"/> TILE WORKERS | | |

NON-COLLUSION AFFIDAVIT

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

State of California)
) ss
County of San Mateo)

_____, being first duly sworn, deposes and says that he or she is _____ of _____, the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation, that the bid is genuine and not collusive or sham, that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true, and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signature

Name of Bidder

Date

Title

STATEMENT OF EXPERIENCE OF BIDDER

The bidder is required to state below what work of similar magnitude or character he or she has done, and to give references, including a contact person and telephone number, that will enable the City Council to judge his or her experience, skill and business standing and his or her ability to conduct the work as completely and as rapidly as required under the terms of the contract.

Bidder

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

NOTICE OF REQUIRED INSURANCE

GUADALUPE CHANNEL EROSION CONTROL PROJECT

Contained as a part of these project specifications, you will find a section or exhibit entitled "Insurance Requirements." These insurance requirements have been tailored to the activities which you will be performing under this Public Works contract.

In an effort to ensure that the cost of such insurance has been considered in your bid, and that your insurance company is able to provide the required insurance, the following statement shall be signed by both the bidder and the bidder's insurance agent.

-----GRANTEE AND INSURANCE AGENT STATEMENT-----

We understand the insurance requirements contained in these project specifications and will comply in full with them if awarded this Public Works contract.

Bidder

Insurance Agency

Signature

Signature

Date: _____

Date: _____

THIS PAGE MUST BE RETURNED WITH THE BID PROPOSAL

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the Bidder, any officer of the bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever been disqualified, removed or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the space below:

PUBLIC CONTRACT CODE SECTION 10232 STATEMENT

In accordance with Public Contract Code Section 10232, the bidder hereby states, under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the bidder within the immediately preceding two year period because of the bidder's failure to comply with an order of a federal court which orders the bidder to comply with an order of the National Labor Relations Board.

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ____, has not ____ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a checkmark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

BUSINESS AND PROFESSIONS CODE

SECTION 7028.15 STATEMENT

In accordance with Business and Professions Code Section 7028.15, the bidder hereby states that all representations made herein are made under penalty of perjury.

Executed this _____ day of _____, 2020 at _____,
California.

Bidder

By: _____

CONSTRUCTION AGREEMENT

THIS is an agreement between the City of Brisbane, hereinafter referred to as "City," and _____, hereinafter referred to as "Contractor."

WITNESSETH

That, for and in consideration of the promises and agreements hereinafter made and exchanged, the City and the Contractor agree as follows:

1. **SCOPE OF WORK.** The Contractor shall perform all the work, and furnish all the labor, materials, equipment and all utility and transportation services required to complete all of the work of construction and installation of the improvements more particularly described in the plans and specifications entitled **GUADALUPE CHANNEL EROSION CONTROL PROJECT** and approved by the City on _____, the items and quantities of which are more particularly set forth in the Contractor's bid therefor on file in the Office of the City Clerk.
2. **TIME OF PERFORMANCE.** After the contract has been executed by the City, and a notice to proceed is issued by the Director of Public Works, the Contractor shall begin work immediately upon receipt of the notice to proceed and shall diligently prosecute the same to completion after the date of the issuance of the notice to proceed, by the required completion dates for the channel work and for the restoration planting as provided in the specifications.
3. **CONTRACT PRICE.** The Contractor shall perform the work in the manner provided in the specifications and at the unit prices stated in Contractor's bid.
4. **COMPONENT PARTS.** This contract shall consist of the following documents, each of which is on file in the Office of the City Clerk and all of which are incorporated herein and made a part hereof by reference thereto.
 - a) This Agreement
 - b) Notice to Contractors Inviting Bids
 - c) Specifications, and Special Provisions
 - d) Accepted Proposal
 - e) Bond for Security of Laborers and Materialmen (Payment Bond)
 - f) Faithful Performance Bond
 - g) Plans, Profiles and Detailed Drawings
 - h) City of Brisbane Business License
5. **WAGE SCALE AND DIR REQUIREMENTS.** All work performed under this contract is subject to compliance monitoring and enforcement by the Department of Industrial Relations. To engage in the performance of any work under this contract, the Contractor and his or her subcontractors must be registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code. The Contractor and his or her subcontractors shall pay their employees not less than the general prevailing rate of wages predetermined by the Director of the Department of Industrial Relations, which rates are filed in the Office of the City Clerk, incorporated herein by this reference and made a part hereof. The Contractor shall post job site wage notices as

prescribed by state regulations. The Contractor and his or her subcontractors shall also maintain accurate payroll records and provide access to those records, as set forth in Section 1776 of the Labor Code. The Contractor and his or her subcontractors shall furnish payroll records directly to the Labor Commissioner, as set forth in Section 1771.1 of the Labor Code.

6. HOURS OF LABOR. Pursuant to Sec. 1813 of the Labor Code of the State of California, the Contractor shall forfeit as penalty to the City \$25.00 (Twenty-five Dollars) for each worker employed in execution of the contract by him or her or by any subcontractor, for each calendar day during which any worker is required or permitted to labor more than 8 hours in any 1 calendar day and 40 hours in any 1 calendar week without payment of overtime compensation as required by Labor Code Sec. 1815 and all amendments thereto
7. EQUAL OPPORTUNITY EMPLOYMENT. Consultant warrants that it is an Equal Opportunity Employer and shall comply with applicable regulations governing equal opportunity employment.
8. SECURITY FOR PAYMENT OF COMPENSATION. The Contractor shall secure the payment of compensation of his or her employees in accordance with the provisions of Section 3700 of the Labor Code of the State of California and all amendments thereto. (Required by Labor Code Sections 1860-61.)
9. WORKERS' COMPENSATION. The Contractor shall comply with the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code.
10. INDEMNIFICATION. The Contractor shall indemnify and save harmless the City of Brisbane and its City Council, employees, agents and representatives, from liability, loss, suits, actions, or claims brought for or on account of violation of laws, ordinances, rules or regulations, or injury, damage, or loss including death caused by acts or omissions of the Contractor, its employees, or agents.
11. ASSIGNMENT. The performance of this Agreement shall not be assigned except upon the written consent of the City Council of the City of Brisbane. Consent will not be given to any proposed assignment which would relieve the original Contractor or surety of their responsibilities under this Agreement.
12. SEVERABILITY. If any one or more of the covenants or agreements, or portions thereof, provided in this Agreement shall be held by a court of competent jurisdiction in a final action to be void, voidable or unenforceable, such covenant or covenants, such agreement or agreements, or such portions thereof shall be null and void and shall be deemed separable from the remaining covenants or agreements or portions thereof and shall in no way affect the validity or enforceability of the remaining portions of this Agreement.
13. ATTORNEYS' FEES AND EXPENSES. In the event that any party hereto fails to perform any of its obligations under this Agreement or in the event a dispute arises concerning the meaning or interpretation of any provisions of this Agreement or between the parties hereto, the defaulting party or the party not prevailing in such dispute, as the case may be, shall pay any and all expenses incurred by the other party in enforcing or establishing its rights hereunder, including without limitations attorney's fees, expert witness fees, any expenses incurred prior to the filing of any action or proceeding, any arbitration and arbitrator's fees (if applicable), and any court costs. Such recovery shall be had regardless of whether the obligations are performed or the dispute is resolved without the filing of an action or proceeding, is resolved by voluntary dismissal or abandonment, final judgment, pretrial motion, appeal or other means. Such expenses may be recovered in the same action or proceeding, if any, or in a separate action or proceeding.
14. PERFORMANCE PENDING DISPUTE RESOLUTION. If any dispute should arise between the parties as to the work to be done under this Agreement, the payments to be made, or the manner of accomplishment of the

work, the Contractor shall nevertheless proceed to perform the work as directed by the City pending settlement of the dispute.

IN WITNESS WHEREOF, the said Contractor, and the City, by and through its Mayor and Clerk, so authorized to act, have caused this contract to be executed this _____ day of _____, 2020.

APPROVED:

Michael Roush
City Attorney for the City of Brisbane

Contractor

(Position)

Terry O'Connell
Mayor for the City of Brisbane

By: _____

Attest: _____

Ingrid Padilla
City Clerk of the City of Brisbane

Bond Number _____

Bond Number: _____

CONTRACTOR'S PAYMENT BOND

LET THE FOLLOWING BE KNOWN:

THAT WHEREAS, THE CITY OF BRISBANE, a municipal corporation of the State of California (hereinafter designated as "City") on _____, 2020, entered into a certain contract with _____, a _____ (designate type of business entity), hereinafter designated as the "Principal," namely, a Construction Agreement for the **GUADALUPE CHANNEL EROSION CONTROL PROJECT** for the work hereinafter briefly described, to wit:

- ◆ Repair of erosion at bends in the Guadalupe Channel east of Bayshore Boulevard to the Machinery Road Bridge with installation of Geoweb material, replant native trees, shrubs and grasses, and remove sediment in the mixing basin and culverts west of and under Bayshore, including five years of plant establishment.

More fully described in and required by said Construction Agreement, incorporated herein by reference, the award of which said Agreement was made to said Principal by the City Council of the City of Brisbane on _____, 2020, as will more fully appear by reference to the minutes of said Council of said City of said date.

WHEREAS, said Principal is required by Section 9550 of the California Civil Code to furnish a bond in connection with said Agreement.

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

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his, her or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named in Section 9100 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to any work or labor performed or materials supplied by any such claimant, which said work, labor or materials are covered by the said Construction Agreement and any amendments, changes, change orders, additions, alterations, or modifications thereof, or for any amounts required to be deducted, withheld, or paid over to the Employment Development Department from the wages of employees of the Contractor and his or her subcontractors, pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, the Surety will pay for the same, in an amount not exceeding the sum hereinabove specified, and also, in case suit is brought upon this bond, a reasonable attorney's fee to be fixed by the court.

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

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement hereinabove described or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement hereinabove described, nor by any rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and

under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the City and original Contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person entitled to file claims under Title 1 (commencing with Section 8000) of Part 6 of Division 4 of the California Civil Code, and has not been paid the full amount of his or her claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration, modification, rescission or attempted rescission, herein mentioned.

It is further stipulated and agreed that no final settlement between the City and the Contractor with reference to the work, shall abridge the right of any beneficiary hereunder whose claims may be unsatisfied.

This bond is executed and delivered to comply with the requirements of the City of Brisbane, and to comply with the provisions of Title of Part 6 of Division 4 of the Civil Code of the State of California.

SIGNED AND SEALED this _____ day of _____, 2020

PRINCIPAL

SURETY

(Insert Company Name)

A _____ (designate type of entity)

By: _____

Title:

By: _____

Title:

By: _____

Title:

Address: _____

Telephone: _____

(Affix Corporate Seals; Attach Acknowledgments of both Principal and Surety signatures.)

Approved by the City Attorney of the City of Brisbane on the _____ day of _____, 2020

Michael Roush
City Attorney for the City of Brisbane

FAITHFUL PERFORMANCE BOND

WHEREAS, THE CITY OF BRISBANE, a municipal corporation of the State of California (hereinafter designated as "City") on entered into a Construction Agreement whereby principal agrees to install and complete certain designated public improvements, which said agreement, dated _____, 2020, and project identified as:

GUADALUPE CHANNEL EROSION CONTROL PROJECT

is hereby referred to and made a part hereof; and

Whereas, said Principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement.

Now, therefore, the Principal and _____, incorporated under the laws of the State of _____ and authorized to execute bonds and undertakings as sole surety, are held and firmly bound unto the City of Brisbane, hereafter called "City," in the penal sum of _____ dollars (\$ _____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of obligation is such that if the above bounded Principal, his, her or its subcontractors, heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and provisions in the said agreement and any alteration thereof made as therein provided, on this or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless City, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

As a condition precedent to satisfactory completion of said agreement, the above obligations to the amount of _____ dollars (\$ _____) lawful money of the United States, being not less than one hundred percent (100%) of the total bid of the Project, shall hold good for a period of one (1) year after the completion and acceptance of said work during which time if the above bounded Principal, his, her or its heirs, executors, administrators, successors, or assigns shall fail to make full, complete and satisfactory repair and replacement or totally protect the City from loss or damage made evident during said period of one year from the date of acceptance of said work, and resulting from or caused by defective materials or faulty workmanship in the prosecution of the work done, the above obligations in the same sum of _____ dollar (\$ _____) lawful money of the United States, shall remain in full force and virtue; otherwise the above obligation shall be void.

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

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or the work or to the specifications.

In witness whereof, this instrument has been duly executed by the Principal and surety above named on

_____, 2020.

NOTE: to be signed by
Principal and Surety and
acknowledgment and notarial
seal attached

(SEAL)

Principal

Surety

The above bond is accepted and approved this _____ day of _____, 2020.

Michael Roush
City Attorney for the City of Brisbane

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list
(Circular 570 as amended) and be authorized to transact business in California.

SPECIAL PROVISIONS

GUADALUPE CHANNEL EROSION CONTROL PROJECT

PROJECT NO. 9018

SECTION 1. SPECIFICATIONS AND PLANS; DEFINITIONS

The work embraced within shall be done in accordance with the Standard Plans and Standard Specifications dated 2018 of the California Department of Transportation, insofar as the same may apply and in accordance with the following special provisions.

In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

Definitions and terms. Wherever in the Standard Specifications, Standard Plans, or these Special Provisions and contract documents the following definitions and terms are used, the intent and meaning shall be interpreted as follow:

CALTRANS, Department of Transportation or Department - The City of Brisbane.

City - The City of Brisbane.

City Council - The City Council of the City of Brisbane.

Contractor – The contractor with whom the City enters into a contract to construct the public improvement specified, indicated, shown or contemplated in the Project Plans.

Days - Calendar days unless otherwise designated.

Director of Transportation - The Director of Public Works of the City of Brisbane.

Engineer - The City Engineer of the City of Brisbane, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Highway - The project in the City of Brisbane or neighboring jurisdictions, which shall mean the total right-of-way or area which is reserved for and secured for use in constructing the project and its appurtenances.

Liquidated Damages - The amount prescribed in Section 4, below, to be paid to the City of Brisbane or to be deducted from any payments due or to become due the Contractor for each calendar day's delay in completing the whole or any specified portion of the work beyond the time allowed in the special provisions.

Project Plans - The project plans are specific details and dimensions peculiar to the work and are supplemented by the Standard Plans and Bridge Standard Details insofar as they may apply.

Special Provisions - The special provisions are specific clauses setting forth conditions or requirements peculiar to the work and supplementary to the Standard Specifications. The Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates" is to be considered as part of the special provisions.

Standard Plans - The Standard Plans of the California Department of Transportation dated 2018.

Standard Specifications - The Standard Specifications of the State of California Department of Transportation dated 2018.

State - The City of Brisbane (Owner).

Work – All the work specified, indicated, shown or contemplated in the contract to construct the improvement, including all alterations, amendments or extensions thereto made by contract change order or other written orders of the Engineer.

Any reference in the specifications and other contract documents to Sections of former Chapter 3 (Sections 14250-14424 inclusive) of Part 5 of Division 3 of Title 2 of the Government Code shall be deemed to be reference to the successor section of the Public Contract Code.

Any reference within the Standard Specifications to the State of California or a State agency, office or officer shall be interpreted to refer to the City of Brisbane.

SECTION 2. PROPOSAL REQUIREMENTS AND INSTRUCTIONS TO BIDDERS

2.1. GENERAL INFORMATION

Bids are required for the entire work, with separate bid prices for each individual item as noted in the BID SCHEDULE. The amount of the bid for comparison purposes and determination of low bidder will be the Total of all items, including additive alternate items. The total of each bid item will be determined by extension of the unit price bid times the estimated quantity set forth for the item.

The bidder shall set forth for each item of work in clearly legible figures, a unit price and a total for the item in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Extension" column shall be the extension of the unit price bid times the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for the item, the unit price shall prevail, provided, however, if the amount set forth as a unit price is ambiguous, unintelligible, uncertain for any cause, omitted, or is the same amount as the entry in the "Extension" column, then the amount set forth in the "Extension" column for the item shall prevail and the amount set forth in the "Extension" column shall be divided by the estimated quantity for the item, and the price thus obtained shall be the unit price.

For a lump sum item, the amount set forth as the unit price shall be the same as the entry in the "Extension" column and in the case of any discrepancy between the two, the amount set forth under the "Extension" column for the item shall prevail.

If this proposal shall be accepted and the undersigned shall fail to contract as set forth herein and to give the two bonds in the sums to be determined as set forth herein, with surety satisfactory to the City of Brisbane, within ten (10) calendar days after the bidder has received notice from the City of Brisbane that the contract has been awarded, the City of Brisbane may, at its option, determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void and the forfeiture of such security accompanying this proposal shall operate and the same shall be the property of the City of Brisbane.

Proposals must be made on the form furnished by the Engineer and must be submitted in a sealed envelope and addressed to the City Clerk of the City of Brisbane, 50 Park Place, Brisbane, CA 94005, and marked "BID," followed by the project title appearing in the Notice Inviting Bids. Electronic proposals will also be accepted in PDF format via email to the City Clerk, with the Project Manager cc'ed, as described in the Notice Inviting Bids. FAXED proposals will not be accepted.

The bid must further conform to the requirements of these instructions.

The said work must be done in strict conformity with the specifications and plans therefor which are on file in the City Engineer's office at 50 Park Place, Brisbane, California.

2.2. BID OPENING

The City publicly opens and reads bids at the time and place shown on the Notice to Bidders.

2.3. BID RIGGING

The US Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous.. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

2.4. APPROXIMATE ESTIMATE

The quantities given in the Notice to Contractors Inviting Bids, Proposal and Contract Forms are approximate only, being given as a basis for the comparison of Proposals, and the City does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Engineer.

2.5. RIGHT TO REJECT

The City Council reserves the right to decrease scope of work, delete one or more bid items, or to reject any or all bids and to waive any informality in such bids and to award a contract under any alternate or proposal.

Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. Proposals in which the prices, in the opinion of the City, are unbalanced, may be rejected.

When proposals are signed by an agent, other than the officer or officers of a corporation authorized to sign contracts on its behalf, or a member of a partnership, a written authorization or Power of Attorney should be on file with the City prior to opening proposals or submitted with the proposal; otherwise, the proposal may be rejected as irregular and unauthorized.

2.6. AWARD OF CONTRACT

The City and its subsidiary agencies will endeavor to make an award of contract to such bidder as is determined to be the most responsible bidder by the City Council or other designated awarding authority. An award of contract will not be made until the necessary investigations are completed with regard to the responsibility of the two apparent most responsible bidders.

The language "responsible" refers not only to the attitude of trustworthiness, but also to the quality of service, experience, ability, and capacity of the low bidder to satisfactorily perform the proposed work, the quality of the work the bidder has completed, the safety compliance record of the bidder, and compliance with all provisions of the bid proposal.

The awarding authority also has been entrusted with discretionary power as to which is the lowest responsible bidder having regard to the quality and adaptability of the product, articles, or materials provided by the bidder for the particular requirements of their use.

2.7. WITHDRAWAL OF BID

After bids have been opened and declared, no bid shall be withdrawn except with the written permission of the City Council or designated awarding authority. Bids shall be subject to acceptance by the City for a period of sixty (60) calendar days from the date of the opening of bids.

2.8. CONTRACTOR'S LICENSE

The Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Public Contract Code § 10164).

The bidder shall hold the type of license required for work under the contract, a Class A General Engineering Contractor's license, and shall affix to the Proposal the number of the bidder's license issued under the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California.

2.9 SUBCONTRACTING

Attention is directed to the provisions in Section 2-1.10, "Subcontractor List," of the Standard Specifications and these special provisions.

In accordance with the requirements of Section 4100 to 4113, inclusive, of the Public Contract Code, each bidder shall list in his or her proposal the name of each subcontractor, the location of his or her place of business and the portion of the work to be done by him. Only one subcontractor shall be listed for each portion of the work as defined by the bidder. If the bidder fails to stipulate a subcontractor for any portion of the work under this contract, (or specified more than one subcontractor for the same portion of the work), it shall be understood that the bidder is qualified to and will perform such work without subcontracting the same. A sheet for listing the subcontractors, as required, is in the proposal.

2.10. BIDDER'S PRINTS

Any plans or drawings accompanying the specifications may be retained by the bidder and need not be submitted with the bid proposal.

2.11. BIDDER'S REFERENCE

Upon request, the bidder shall furnish references to the Engineer indicating the financial responsibility of the bidder and prior experience and ability of the bidder in completing similar work in a timely and cooperative manner at the least cost.

The bidder shall also furnish the Engineer with a list of projects of a similar nature which the bidder has completed on the form provided for that purpose. The Engineer may inspect these projects or utilize the information otherwise to determine the qualifications and abilities of the bidder prior to awarding the contract.

2.12. DESIGNATION OF SUBCONTRACTORS

Each proposal shall list therein the name and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in the amount of 1/2 of one percent of his or her total bid, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The bidder's attention is invited to other provisions of said Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or making unauthorized substitutions.

A form for listing the subcontractors, as required herein, is included in the proposal.

2.13. BID FORMS

An extra copy of the bid documents has been provided for contractor's bid. The complete bid proposal to the City must include the following documents signed and sealed where indicated.

- Proposal, including Schedule of Bid Items
- Bid Security
- Statement of Experience of Bidder
- Designation of Subcontractors
- Non-Collusion Affidavit
- Notice of Required Insurance
- Public Contract Code Section 10162 Questionnaire/Public Contract Code Section 10232 Statement/Public Contract Code Section 10285.1 Statement/Business and Professions Code Section 7028.15 Statement
- Addenda (when issued by City)

The bid proposal must be submitted on the documents provided, with original signatures affixed where applicable. Electronic bids will be accepted in PDF format with digital or scanned signatures affixed. (File size must be less than 10 MB). Bids shall be submitted electronically to the City Clerk, with the Project Manager cc'ed, or hand delivered or mailed, via U.S. Mail, to the City as described in the Notice of Inviting bids. All bid proposals must be received by the date and time specified in the Notice of Inviting Bids. FAXED Bid Proposals will not be accepted.

2.14. INVESTIGATION OF SITE, EXAMINATION OF PROJECT PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS

Intending bidders shall carefully examine the site of the proposed work, the Proposal, Plans, Specifications and Contract Documents. By submitting a bid, the bidder represents to the owner that the bidder has investigated the work site and is satisfied as to the conditions to be encountered, and the character, quality, and quantity of work to be performed, materials to be furnished, requirements of the specifications, and that the bid proposal includes full consideration for the same.

If during the time that this project is being advertised for bid there is a Countywide Order or other governmental directive that restricts travel within the County, a bidder is still required to visit the project site in person because travel is not prohibited when the travel is related to work necessary to the operation and maintenance of Essential Infrastructure and this project is an Essential Infrastructure project.

Should a bidder find discrepancies in, or omissions from, the Project Plans and Specifications or any other portion of the Contract, or should the bidder be in doubt as to their meaning, the bidder shall at once notify the City and, should it be found that the point in question is not clearly and fully set forth, a written addendum will be sent to all bidders. No interpretation of the meaning of the specifications, drawings or other prebid documents will be made to any bidder orally. Neither the Engineer nor the City will be responsible for any oral instructions.

The bidder, by submission of a bid, confirms that the bidder has taken action to become familiar with the Project Plans and Specifications and has found them fit and sufficient for the purpose of preparing a bid. By submission of a bid, the bidder agrees that no claim will be made against the City or the City's Consultants or Engineer for any damages in excess of \$50,000 or five percent (5%) of the construction costs (whichever is greater) for alleged damage that the bidder or bidder's subcontractors may have suffered due to the inadequacy of the bidder's bid on account of any alleged errors, omissions, or other deficiencies in the Plans and Specifications supplied to the bidder by the City. This limitation does not apply to compensation for extra work authorized in writing by the Engineer and approved by the City, as provided for herein. The bidder in no way assumes liability for damages to others for the professional negligence, errors, or omissions of the Engineer.

2.15. ADDENDA

Any addenda or letters of clarification supplementing the Project Plans and Specifications and issued prior to the time set for the opening of proposals, and/or forming a part of the documents furnished to the bidder for the preparation of a proposal, shall be covered in the proposal and shall be made a part of the Contract. Addenda and letters of clarification will be sent to each prospective bidder at the address indicated in the planholders' form and shall be attached to the Specifications containing the proposal.

2.16. PROPOSAL GUARANTY

Proposal Guaranty of the Standard Specifications, the second and third paragraphs are amended to read:

BID SECURITY - Each construction bid shall be accompanied by bid security in accordance with Section 3.12.100 of the Brisbane Municipal Code in the form of cash, a cashier's check or a certified check, amounting to ten percent (10%) of the bid, payable to the order of the Clerk of the City of Brisbane, or by a bond for that amount and so payable, signed by the bidder and a surety. The amount so posted shall, at the option of the public agency, be forfeited to the public agency if the bidder does not, within 10 calendar days after written notice that the contract has been awarded to him, enter into a contract with the public agency for the work.

The form of Bidder's Bond, as required herein, will be found following the signature page of the proposal annexed hereto.

A bidder's bond will not be accepted unless it substantially conforms to the bond form included with the proposal form and is properly filled out and executed. If desired, the bond form included therein, properly filled out as directed, may be executed and used as the bidder's bond.

2.17. RELIEF OF BIDDERS

Relief of bidders of the Standard Specifications is amended to read:

Attention is directed to the provisions of Government Code Section 5100 to 5107, inclusive, concerning relief of bidders and in particular to the requirement herein, that if the bidder claims a mistake was made in his or her bid, the bidder shall give the City of Brisbane written notice within five (5) working days after the opening of bids of the alleged mistake, specifying in the notice in detail how the mistake occurred.

2.18. DISQUALIFICATION OF BIDDERS

More than one proposal from an individual, firm, partnership, corporation, or combination thereof under the same or different names will not be considered. If it appears that the same individual, firm, partnership, corporation or combination thereof is interested in more than one proposal for the work contemplated, all such proposals shall be rejected. Being listed as a subcontractor does not constitute interest in a bid.

2.19. NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

In accordance with Section 7106 of the Public Contract Code of the State of California as specified, the bidder shall submit an affidavit affirming that the bidder has not participated in various collusive activities. A bid not accompanied by, or which is made without such affidavit, or in violation thereof, will not be considered. If the bidder is a corporation, said affidavit shall be signed by a duly authorized officer of the corporation. This affidavit will be made part of and referenced in the contract of the successful bidder.

2.20. PREVIOUS DISQUALIFICATION, REMOVAL OR OTHER PREVENTION OF BIDDING

The second paragraph of the Standard Specifications states that:

A bid may be rejected on the basis of a bidder, any officer of such bidder, or any employee of such bidder who has proprietary interest in such bid, having been disqualified, removed or otherwise prevented from bidding on, or completing a federal, state, or local project because of violation of law or a safety regulation.

All bidders shall complete the Public Contract Code Section 10162 Questionnaire, Public Contract Code Section 10232 Statement and Business and Professions Code Section 7028.15 Statement, on the form provided and return this form along with the bid proposal.

2.21. DEPARTMENT OF INDUSTRIAL RELATIONS REQUIREMENTS

All work is subject to compliance monitoring and enforcement by the Department of Industrial Relations. All prime contractors will be required to post prevailing wage job site notices, as prescribed by state regulations.

Except as specifically set forth in Labor Code section 1771.1(a), no bidder or subcontractor may be listed on a bid proposal or, on or after April 1, 2015, awarded a contract or subcontract for public work on a public works project unless currently registered and qualified to perform public work as required by section 1725.5 of the Labor Code.

No proposal shall be accepted without proof of the bidder's and all subcontractors' current registration to perform public work under section 1725.5. The bidder shall furnish in his or her proposal his or her Department of Industrial

Relations registration number and registration expiration date. The bidder shall also furnish the Department of Industrial Relations registration number and registration expiration date for each subcontractor on the form for listing subcontractors included in the proposal.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Standard Specifications and to Section 2, "Bidding," of these special provisions for the requirements and conditions concerning award and execution of contract.

The award of contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all requirements prescribed herein.

3.1. AWARD OF CONTRACT

Section 3-1.04, "Contract Award," of the Standard Specifications is amended to add the following:

The City of Brisbane reserves the right to reject any and all bids, or to make award to the lowest responsible bidder and reject all other bids and to waive any irregularity or informality in any bid received. See Proposal Requirements and Instructions to Bidders, Section 2.1 herein, for determination of low bid.

If administrative circumstances prevent the City from awarding the contract within the specified award period, the City may extend the specified award period if the Bidder agrees.

3.2. CONTRACT BONDS

Section 3-1.05, "Contract Bonds," of the Standard Specifications is amended to add the following:

Contractor shall provide, at the time of the execution of the contract agreement for the work, and at his own expense, a surety bond in an amount equal to at least one hundred percent (100%) of the contract price as security for the faithful performance of said agreement. Contractor shall also provide, at the time of the execution of the agreement or contract for the work, and at his own expense, a separate surety bond in the amount equal to at least one hundred percent (100%) of the contract price as security for the payment of all persons performing labor and furnishing materials in connection with said contract agreement. Sureties of each of said bonds shall be satisfactory to the Attorney for the City of Brisbane.

3.3 RETURN OF PROPOSAL GUARANTEES

Within 14 days after the award of the contract to the lowest responsible bidder, the City will return the proposal guarantees, other than bidder's bonds, accompanying such of the proposals as are not to be further considered in making the award. Retained proposal guarantees will be held until the contract has been executed, after which all proposal guarantees, except bidder's bonds and any guarantees which have been forfeited, will be returned to the bidders whose proposals they accompany.

3.4. PRECEDENCE OF CONTRACT

In resolving conflicting requirements between the contract documents, order of precedence shall be as follows:

1. Change orders
2. Construction Agreement
3. Addenda or letters of clarification
4. Special Provisions
5. Project plans

6. Standard Plans and Specifications

With reference to the Project Plans:

1. Figures govern over scaled dimensions
2. Detail drawings govern over general drawings

SECTION 4. BEGINNING OF WORK, PRE-CONSTRUCTION CONFERENCE, TIME OF COMPLETION, AND LIQUIDATED DAMAGES

Attention is directed to the provisions in Section 8-1.04, "Start of Job Site Activities," in Section 8-1.05, "Time," and in Section 8-1.10, "Liquidated Damages," of the Standard Specifications and these special provisions.

The Notice to Proceed shall be issued and the working days shall begin within 14 calendar days of execution of the contract by the City, unless (a) mutually agreed upon by both parties in writing that the NTP shall be issued after the 14 calendar day period or (b) at the time the City executes the contract there is a County wide Order or other governmental directive that restricts travel within the County to only "Essential Travel". In this latter situation, the City will issue the NTP once travel for purposes of performing the work under the contract is permitted.

Prior to the beginning of work, a pre-construction conference will be held at the office of the City Engineer for the purposes of discussing with the Contractor the scope of work, contract drawings, specifications, existing conditions, materials to be ordered, equipment to be used, and all essential matters pertaining to the prosecution of and the satisfactory completion of the project as required. The Contractor's representatives at this conference shall include all major superintendents for the work and may include major subcontractors.

In addition, no work shall be performed during hours other than the hours specified without prior written approval of the engineer and without first obtaining a special permit for such work. Permitted hours of work may be shortened by the Engineer upon a finding of a previously unforeseen effect on the health, safety or welfare of the surrounding community.

The Contractor shall diligently prosecute the work, other than Restoration Planting, to completion before 4:00 p.m. October 15, 2020 upon receipt of a Notice to Proceed. The Contractor shall diligently prosecute the Restoration Planting work from December 1, 2020 through February 15, 2021. The contractor may store materials and equipment in the staging area prior to August 1.

Refer to Section 8-1.10, "Liquidated Damages," of the Standard Specifications for the sum that shall be paid by the Contractor to the City per day for each and every calendar day of delay in finishing the work beyond the completion dates prescribed above for all work.

SECTION 5. GENERAL PROVISIONS

5.1. REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK

5.1.1. PROGRESS SCHEDULE

Following the award of the contract, and prior to the beginning of work, the Contractor shall submit to the Engineer within ten (10) working days, for approval, a schedule setting forth the sequence in which construction will proceed in accordance with Section 8-1.02, " Schedule," of the Standard Specifications.

One working day will be deducted from the Contractor's total number of working days for each day the Contractor fails to submit the above submittal within the stated time frame.

During the course of the work, the Contractor shall update the progress schedule within two (2) working days as requested by the Engineer.

Full compensation for Progress Schedule shall be considered as included in the contract unit price paid for the various items involved and no separate payment will be made therefore.

5.1.2. CONTACTS FOR IMMEDIATE PROBLEM RESOLUTION

Prior to the Director of Public Works issuing a notice to proceed and prior to the start of construction on this project, the Contractor shall provide the Engineer with the names, addresses, and telephone numbers of all responsible individuals who can be contacted on a 24-hour basis in the event of the occurrence of any problem which must be resolved immediately.

Arrangements shall be made by the Contractor to insure that a response, in person or by telephone, by a duly authorized and competent representative of the Contractor, will be made within one hour of any emergency calls made by the City to the telephone number provided by the Contractor during any hour of the day or night. If the Contractor is unable to respond to an emergency call, the City may take any necessary actions to remedy the emergency conditions, at the Contractor's expense, in all cases where the Contractor is obligated or responsible under these conditions.

5.1.3. INDEMNIFICATION

The Contractor shall indemnify and save harmless the City and Council, employees, agents and representatives, from liability, loss, suits, actions, or claims brought for or on account of violation of laws, ordinances, rules or regulations, or injury, damage, or loss including death caused by acts or omissions of the Contractor, his or her employees, or agents.

5.1.4. INSURANCE REQUIREMENTS

The Contractor shall procure and maintain, for the duration of the contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his or her agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

A. **Minimum Scope of Insurance.** Coverage shall include at a minimum:

1. Commercial General Liability.
2. Automobile Liability.

3. Worker's Compensation insurance as required by the Labor Code of the State of California and Employer's Liability insurance.

B. Minimum Limits of Insurance. The Contractor shall maintain limits no less than:

1. Comprehensive General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage.

2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage.

1. Worker's Compensation and Employer's Liability: Worker's Compensation limits as required by the Labor Code of the State of California and Employer's Liability limits of \$100,000 per accident.

C. Deductibles and Self-Insurance Retentions. Any deductibles or self-insurance retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officials, employees, agents, and contractors; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses in an amount specified by the City.

D. Other Insurance Provisions. The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages:

a. The City, its officials, employees, agents and contractors are to be covered as additional insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees, agents, and contractors.

b. The Contractor's insurance coverage shall be primary insurance as respects the City, its officials, employees, agents and contractors. Any insurance or self-insurance maintained by the City, its officials, employees, agents or contractors shall be excess of the Contractor's insurance and shall not contribute with it.

c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its officials, employees, agents, and contractors.

d. Coverage shall state that the Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. All Coverages:

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

E. Acceptability of Insurers. Insurance is to be placed with insurers acceptable to the City.

F. Verification of Coverage. Contractor shall furnish the City with certificates of insurance and with original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Proof of insurance shall be delivered to:

City Clerk
City of Brisbane
50 Park Place
Brisbane, CA 94005

G. **Subcontractors.** The Contractor shall include all subcontractors as insured under its policies or shall obtain separate certificates and endorsements for each subcontractor.

5.1.5. PRICE SUBMITTAL

The Contractor shall prepare and submit to the Engineer within ten (10) working days after execution of contract, a detailed cost breakdown to serve as the basis for progress payments for bid items with a quantity of "Lump Sum" before work commences.

The cost breakdown shall be segmented into basic items of work corresponding to the Progress Schedule submitted pursuant to Section 5.1.1 "Progress Schedule" of these Special Provisions, with the aggregate equaling the Contract total. Cost breakdowns containing prices which appear unbalanced may be rejected.

The following general guidelines shall be followed:

- A. There must be sufficient detail included to allow the Engineer to verify progress in accordance with the progress payments specified elsewhere. As a minimum, the cost of each Specification section shall be identified.
- B. Each price must include the cost of material, equipment, and labor stated separately.

Progress payments will not be made until the detailed cost breakdown has received favorable review and approval by the Engineer.

5.2. REQUIREMENTS RELATING TO LABOR

5.2.1. PREVAILING WAGE RATES

Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the City of Brisbane has obtained from the Director of the Department of Industrial Relations the general prevailing rate of wages (which rate includes employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in Section 1773.8 of said Code, apprenticeship or other and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classifications or type of workmen concerned. Such prevailing rates are on file with the City Clerk.

Pursuant to Section 1773.2 of the Labor Code, general prevailing wage rates which are in effect on the date that this project is advertised, which is part of the contract, shall be posted by the Contractor at a prominent place at the site of the work.

Prevailing wage rates shall be posted at the job site.

The Contractor and each subcontractor shall keep an accurate payroll record, showing the name, address, Social Security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee by him or her in connection with the public work. The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor in accordance with the provisions of Section 1776 of the Labor Code.

The Contractor shall inform the City of the location of the payroll records, including the street address, city and county, and shall, within 5 working days, provide a notice of a change in location and address. The responsibility for compliance with payroll record requirements imposed by Section 1776 of the Labor Code is on the Contractor.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The Contractor and each subcontractor must furnish payroll records directly to the Labor Commissioner as set forth in Section 1771.4 of the Labor Code.

5.2.2. HOURS OF LABOR

Pursuant to Sec. 1813 of the Labor Code of the State of California, the Contractor shall forfeit as penalty to the City \$25 for each worker employed in execution of the contract by him or by any subcontractor, for each calendar day during which any worker is required or permitted to labor more than 8 hours in any 1 calendar day and 40 hours in any 1 calendar week without payment of overtime compensation as required by Labor Code Sec. 1815 and all amendments thereto.

5.2.3. LABOR NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Administrative Code.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM

(GOV. CODE, SECTION 12990)

Your attention is called to the "Nondiscrimination Clause," set forth in Section 7-1.02I(2), "Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt state contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt state construction contracts and subcontracts of \$5,000 or more.

5.2.4. EXCAVATION SAFETY PLANS

Attention is directed to Section 6705 of the Labor Code concerning trench excavation safety plans. Excavations five (5) feet or more in depth shall not begin until the Contractor has submitted and the Engineer has returned indicating "No Exceptions Noted" the Contractor's detailed plan for worker protection from the hazards of caving ground during such excavations. The plan may be reviewed by the Engineer for completeness in accordance with federal, state and local regulations. The Engineer will not be responsible for reviewing the accuracy of assumptions, data and information used, and procedures contained in the plan or the adequacy thereof. Such plans shall show the details of the design of shoring, bracing, sloping, or other provisions to be made for worker protection during such excavation. The plan shall not allow the use of shoring, sloping, or a protective system less effective than that required by the Construction Safety Orders; and if such plan varies from the shoring system standards established by the Construction Safety Orders, the plan (including calculations) shall be prepared, signed and stamped by an Engineer registered as a Civil or Structural Engineer, and by an Engineer registered as a Geotechnical Engineer, in the State of California.

Such plans shall be accompanied by a copy of the Permit to Excavate that has been issued by the Division of Occupational Safety and Health as required by Labor Code Section 6500 and following.

Full compensation for trench excavation safety plans shall be considered as included in the price paid for the various contract items of work involved and no additional compensation will be allowed therefore.

5.2.5. ASBESTOS-RELATED WORK

The Contractor's attention is directed to Section 7058.5 of the Business and Professions Code, which states that from and after January 1, 1987, no Contractor shall engage in asbestos-related work, as defined, who is not certified by the Contractor's State License Board to do so.

The Contractor's attention is also directed to Section 6501.5, and following, of the Labor Code relative to asbestos-related work and to provisions of the General Industry Safety Orders of Title 8 of the Code of Regulations and to the BAAQMD's Regulation 11, Rule 2.

5.2.6. APPRENTICES

Attention is directed to the provisions of Section 7-1.02K(4), "Apprentices," of the Standard Specifications.

5.2.7. EMPLOYMENT ELIGIBILITY

At the request of City, Contractor shall furnish to City copies of Employment Eligibility Verifications (INS Form I-9) or other evidence satisfactory to City showing that any or all persons providing services under this Agreement for on behalf of Contractor are eligible to be employed in the United States. In the event Contractor is unable or unwilling to provide the employment eligibility verification within ten (10) calendar days after City's request, City may require the immediate removal from the project of such workers as specified by City, and upon any failure by Contractor to do so, City shall be entitled to terminate this Agreement.

5.3. REQUIREMENTS RELATING TO PERFORMANCE OF THE WORK

5.3.1. WORK TO BE DONE

The work to be done consists of furnishing all labor, methods or processes, implements, tools, machinery, construction equipment, materials of any kind, and installed manufactured equipment, except as otherwise specified herein to be furnished by the City of Brisbane or from sources provided by the City of Brisbane, which are required to construct in a good and workerlike manner all the work herein specified.

5.3.2. COOPERATION

Attention is directed to Sections 5-1.20, "Coordination With Other Entities," and 5-1.36C, "Nonhighway Facilities," of the Standard Specifications and these special provisions.

5.3.3. STAKING

Staking shall conform to the provisions of Section 5-1.26, "Construction Surveys," of the Standard Specifications and these special provisions. The Contractor shall provide any necessary staking.

Full compensation for the Contractor furnishing and setting all stakes necessary to construct the project shall be considered as included in the price paid for the various contract items of work, and no additional compensation will be allowed therefore.

5.3.4. PUBLIC SAFETY

In addition to any other measures taken by the contractor pursuant to the provisions of Section 7-1.04, "Public Safety," of the Standard Specifications, the Contractor shall install temporary railing between any lane carrying public traffic and any excavation, obstacle, or storage area when the following conditions exist:

- (1) Excavations -- Any excavation the near edge of which is 15 feet or less from the edge of the lane, except:
 - a. Excavations covered with non-skid sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public. Covers must have milled edges or be installed flush with the pavement surface.
 - b. Excavations less than one foot deep.
 - c. Trenches less than one foot wide for irrigation pipe or electrical conduit or excavations less than one foot in diameter.

- d. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
- e. Excavations in side slopes, where the slope is steeper than 4:1.
- f. Excavations protected by existing barrier or railing.

(2) Temporarily Unprotected Permanent Obstacles -- Whenever the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or whenever the Contractor, for his convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing completely in place during the same day.

(3) Storage Area -- Whenever material or equipment is stored within 12 feet of the lane and such storage is not otherwise prohibited by the specifications.

Full compensation for conforming to the requirements in this section, "Public Safety," shall be considered as included in the contract price paid for the various items of work involved and no additional compensation will be allowed therefore.

5.3.5. ACCIDENT PREVENTION

The Contractor shall comply with the California Occupational Safety and Health Act (Labor Code Section 6300 et seq.) and Title 8 of the Code of Regulations, and will also take, or cause to be taken, such additional measures as may be necessary for the prevention of accidents.

During the performance of the work under the Contract, the Contractor shall institute controls and procedures for the control and safety of persons visiting the jobsite.

Compliance with the provisions of this Article by subcontractors will be the responsibility of the primary Contractor.

5.3.6 OBSTRUCTIONS

Attention is directed to Sections 5-1.36C, "Nonhighway Facilities," and 15, "Existing Facilities," of the Standard Specifications and these special provisions.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

Notification Center	Telephone
Underground Service Alert-Northern California (USA)	811 or 1(800) 642-2444

5.3.7. INTERFERENCE WITH FIRE HYDRANTS, HIGHWAYS, AND FENCES

The Contractor shall conduct operations as not to close or obstruct any portion of any highway, road, or street, or prevent in any way free access to fire hydrants until permits have been obtained therefore from the proper authorities. If any highway required to be kept open shall be rendered unsafe by the Contractor's operations, the Contractor shall make such repairs or provide such temporary guards as shall be acceptable to the authorities having

jurisdiction and to the Engineer. Any highway or street maintenance or repair work required by the City in connection with necessary operations under the Contract shall be performed by the contractor at the Contractor's own cost and expense. Fences subject to interference shall be maintained as effective barriers consistent with the original intent but, upon approval of the Engineer, they may be moved or rearranged to facilitate prosecution of the work until the work is finished, after which they shall be restored to their original location in an equal or better condition than existed prior to rearrangement.

5.3.8. PRESERVATION OF PROPERTY

Attention is directed to the provisions in Section 5-1.36, "Property and Facility Preservation," of the Standard Specifications and these special provisions.

Due care shall be exercised to avoid damage to existing improvements, utility facilities, and adjacent property, real and personal. The fact that any existing underground improvement or facility is not shown on the Plans shall not relieve the Contractor of responsibility to ascertain the existence of any underground improvement or facility which may be subject to damage by reason of the Contractor's operations.

Any damage to improvements or property, whether above ground, below ground, or underwater, private or public, within or adjacent to the project limits, arising from, or in consequence of, the performance of the Contract shall be repaired at once by the Contractor. If the Engineer requires such repair to be made prior to the execution or continued performance of any part of the work included in this contract, the Engineer will so notify the Contractor who shall delay or discontinue the performance of that part of the work until the necessary repair has been made. Such delay shall not be considered unavoidable, and no extension of time for completion of the Contract will be allowed therefore.

When ordered by the Engineer to make any such repair, the Contractor shall start work thereon within four (4) hours, immediately if emergency or public safety conditions warrant, and shall prosecute the same with diligence to completion. Upon failure of the Contractor to so comply with such order, or upon the contractor's failure to make immediate emergency repairs reasonably determined by the Engineer to be necessary in the best interests of the public, the Engineer shall have authority to cause such repair to be made and to deduct the costs thereof from any money due, or which may become due, the Contractor.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor shall act to prevent, to the extent possible, such threatened loss or injury, whether or not instructed to do so by the Engineer.

5.3.9. DAMAGE REPAIR

Attention is directed to the provisions in Section 5-1.39, "Damage Repair and Restoration," of the Standard Specifications and these special provisions.

Damage to slopes or other existing facilities occurring prior to the performance of the work provided for in this contract shall be repaired or reconstructed by the Contractor, as directed by the Engineer. Such work will be paid for as extra work as provided in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

Storm damage caused by a change in the runoff pattern from that which existed on the day the Notice to Contractors for this project is dated and was the result of work by others within the right of way shall be repaired as directed by the Engineer. The total cost of ordered repair work will be paid for as extra work as provided in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

5.3.10. TRESPASS

The Contractor shall be responsible for all damage or injury which may be caused on any property by trespass by the Contractor, any subcontractor, or their employees in the course of their employment, whether the said trespass was committed with or without the consent or knowledge of the Contractor.

5.3.11. PROJECT APPEARANCE

The Contractor shall maintain a neat appearance to the work. In any area visible to the public the following shall apply:

When practicable, broken concrete and debris developed from the project shall be disposed of concurrently with its removal.

If stockpiling of debris is necessary and approved by the Engineer, the debris developed from the project shall be removed or disposed of weekly. The Contractor shall furnish trash bins for all stockpiled debris developed from the project. All debris shall be placed in the trash bins daily. Stockpiling areas shall be in accordance with the section entitled "Areas for Contractor's Use," elsewhere in these special provisions.

Forms and falsework that are to be re-used shall be stacked neatly concurrently with their removal. Form 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 price paid for the various contract items of work involved and no additional compensation will be allowed therefore.

5.3.12. AREAS FOR CONTRACTOR'S USE

Attention is directed to the requirements specified in Section 5-1.32, "Areas for Use," of the Standard Specifications and these special provisions:

The project areas shall be used only for purposes that are necessary to perform the required work. The Contractor shall not occupy the streets or areas, or allow others to occupy the streets or areas, for purposes which are not necessary to perform the required work.

The area for Contractor use shall be provided by the Engineer during the preconstruction meeting.

Should the Contractor cause damage to the site, all corrective measures shall be done promptly at no cost to the City.

5.3.13. COMPLIANCE WITH MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation, Monitoring, and Reporting Program (MMRP) requirements can be found in Appendix C. The contractor shall be required to comply with all applicable mitigation measures that reference the Construction Contractor as a responsible entity, unless otherwise stated.

Mitigation Measure BIO-1, exclusion of fish from channel, shall be completed by owner's qualified biologist with support from and in coordination with contractor. For Mitigation Measure BIO-2, nesting bird survey will be completed by the owner's qualified biologist. For Mitigation Measure BIO-3, seeding will be accomplished by the contractor per the special provisions. For Mitigation Measure GEO-1, contractor shall refer to geotechnical report. Grading plans are the project plans.

Mitigation Measure HYDRO-1 shall be address by contractor under Water Pollution Control bid item. For Mitigation Measure NOISE-1, it shall be the responsibility of the contractor to provide supervision by a qualified acoustical consultant of all construction related activities. No grading permit is required to be obtained.

Full compensation for conforming to the requirements of this section shall be considered as included in the price paid for the various contract items of work involved and no additional compensation will be allowed therefore.

5.3.14. SOUND CONTROL REQUIREMENTS

Sound control shall conform to the provisions in Section 14-8, "Noise and Vibration," of the Standard Specifications and these special provisions and the requirements of the Mitigation, Monitoring, and Reporting Program.

In accordance with Section 8.28.060 of the Brisbane Municipal Code, no individual piece of equipment used by the Contractor shall produce a noise level that exceeds eighty-three (83) dBA at a distance of twenty-five (25) feet from the source thereof, and the noise level from the Contractor's operations at any point outside of the property plane of the project shall not exceed eighty-six (86) dBA.

Said noise level requirements shall apply to all equipment on the job or related to the job, including but not limited to trucks, transient mixers, or transient equipment that may or may not be owned by the Contractor. The use of loud signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements of this section shall be considered as included in the price paid for the various contract items of work involved and no additional compensation will be allowed therefore.

5.3.15. DUST CONTROL

Dust control shall conform to the provisions in Section 10, "General," of the Standard Specifications, these special provisions and the site safety plan.

It is understood that the provisions in Section 10, "General," will not prevent the Contractor from applying water or dust palliative for his convenience if he so desires; however, the Contractor shall endeavor, whenever possible, to restrict the use of water to control dust for his convenience due to the current need to conserve water.

Dust suppression measures will be used when visual or instrumental indications of dust levels indicate their necessity. A fine water spray will be used to wet soils, as necessary, using only enough water to provide dust control, so as to minimize runoff.

No separate payment will be made for any work performed or materials used to control dust resulting from the Contractor's operations either inside or outside the right of way, or for controlling dust caused by public traffic during Contractor's working hours. Full compensation for such dust control will be considered as included in the price paid for the various contract items of work involved and no additional compensation will be allowed therefore.

5.3.16. WATER CONSERVATION

Attention is directed to the various sections of the Standard Specifications and these special provisions which require the use of water for the construction of this project. Attention is also directed to the provisions of Section 7, "Legal Relations and Responsibility to the Public," of the Standard Specifications with regards to the Contractor's responsibilities for public convenience, public safety, preservation of property and responsibility for damage.

Nothing in this section, "Water Conservation," shall be constructed as relieving the Contractor from furnishing an adequate supply of water required for the proper construction of this project in accordance with the Standard Specifications or these special provisions or relieving the Contractor from the legal responsibilities defined in said Section 7.

The Contractor shall, whenever possible and not in conflict with the above requirements, minimize the use of water during construction of the project. Equipment shall be kept in good working order; water leaks shall be repaired promptly; and washing of equipment except when necessary for safety or for the protection of equipment, shall be discouraged.

5.3.17. ARCHAEOLOGICAL MONITORING

Notwithstanding anything to the contrary herein, in the event any archaeological artifacts within the project are discovered during the course of the work, the City will have and retain all right, title and interest to such artifacts and shall have the further right during the course of the contract, to examine or have examined, the site work for any such artifacts and to perform or have performed archaeological excavations and all other related work to explore for, discover, recover, and remove such artifacts from the site.

In the event the work of archaeological examination and related work delays the Contractor's work, he shall be entitled to an extension of time to complete the work equal to the number of days he is thus delayed. However, Contractor shall have no claim for compensation as a consequence of delay of his work for the period of time required by the City for such archaeological examination and related work.

5.3.18. QUALITY ASSURANCE

Testing of materials shall conform to the provisions in Section 6-2, "Quality Assurance," of the Standard Specifications and these special provisions.

The Agency uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract.

You may examine the records and reports of tests the Agency performs if they are available at the job site.

Schedule work to allow time for QAP.

All tests of materials will be made in accordance with commonly recognized standards of national organizations, and such special methods and tests as are prescribed in these Specifications.

Except as otherwise provided in the specifications, cost of all testing of materials will be borne by the City of Brisbane. In the following instances the Contractor shall bear the costs of testing:

- (1) The Contractor shall assume all costs of retesting materials which fail to meet contract requirements;
- (2) The Contractor shall assume all costs of testing materials offered in substitution of those found to be deficient;
- (3) The Contractor shall assume all costs of testing materials offered in lieu of specified materials, to prove their quality equivalence;
- (4) The contractor shall assume all costs of testing and inspection of materials manufactured or produced outside the limits of the United States; and
- (5) The Contractor shall assume all costs of testing more than three samples of each type of material.

5.3.19. SUBMITTALS TO BE FURNISHED BY THE CONTRACTOR

The Drawings listed in the Specifications shall be supplemented by the Contractor with such submittals as may be required for the prosecution of the work and approval of equipment. Submittals may include calculations, specifications, product data, samples, manuals, spare parts, photographs, schedules, or similar items required to be submitted to the Engineer by the Contract Documents. These submittals shall be approved by the Engineer before any work involving these submittals is performed. No change shall be made by the Contractor to any submittal after it has been approved by the Engineer. Submittals shall contain all required detailed information at a reasonable scale with enough views to clearly show the work to be done or the item to be furnished, and shall be properly checked.

It is expressly understood, however, that approval of the Contractor's submittals shall not relieve the Contractor of any responsibility for accuracy of dimensions and details, or for mutual agreement of dimensions and details. The

contractor shall be solely responsible for agreement and conformity of submittals with the Contract Drawings and Specifications.

The number of materials submittals to be turned in shall be the number the contractor requires returned, plus two to be retained by the City. The copies will be returned to the Contractor marked, "No Exceptions Noted," "Make Corrections Noted and Resubmit Final File Copy," "Rejected," "Revise and Resubmit," or "Submit Specified Items," within 10 days after receipt. The contractor shall make any necessary corrections and revisions to returned submittals and shall resubmit the submittals within 10 days after receipt. The Contractor is responsible for furnishing submittals in sufficient time for approval action, including resubmittal, without delaying construction.

5.3.20. SUBCONTRACTING

Attention is directed to the provisions in Sections 2-1.10, "Subcontractor List," and 5-1.13, "Subcontracting," of the Standard Specifications and these special provisions:

In accordance with the requirements of Section 4100 to 4113, inclusive of the Public Contract Code, each bidder shall list in his Proposal the name of each subcontractor, the location of his place of business and the portion of the work to be done by him. Only one subcontractor shall be listed for each portion of the work as defined by the bidder. If the bidder fails to stipulate a subcontractor for any portion of the work under this contract, (or specified more than one subcontractor for the same portion of the work), it shall be understood that the bidder is qualified to and will perform such work without subcontracting the same. A sheet for listing the subcontractors, as required, is in the proposal.

5.3.21. SERVICES DURING AN EMERGENCY

The contractor shall be obligated to assist the City in the event of an emergency condition as determined by the Owner in accordance with the requirements of this section.

The contractor shall make available to the Owner all mobilized equipment and personnel active on the project and shall provide supervision of such personnel under the direction of the Owner in order to perform required work to respond to an emergency condition.

The contractor shall be compensated for such assistance in accordance with Section 5.4.8.c of these specifications.

5.3.22. INSPECTION

Inspection shall conform to the provisions in Section 5-1.01, "General," of the Standard Specifications and these Special Provisions.

The work shall be subject to inspection at all times by Caltrans or the Federal Highway Administration (FHWA).

All overtime work performed shall be subject to charges for any additional inspection costs incurred by the City of Brisbane. Such charges will be made for all work performed on Saturdays, Sundays, trade union holidays and on weekdays before 8:00 a.m. or after 5:00 p.m.

5.3.23. FINAL CLEANUP

Final cleanup shall conform to the provisions of Section 22, "Finishing Roadway," of the Standard Specifications and these special provisions.

Before final inspection the Contractor shall clean the premises, and unless otherwise specified, remove all rubbish, excess materials, falsework, temporary structures, and equipment. All parts of the work shall be left in a neat and presentable condition to the satisfaction of the Engineer.

5.3.24. COMPLIANCE WITH COUNTYWIDE HEALTH ORDER

The following information shall apply to all construction projects taking place in the City of Brisbane while San Mateo County Health Officer Order c19-5c (revised) is in effect. All future general restrictions related to COVID-19 health orders that are equal or lesser to the current order shall remain in effect through the entire contract duration. No separate payment shall be made for compliance of current countywide health order in place at the time of bidding or its equal.

The San Mateo County Health Officer Order No. c19-5c (revised) dated April 29, 2020 specified that all construction is essential critical infrastructure. The link to the order is here:

<https://www.smcgov.org/sites/smcgov.org/files/documents/files/Health%20Officer%20Order%20Revising%20Shelter%20In%20Place%20Through%20May%2031.pdf>

Attached are Appendix B-1, Small Construction Project Safety Protocol, and Appendix B-2, Large Construction Project Safety Protocol, of the Health Order which detail practices and procedures to work in compliance with the Health Officer's requirements (B-2 is required on projects where five or more workers are on the jobsite at any one time.) These specific requirements are mandated effective 11:59 p.m. on May 3, 2020, and will continue to be in effect until 11:59 p.m. on May 31, 2020, or until they are extended, rescinded, superseded, or amended in writing by the Health Officer.

Note Paragraph 2.b of Appendix B-1, which requires the assignment and presence of a site-specific COVID-19 supervisor, and, when applicable based on size of project or workforce, Paragraph 2.j of Appendix B-2, which requires the assignment of a COVID-19 Third Party Jobsite Safety Accountability Supervisor.

Additionally, while not intended to be exhaustive of all the requirements found in the updated order, the following short list of basic, universal employee social distancing requirements is provided for reference:

1. Maintaining at least six-foot social distancing from other individuals.
2. Washing hands with soap and water for at least twenty seconds as frequently as possible or using hand sanitizer. (Handwashing stations or sanitizer will be readily available for any person on a job site, including city staff.)
3. Covering coughs or sneezes (into the sleeve or elbow, not hands).
4. Regularly cleaning high-touch surfaces.
5. Not shaking hands.
6. Avoiding all social interaction outside the household when sick with a fever or cough.

Face coverings as defined in Order No. c19-8 shall be worn by workers at all times with the following exceptions: when a worker is in a personal office (a single room) when others outside of that person's household are not present as long as the public does not regularly visit the room; when a construction worker is alone in a space not regularly visited by the public; and when driving alone in a motor vehicle.

5.4. TERMINATION OF OR CHANGES IN CONTRACT; CLAIMS

5.4.1. TERMINATION OF CONTROL

Section 8-1.13, "Contractor's Control Termination," of the Standard Specifications is amended to add the following:

Notice of taking over the work or parts of the work by the City of Brisbane will be served upon the Contractor in writing. Should he neglect or refuse to provide means for satisfactory compliance with the

contract as directed by the Engineer within the time specified in such notice, the City Council of the City of Brisbane, in any such case, shall have the power to suspend the operation of the contract.

Upon receiving notice of such suspension, the Contractor shall discontinue said work or said parts of it as the City Council may designate.

Upon such suspension the Contractor's control shall terminate, and thereupon the City Council, 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 or parts thereof, and hire such force and buy or rent such additional machinery or tools, appliances, equipment, and buy such additional material and supplies at the Contractor's expense as may be necessary for the proper conduct of the work, and for the completion thereof; or may employ other parties to continue the contract to completion, employ the necessary workmen, substitution of the machinery or materials, and purchase the materials contracted for in such a manner as the City may deem proper. The City Council may annul and cancel the contract and re-let the work or any part thereof. Any excessive cost arising therefrom over and above the contract price will be charged against the Contractor and his sureties who will be liable therefore.

In the event of such suspension, all moneys due the Contractor that have been retained in the terms of this contract shall be forfeited to the City of Brisbane, but such forfeiture will not release the Contractor or his sureties from liability or failure to fulfill the contract.

The Contractor and his sureties will be credited with the amount of money so forfeited or any excess or cost over and above the contract price arising from suspension of the operations of the contract, and the completion of the work by the City of Brisbane, as above provided; the Contractor will be so credited with any surplus remaining after all just claims for such completion have been paid.

5.4.2. DIFFERING SITE CONDITIONS

Attention is directed to the provisions in Section 4-1.06, "Differing Site Conditions," of the Standard Specifications and these special provisions.

During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the Contractor shall promptly notify the Engineer in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the Engineer will investigate the conditions, and if the Engineer determines that the conditions materially differ and cause an increase or decrease in the cost or time requirement for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the Contractor of his determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

Any contract adjustment warranted due to differing site conditions will be made in accordance with the provisions in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

5.4.3. REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance

has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe, and shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In accordance with Section 25914.1 of the Health and Safety Code, all such removal of asbestos or hazardous substances, including any exploratory work to identify and determine the extent of such asbestos or hazardous substance will be performed by separate contract.

If such suspension delays the current controlling operation, the delay will be considered a right-of-way delay and the Contractor will be compensated for such delay as provided in Section 8-1.07, "Delays," of the Standard Specifications.

The City or State reserves the right to use other forces for exploratory work to identify and determine the extent of such material for removing hazardous material from such area.

5.4.4. SUSPENSIONS OF WORK ORDERED BY THE ENGINEER

Attention is directed to the provisions in Section 8-1.06, "Suspensions," of the Standard Specifications.

If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.

No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

5.4.5. SIGNIFICANT CHANGES IN THE CHARACTER OF WORK

The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.

If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.

The term "significant change" shall be construed to apply only to the following circumstances:

- When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
- When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

5.4.6. TERMINATION OF CONTRACT

The City of Brisbane may terminate the contract at any time upon a determination by the City Council that the same is in the best interests of the City. Upon such termination, the rights, duties and obligations of the parties shall be as stated in Section 8-1.14, "Contract Termination," of the State Specifications, wherein the words "Director" and "Engineer" shall mean the Engineer, and the words "State" and "Department" shall mean the City of Brisbane.

5.4.7. CHANGE ORDER BY THE ENGINEER

Change order by the Engineer shall conform to Section 4-1.05, "Changes and Extra Work," of the Standard Specifications and these special provisions.

5.4.8. CHANGE IN CONTRACT PRICE

A. The contract price constitutes the total compensation payable to the Contractor for performing the work. All duties, responsibilities, and obligations assigned to or undertaken by the Contractor to perform the work shall be at the Contractor's expense without change in the contract price.

B. The contract price may only be changed by change order. Any request for an increase in the contract price shall be based on written notice delivered by the Contractor to the Engineer promptly, but in no event later than 5 days after the date of the occurrence of the event giving rise to the request, and stating the general nature of the request, the amount of the request, and including supporting data. The request shall be accompanied by the Contractor's written statement that the amount requested covers all amounts (direct, indirect and consequential) to which the Contractor is entitled as a result of the occurrence of the event. No request for an adjustment in the contract price will be valid if not submitted in accordance with the requirements of this Article.

C. The value of any work covered by a change order or of any request for an increase or decrease in the contract price shall be determined in one of the following ways:

1. Where the work involved is covered by unit price contained in the Contract documents, by application of unit price to the quantities of the items involved; or
2. By mutual acceptance of a lump sum, which may include an allowance for overhead and profit not necessarily in accordance with Article 5.5.3; or
3. On the basis of the cost of work plus a Contractor's fee for overhead and profit (both determined as provided in Article 5.5.1.).

5.4.9. CHANGE OF CONTRACT TIME

A. The contract time may only be changed by a change order. Any request for an extension of the contract time shall be based on written notice delivered by the Contractor to the Engineer promptly, but in no event later than 5 days after the date of the occurrence of the event giving rise to the request and stating the general nature of the request, the extent of the request, and including supporting data. The request shall be accompanied by the Contractor's written statement that the adjustment requested is the entire adjustment to which the Contractor has

reason to believe he or she is entitled as a result of the occurrence of said event. No request for an adjustment in the contract time will be valid if not submitted in accordance with the requirements of this Article.

The contract time will only be extended when a delay occurs which impacts a controlling item of work as shown on the work schedules required in the Special Provisions. Time extensions will be allowed only if the cause is beyond the control and without the fault or negligence of the Contractor. Time extensions will also be allowed when City-caused delays to a controlling item of work and Contractor-caused delays to a controlling item of work occur concurrently. The contractor will be notified if the Engineer determines that a time extension is not justified.

B. The contract time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if a request is made therefore as provided in this Article. An extension of Contract time will only be granted for days on which the Contractor is prevented from proceeding with at least 75 percent of the normal labor and equipment force actually engaged on the said work, by said occurrences or conditions resulting immediately therefrom which impact a controlling item of work as determined by the Engineer. Such delays shall include:

1. Changes.
2. Failure of the City of Brisbane to furnish access, right of way, completed facilities of related projects, drawings, materials, equipment, or services for which the City is responsible.
3. Survey error if the surveying work is performed by the City.
4. Suspension of work pursuant to Section 5.4.6 "Termination of Contract" of these special provisions.
5. Occurrences of a severe and unusual nature including, but not restricted to, acts of God, fires, and excusable inclement weather. An "act of God" means an earthquake, flood, cloudburst, cyclone or other cataclysmic phenomena of nature beyond the power of the Contractor to foresee or to make preparation in defense against, but does not include ordinary inclement weather. Excusable inclement weather is any weather condition, the duration of which varies in excess of the average conditions expected, which is unusual for the particular time and place where the work is to be performed, or which could not have been reasonably anticipated by the Contractor, as determined from U.S. Weather Bureau records for the proceeding 3-year period or as provided for in the Special Provisions.
6. Act of the public enemy, act of another governmental entity, public utility, epidemic, quarantine restriction, freight embargo, strike, or labor dispute. A delay to a subcontractor or supplier due to the above circumstances will be taken into consideration for extensions to the time of completion.

5.4.10. PROTESTS

If the Contractor considers any work demanded to be outside of the requirements of the Contract, or considers any record or ruling or act or omission of the Engineer to be unfair, the Contractor shall immediately, upon such work being demanded, or such record or ruling being made, ask in writing for written instructions or decisions, whereupon the Contractor shall proceed without delay to perform the work or to conform to the record or ruling and, within 15 days after date of receipt of the written instructions or decisions, shall file a written protest with the Engineer stating clearly and in detail the basis of the protest. Except for such protests as are made of record in the manner herein specified and within the time limit stated, the records, rulings, instructions, decisions, and acts or omissions of the Engineer shall be final and conclusive. Instructions and decisions of the Engineer contained in letters transmitting drawings to the Contractor shall be considered as written instructions and decisions subject to protest as herein provided.

5.4.11. CLAIMS

Section 9-1.22, "Arbitration," of the Standard Specifications is deleted and the following is substituted therefore:

Attention is directed to the provisions of Government Code Sections 900 to 915.4 inclusive, concerning the procedures to be followed when filing claims against the City of Brisbane. All claims shall be filed with

the City Clerk. Forms specifying the information to be contained in claims against the City of Brisbane may be obtained from the City Clerk of the City of Brisbane.

5.4.12 PUBLIC CONTRACT CODE (PCC) SECTION 9204 SUMMARY

Claims submitted between 01-01-2017 and 01-01-2020.

Notwithstanding anything else to the contrary stated in the Information For Bidders (IFB) or the Contract Documents, all claims, regardless of dollar amount, submitted between January 1, 2017 and January 1, 2020 shall be governed by PCC Section 9204 and this section.

The following provisions and procedures shall apply:

- a. For the purposes of this section, the term “Claim”, “Contractor”, “mediation”, “Public Entity” “Public works project” and “Subcontractor” shall have the meaning provided for in PCC Section 9204.
- b. Contractor shall submit each Claim (whether for a time extension, payment for money or damages) in writing and in compliance with PCC Section 9204. Contractor must include reasonable documentation to support each claim.
- c. Upon receipt of a Claim, the City shall conduct a reasonable review and respond in writing within 45 days of receipt and shall identify in a written statement what portions of the claim are disputed and undisputed. Undisputed portions of the Claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The City and Contractor may mutually agree to extend the 45 day response time.
- d. If the City needs approval from the City Council to provide a written statement, the 45 days may be extended to 3 days following the next duly noticed public meeting pursuant to PCC Section 9204(d)(1)(C).
- e. If the City fails to timely respond to a Claim or if Contractor disputes the City’s response, Contractor may submit a written demand for an informal meet and confer conference with the City to settle the issues in dispute. The demand must be sent via registered or certified mail, return receipt requested. Upon receipt, the City shall schedule the conference within 30 days.
- f. Within 10 business days following the informal meet and confer conference, the City shall submit to Contractor a written statement describing any issues remaining in dispute and that portion which is undisputed. Undisputed portions of the Claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The issues remaining in dispute shall be submitted to non-binding mediation. If the City and Contractor mutually agree on a mediator, each party shall pay equal portions of all associated costs. If within 10 business days, the City and Contractor cannot agree on a mediator, each party shall select a mediator (paying all costs associated with their selected mediator), and those mediators shall select a qualified neutral third party to mediate the disputed issues. The City and Contractor shall pay equal portions of all associated costs of such third party mediator.
- g. Unless otherwise agreed by the City and Contractor, any mediation conducted hereunder shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has commenced.
- h. The City reserves all rights and remedies that it has pursuant to the Construction Contract, plans and specification, at law or in equity which are not in conflict with PCC 9204.
- i. This Section shall be automatically extended if legislation is lawfully passed which extends the terms of Public Contract Code Section 9204 beyond January 1, 2020.

5.5. PAYMENT

5.5.1. FORCE ACCOUNT PAYMENTS

Force account payments shall conform to Section 9-1.04, "Force Account" of the Standard Specifications and these special provisions.

5.5.2. RELIEF FROM MAINTENANCE AND RESPONSIBILITY

The Contractor may be relieved of the duty of maintenance and protection in accordance with the provisions in Section 5-1.38, "Maintenance and Protection Relief," of the Standard Specifications.

5.5.3. ACCEPTANCE OF CONTRACT

Section 5-1.46, "Final Inspection and Contract Acceptance," of the Standard Specifications is amended to read:

When the Engineer has made the final inspection as provided in Section 5.3.23, "Inspection," and determined that the contract work has been completed in all respects in accordance with the Plans and Specifications, he shall recommend acceptance to the City Council of the City of Brisbane, and recommend the filing of a "Certificate of Completion" by the City Clerk. Immediately upon and after such acceptance by the City, the Contractor will be relieved of the duty of maintaining and protecting the work as a whole, and he will not be required to perform any further work thereon; and the Contractor shall be relieved of his responsibility for injury to persons or property or damage to the work which occurs after the formal acceptance by the City of Brisbane, except as otherwise provided under the terms of the contract.

5.5.4. PAYMENT

Attention is directed to the provisions of Section 9-1.16, "Progress Payments," and Section 9-1.17, "Payment after Contract Acceptance," of the Standard Specifications and these special provisions.

For purposes of making partial payments pursuant to Section 9-1.16, "Progress Payments," of the Standard Specifications, the amount set forth for the contract item or work shall be deemed to be the maximum value of said contract item of work which will be recognized for progress payment purposes. The retention amount in Section 9-1.16, "Progress Payments" shall at no time exceed 5%.

Pursuant to Section 5-1.46, "Final Inspection and Contract Acceptance," of the Standard Specifications, the amount, if any, payable for a contract item of work in excess of the maximum value for progress payment purposes hereinabove listed for said items, will be included for payment in the first estimate made after acceptance of the contract.

No partial payment will be made for any materials on hand which are furnished but not incorporated into the work.

5.5.5. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS

The agency shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the agency, of the contract work, and pay retainage to the prime contractor based on these acceptances. The prime contractor, or subcontractor, shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the agency. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the agency's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or

judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

Attention is directed to the provisions of Section 9-1.16E, "Withholds," of the Standard Specifications and these special provisions.

Pursuant to the Government Code of the State of California, commencing with Section 4590 of Chapter 13, Division 5, Title I: securities may be substituted for any moneys withheld from payments. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the City of Brisbane or with a state or federally chartered bank as the escrow agent who will make payment of funds withheld. Upon satisfactory completion of the contract, the securities will be returned to the Contractor.

Securities eligible for substitution under this section shall include those listed in Section 16430 of the Government Code of the State of California or bank or savings and loan certificate of deposit.

The contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

Any escrow agreement entered into pursuant to this provision shall include the following provisions:

- (1) the amount and value of securities to be deposited;
- (2) the providing of powers of attorney or other documents necessary for the transfer of securities to be deposited;
- (3) the terms and conditions of conversion to cash to provide funds to meet defaults by the Contractor; and
- (4) the termination of the escrow upon completion of the contract.

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

5.5.6. FINAL PAYMENT

Attention is directed to the provisions of Section 9-1.17, "Payment After Contract Acceptance," Section 9-1.17B, "Payment Before Final Estimate," and Section 9-1.17D, "Final Payment and Claims," of the Standard Specifications and these special provisions:

A. Section 9-1.17B, "Payment Before Final Estimate," is deleted.

B. Section 9-1.17D, "Final Payment and Claims," is amended to add the following: Final payment shall not be due until thirty-five (35) days after the Notice of Completion has been recorded.

5.5.7. PAYMENT OF TAXES

Except as otherwise specifically provided in these Special Provisions, the contract price shall include full compensation for all current and future taxes which the Contractor is required to pay, whether imposed by Federal, State, or local government, and no tax exemption certificate or any other document designed to exempt the Contractor from payment of tax will be furnished to the Contractor by the City.

SECTION 6. RESERVED
This Section Intentionally Left Blank

SECTION 7. PERMITS AND LICENSES AND PUBLIC UTILITY COORDINATION

7.1. PERMITS AND LICENSES

Procurement of permits and licenses shall conform to the requirements of Section 5-1.20B, "Permits, Licenses, Agreements, and Certifications," of the Standard Specifications and these special provisions.

The Contractor shall obtain all permits required by the City of Brisbane to do the work. The Contractor and all subcontractors shall obtain and pay all fees for a City of Brisbane Business License prior to starting work and shall maintain same at all times during the life of the Contract.

7.2. PUBLIC UTILITY COORDINATION, MATERIALS, INSTALLATION AND RELOCATIONS

It shall be the Contractor's responsibility to coordinate all the work of utility research, mark-out, relocation and adjustment to finish grade including all work to be done by the owners of the public utilities involved.

Contractor shall notify U.S.A. Underground two working days (48 hours) prior to starting work.

All relocations of apparent or discovered utility lines in conflict with the Contractor's work (e.g., Pac Bell, TCI, SFWD, PG&E, etc.) shall be accomplished by the forces of the appropriate utilities, except as noted. Work shall be performed in a manner that will not result in the shutoff of power by PG&E. The Contractor shall notify the appropriate utility company at least 48 hours in advance of working in the vicinity of any utilities in the project area.

The Contractor shall assume full responsibility for the location of all existing utilities prior to the commencement of any construction activity (e.g., excavation, clearing, grubbing, and trenching) which may damage any existing utilities.

Except as otherwise noted specifically on the Plans, the Contractor shall protect from damage all presently existing or newly installed utilities, including all above or below ground utilities, pipelines, whether pressurized or gravity flow, and signalization or street lighting conduit systems. Any and all damage resulting directly or indirectly from the operations or actions of the Contractor or his forces shall be repaired to its original condition, or better, at the Contractor's sole expense in accordance with these Special Provisions and the Standard Specifications.

Full compensation for conforming to the provisions of this section, including research, coordination, protection, furnishing plans and locating all existing underground and above ground utilities, and their protection shall be considered included in prices paid for the various contract items of work and no additional compensation will be allowed therefor.

SECTION 8. MATERIALS & SUBMITTALS

8.1. GENERAL

Attention is directed to Section 6, "Control of Materials," of the Standard Specifications and these special provisions:

Except as provided under "City-Furnished Materials" of these special provisions, all materials required to complete the work under this contract shall be furnished by the Contractor.

8.2. CITY-FURNISHED MATERIALS

Attention is directed to Section 6-2.03, "Department-Furnished Materials," of the Standard Specifications and these special provisions.

The City will furnish water connection and supply. A deposit is required from the Contractor for a hydrant meter.

8.3. SUBMITTALS TO BE FURNISHED BY THE CONTRACTOR

The tables listed in the Specifications shall be supplemented by the Contractor with such submittals as may be required for the prosecution of the work and approval of equipment. Submittals may include calculations, specifications, product data, samples, manuals, spare parts, photographs, schedules, or similar items required to be submitted to the Engineer by the Contract Documents. These submittals shall be approved by the Engineer before any work involving these submittals is performed. No change shall be made by the Contractor to any submittal after it has been approved by the Engineer. Submittals shall contain all required detailed information at a reasonable scale with enough views to clearly show the work to be done or the item to be furnished, and shall be properly checked.

It is expressly understood, however, that approval of the Contractor's submittals shall not relieve the Contractor of any responsibility for accuracy of dimensions and details, or for mutual agreement of dimensions and details. The contractor shall be solely responsible for agreement and conformity of submittals with the Contract Drawings and Specifications.

The number of materials submittals to be turned in shall be the number the contractor requires returned, plus two to be retained by the City. The copies will be returned to the Contractor marked, "No Exceptions Noted," "Make Corrections Noted and Resubmit Final File Copy," "Rejected," "Revise and Resubmit," or "Submit Specified Items," within 10 days after receipt. The contractor shall make any necessary corrections and revisions to returned submittals and shall resubmit the submittals within 10 days after receipt. The Contractor is responsible for furnishing submittals in sufficient time for approval action, including resubmittal, without delaying construction.

8.4. MATERIAL SUBMITTAL LIST

The materials proposed by the contractor to be used on this contract shall be submitted for approval by the Engineer within 10 calendar days after the execution of the contract.

The list supplied is intended to be comprehensive but no claim for its completeness is implied and submittals of the completed list will not relieve the Contractor of supplying all information needed or of complying with any of the other requirements of the specifications. Revised lists may be issued and items may be added or deleted to the list supplied.

Manufacturer's cut sheets, specifications, and shop drawings shall be supplied along with the submittal list for all applicable products on the list, and shall be in conformance with the following requirements:

(1) Shop Drawings -- Shop drawings are drawings, diagrams, schedules and other data specially prepared in accordance with these special provisions for the work by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the work.

Contractor shall identify details on Shop Drawings by reference to sheet and detail numbers of Contract Drawings and/or specific reference to Sections and Paragraphs of the Specifications.

(2) Product Data -- Product Data are illustrations, test results, mill certification, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the work.

Contractor shall identify each item or package of Product Data by reference to sheet and detail numbers of Contract Drawings and/or specific reference to Sections and Paragraphs of the Specifications.

Manufacturer's catalog cut sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data shall:

- a. Have each copy clearly marked to identify pertinent materials, products, models, finish, etc.
- b. Show clearly all standard options included.
- c. Show dimensions and clearances required.
- d. Show performance characteristics and capacities.

Where Product Data, as submitted, contains extraneous information, unmarked options or is incomplete, it shall be returned to the Contractor without review.

(3) Samples -- Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the work will be judged.

Samples shall be tagged or otherwise clearly identified as to pertinent information illustrated and specific relationship to the work, and shall show the name and address of the subcontractor or agency submitting them, the date, and the name of the work for which they are intended. Sample submittals shall include results of tests run by the Contractor or suppliers which support acceptability of the material.

Unless the Engineer determines that Samples must be retained for reference purposes, Samples will be returned when so requested by the Contractor. No Sample shall be incorporated into the work unless specific approval is given by the Engineer.

Charges for submission of Samples and for their return shall be borne by the Contractor.

(4) Submission Requirements -- Contractor shall make submittals promptly and in such sequence as to cause no delay in the work or in the work of any other contractor.

(5) Number of Submittals Required --

- a. Shop Drawings: Submit the number of copies which the Contractor requires, plus (3) copies which will be retained by the Engineer.
- b. Product Data: Submit the number of copies which the Contractor requires, plus three (3) which will be retained by the Engineer.
- c. Samples: Submit the number stated in each Specification Section.

(6) Submittals Shall Contain --

- a. The date of submission and the dates of any previous submissions.

- b. The project title and number.
- c. Contractor identification.
- d. The names of:
 - 1. Contractor
 - 2. Supplier
 - 3. Manufacturer
- e. Specifications Section number and Bid Item or Items pertaining to the item.
- f. Field dimensions, clearly identified as such.
- g. Relation to adjacent or critical features of the work or materials.
- h. Applicable standards, such as ASTM, Federal, or City Specification numbers. Certified Test Results indicating performance of materials/products with regard to Specifications requirements.
- i. Identification of deviation from Contract Documents. All substitutions or deviations from the contract requirements must be clearly identified in the submittal.
- j. Identification of revisions or resubmittals.
- k. An 8" x 3" blank space for contractor and Engineer stamps.
 - l. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of contract documents.

The General Contractor shall be required to review and approve all submittals and provide them stamped and signed as evidence thereof, prior to submitting them to the Engineer for review. Submittals which are not stamped and signed by the General Contractor will be rejected.

The Contractor shall submit all lists, drawings, data and specifications sufficiently in advance of construction, to permit no less than 10 calendar days for review and appropriate action by the Engineer.

(7) Resubmission Requirements -- Make all corrections or changes in the submittals required by the Engineer and resubmit.

For Shop Drawings and Product Data:

- a. Revise initial drawings or data, and resubmit as specified for the initial submittal.
- b. Indicate any changes which have been made other than those requested by the Engineer.

Samples: Submit new Samples as required for initial submittal.

(8) Payment -- The preparation of the plans, drawings, and necessary documents shall be considered as included in the price paid for the various contract items of work and no additional compensation will be made therefor.

List of required contractor submittals:

1. Traffic Control Plan
2. Temporary Creek Diversion System Plan
3. Water Pollution Control Plan
4. Landscape Irrigation System (20-01)
 - a. Shop Drawings
 - b. Irrigation system brochure
 - c. Operation and maintenance manuals
 - d. As-Built Drawings of the irrigation system
 - e. Special tools
5. Seeding (20-02)
 - a. A letter, or appropriate seed lot tags, from seed supplier stating the botanical name, common name, provenance, minimum percent purity, minimum percent germination, and pounds pure live seed of the seed mix prior to application.
 - b. Proof that the amendments (i.e., wood fiber, straw, tackifier) meet the Specifications described in this SECTION and that they do not contain noxious weeds or materials that originate from a Sudden Oak Death quarantined county.
 - c. Prior to delivery of straw to Project site, submit the name, address, and telephone number of the straw supplies.
6. Restoration Planting (20-03)
 - a. Wood Bark Mulch
 - i. sample.
 - ii. Manufacturer's receipt or certification
 - b. As-Built Drawings
7. Long-Term Maintenance (20-04)
 - a. Prior to the commencement of the five (5)-year long-term maintenance period, a proposed maintenance schedule as described in sub-Section Maintenance Schedule.
 - b. A logbook of mitigation site maintenance activities as described in sub-Section Maintenance Logbook.
 - c. Prior to each broadcast seeding event per sub-Section Site Cleanup Following Maintenance Activities, all submittals required for seeding per SECTION 20-02 Seeding.
 - d. All submittals required for plant and other materials per SECTION 20-03 Restoration Planting
8. Retaining wall
 - a. Material installer certification
 - b. Retaining wall shop drawings
 - c. Material Certificates
 - d. Manufacturer's field representative certification
9. Geocell Channel Lining
 - a. Material installer certification
 - b. Retaining wall shop drawings
 - c. Material Certificates
 - d. Manufacturer's field representative certification

SECTION 9. DESCRIPTION OF WORK

As shown in the Guadalupe Channel Erosion Control Project plans and required by these specifications and special provisions, this project includes, but is not limited to, furnishing all labor, materials and equipment necessary for:

- ◆ Repair of erosion at bends in the Guadalupe Channel east of Bayshore Boulevard to the Machinery Road Bridge with installation of Geoweb material, replant native trees, shrubs and grasses, and remove sediment in the mixing basin and culverts west of and under Bayshore, including five years of plant establishment.

The project is to be performed in accordance with and as described and provided in the Plans and Specifications therefore and the proposed form of contract thereof, all of which are on file in the Office of the Director of Public Works and the City Clerk of the said City, and to which special reference is hereby made and which are made a part hereof.

SECTION 10. RESERVED This Section Intentionally Left Blank

SECTION 11. STORMWATER POLLUTION PREVENTION BEST MANAGEMENT PRACTICES

An interim sediment and erosion control plan will be required for work during the rainy season, identified in the Brisbane Municipal Code as October 15 to April 15 per the California Stormwater Best Management Practices Handbook for Construction Activity prepared for the Stormwater Quality Task Force. In addition to the sediment and erosion control plan, normal construction operations shall also conform to the California Stormwater Best Management Practices Handbook.

Water Pollution Control Program shall comply with Section 13-2, "Water Pollution Control Program," of the Standard Specifications. The Contractor shall prepare a Water Pollution Control Plan (WPCP) and submit two copies to the Engineer within seven days of Contract approval.

Full compensation for preparation of and implementation of the Best Management Practices and the WPCP shall be considered as included in the contract price paid for Water Pollution Control, and no separate payment will be made therefore.

ORGANIZATION OF SPECIAL PROVISIONS

Special provisions are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications* as revised by any revised standard specification.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

12 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES

Add section 12-1.01A

12-1.01A TRAFFIC MAINTENANCE

Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and 12, "Construction Area Traffic Control Devices," of the Standard Specifications and to the Section entitled "Public Safety" elsewhere in these special provisions, and these special provisions. Nothing in these special provisions shall be construed as relieving the Contractor from the responsibilities specified in Section 7-1.09.

The minimum size specified for Type II flashing arrow signs in the table following the second paragraph of Section 12-3.03, "Flashing Arrow Signs," of the State Standard Specifications is amended to read "36 inches by 72 inches".

The Contractor shall be responsible for informing the public of the traffic conditions existing within the construction area at all times by placement of appropriate warning and advisory signs. The Contractor shall provide and maintain all traffic control and safety items. The Contractor assumes sole and complete responsibility for job and site conditions during the course of construction, including safety of all persons and property. This requirement shall apply continuously 24 hours/day and shall not be limited to normal working hours.

Replace section 12-1.02 with

12-1.02 TRAFFIC CONTROL PLAN

At the pre-construction meeting, the Contractor shall submit a traffic control plan showing traffic control measures and/or, if approved, detours for vehicles, bicyclists and pedestrians affected by the construction work. A maximum of five (5) working days will be required to review and provide the Contractor with comments on the plan. The Contractor shall revise the plan per the City's comments until the plan is accepted by the Engineer. The Contractor will not be allowed to begin work that requires traffic control until the Engineer has accepted the traffic control plan.

The Traffic Control Plan shall cover all stages of work.

A copy of the accepted Traffic Control Plan must be kept at the job site at all times.

Temporary lane closures will be allowed only during approved working hours. Lane closures along Bayshore Boulevard are only allowed between 9 a.m. and 4 p.m. Contractor shall provide at least one lane in each direction on all existing streets throughout the construction project unless otherwise approved in writing by the Engineer.

The Contractor shall cooperate with and notify the local police and fire department, ambulance services of proposed construction operations and traffic control operations a minimum of five working days before work is to begin. If changes are made to the traffic control plan, contractor shall re-notify at least two working days

before work is to begin. In addition, the Contractor shall make available a 24-hour telephone number in case of emergencies and/or problems.

The Contractor shall be responsible for placing "Construction Speed Limit" signs on both sides of the affected street. The speed limit for the "Construction Speed Limit" signs cannot be less than 10 mph below the posted speed. At the pre-construction meeting, contractor shall submit to the Engineer a sample "Construction Speed Limit" sign for acceptance. Signs shall be placed a maximum of 500 feet apart, on both sides of the affected street.

Access to non-residential driveways, intersections, and streets shall be maintained at all times. If vehicles are parked in the working area, the Contractor shall not attempt to move the vehicle. The Contractor shall notify the Engineer immediately, and the Engineer shall make proper arrangements to remove the vehicle.

Lane and street closure shall not be allowed without proper advance warning devices, signing and flag persons in conformance with the State Standard Specifications and these Special Provisions. At the completion of each working day, all lanes of traffic shall be open to the public. Contractor shall coordinate as necessary to provide for uninterrupted trash collection during construction.

No separate payment will be made for any item of Traffic Control and Maintenance set forth in the Standard Specifications to be paid for as extra work. Full compensation for all Traffic Control and Maintenance shall be included in the Traffic Control and Maintenance bid item.

The provisions in this section will not relieve the Contractor from his/her responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

13 WATER POLLUTION CONTROL

Add to the end of section 13-2.01A:

This project qualifies for an erosivity waiver because the anticipated soil disturbance is at least 1 and less than 5 acres and the R-factor is less than 5.

Schedule all soil-disturbing activities except Restoration Planting, such as clearing and grubbing, roadway excavation, and earth retaining systems, to occur from August 1 to October 15 of the same year. Deviation from this schedule may void the erosivity waiver.

Add to the end of section 13-3.01A:

This project's risk level is 1.

Replace section 13-12 with:

13-12 TEMPORARY CREEK DIVERSION SYSTEMS

13-12.01 GENERAL

13-12.01A Summary

Section 13-12 includes specifications for constructing, maintaining, reconstructing, and removing temporary creek diversion system (TCDS), and restoring creek bed to its original or design condition. The temporary diversion system is used to divert upstream water flows to allow construction in a dry or dewatered location. Any additional dewatering determined to be necessary for construction shall be addressed and included in the Temporary Creek Diversion System Plan.

13-12.01B Definitions

Not Used

13-12.01C Submittals

Not Used

13-12.01C(1) Temporary Creek Diversion System Plan

Within 20 days of Contract approval and at least 10 days prior to the Contractors scheduled installation, submit 3 copies of the Temporary Creek Diversion System Plan (TCDSP). The TCDSP must include:

1. Installation and removal process, including equipment, platforms for equipment, and access locations.
2. Anticipated flow rates.
3. Calculations supporting the sizing of piping, channels, pumps, or other conveyance by using FHWA HY-8 or other equivalent method. Calculate the discharge water flow rate and velocity anticipated where it discharges on any erodible surface, so its conveyance does not cause erosion within the project or at the discharge to the water body. Temporary culverts attached to banks, walls, or other locations must be designed to hold the full weight of the culvert at capacity and restrain the culvert for any expected hydraulic forces.
4. Plans showing locations of diversion, including layouts, cross sections, and elevations.
5. Materials proposed for use, including MSDS if applicable.
6. Operation and maintenance procedures for the TCDS.
7. Restoration plans showing before and after conditions, including photos of existing conditions for areas disturbed during the installation, operation, and removal of the TCDS.
8. Monitoring and reporting plan to ensure applicable water quality objectives are met. This includes schedule of work including Temporary BMP implementation as part of the Construction Site BMP strategy, and SWPPP or WPCP as applicable. Use with section 13-3.01A.
9. Details of the pumping system, if used, including power source, debris handling, fish screens, and monitoring requirements.
10. Fish passage plan, following the Caltrans Fish Passage Design for Road Crossings, CA Department of Fish and Wildlife (CDFW), CA Salmonid Stream Habitat Restoration Manual, and National Marine Fisheries Service (NMFS), Guidelines for Salmonid Passage at Stream Crossings, as required by the applicable PLACs.
11. The TCDS design must demonstrate how it will comply with section 13-12.03A, water tightness, and prevent seepage.
12. Contingency plan to remove workers, equipment, materials, fuels, and any other work items that will cause pollution or violation of PLACs during a rain event out of the flow area. Develop the contingency plan for when a 12-inch freeboard cannot be maintained and overtopping of the coffer dams may occur.

If revisions are required, the Engineer notifies you of the date when the review stopped and provides comments. Submit a revised TCDSP within 5 days of receiving the comments. The Department's review resumes when a complete TCDSP has been resubmitted.

Submit an electronic copy and 4 printed copies of the authorized TCDSP.

If the RWQCB or other regulatory agency requires review of the authorized TCDSP, the Engineer submits it to the RWQCB for review and comment. If the Engineer orders changes to the TCDSP based on the RWQCB's comments, submit a revised TCDSP within 5 days.

All submittals which include plans, specifications, and calculations must be sealed and signed by a civil engineer registered in the State.

13-12.01D Quality Assurance

Not Used

13-12.02 MATERIALS

13-12.02A Gravel

Gravel must:

1. Be river run gravel obtained from a river or creek bed with gradation of 100 percent passing a 3/4 inch sieve and 0% passing a 3/8 inch sieve
2. Be clean, hard, sound, durable, uniform in quality, and free of any detrimental quantity of soft, thin, elongated or laminated pieces, disintegrated material, organic matter, or other deleterious substances
3. Be composed entirely of particles that have no more than 1 fractured face
4. Have a cleanliness value of at least 85, as determined by California Test 227

13-12.02B Impermeable Plastic Membrane

Impermeable plastic membrane must be:

1. Single ply, commercial quality, polyethylene with a minimum thickness of 10 mils complying with ASTM D2103. You must use stronger plastic membrane if required as part of design to resist hydraulic forces.
2. Free of holes, punctures, tears or other defects that compromise the impermeability of the material.
3. Suitable for use as an impermeable membrane.
4. Resistant to UV light, retaining a minimum grab breaking load of 70 percent after 500 hours under ASTM D4355.

13-12.02C Gravel-Filled Bags

Gravel-filled bags must comply with section 13-5.02G.

The 2nd paragraph of section 13-5.02G does not apply.

13-12.02D Plastic Pipes

Plastic pipe must comply with section 61-3.01 and must:

1. Be clean, uncoated, in good condition free of rust, paint oil dirt or other residues that could potentially contribute to water pollution
2. Be adequately supported for planned loads
3. Use watertight joints under section 61-2.01.
4. Be made of a material or combination of materials that are suitable for clean water and which do not contain banned, hazardous or unlawful substances
5. For temporary pipes not reused on the project you may use the following materials:
 - 5.1. PVC closed-profile wall pipe must comply with ASTM F1803
 - 5.2. PVC solid wall pipe must comply with ASTM D3034, ASTM F679, AWWA C900, AWWA C905, or ASTM D2241 and cell class 12454 defined by ASTM D1784
 - 5.3. HDPE solid wall pipe must comply with AASHTO M 326 and ASTM F714
 - 5.4. Polyethylene large-diameter-profile wall sewer and drain pipe must comply with ASTM F894

13-12.02E Rock

Rock layer must comply with the table titled *Rock Gradation for 7-inch-thick Layer* in section 72-4.02.

13-12.02F Pumping System

Pumping system must:

1. Comply with section 74-2.02B
2. Be equipped with secondary containment
3. Be free of fuel and oil leaks
4. Meet intake screen regulatory requirements

13-12.02G Seepage Pumping System

If seepage occurs in the dewatered work area, the water must be removed by sump pumps as part of the TCDS.

Seepage pumping system must:

1. Comply with section 74-2.02B
2. Ensure discharge water conform with PLACs or is treated on site
3. Be free of fuel and oil leaks

13-12.02H Discharge Water Energy Dissipation and Erosion Control

Discharge water from pumps, pipes, ditches, or other conveyances must have BMPs to dissipate the flows and velocity of water discharged from the temporary diversion system if erosion would otherwise occur.

Energy dissipation measures:

1. May be plastic sheeting, flared end sections, rubber matting, or other materials appropriate for the design hydraulics
2. Must be anchored to prevent movement by expected flows
3. Must be removed when the TCDS is removed

13-12.03 CONSTRUCTION

13-12.03A General

Construction, use and removal of the TCDS is restricted to the time period from August 1, 2020 to October 15, 2020. If the work cannot be completed during the initial restricted time period or week-by-week approved extensions for work after October 15, 2020, remove TCDS, restore the creek to original flow condition, and reconstruct the TCDS after August 1 of the following year. No work is allowed within the stream except during the restricted time period.

Do not use motorized equipment or vehicles in areas of flowing or standing water for the construction or removal of the TCDS in compliance with section 13-4.03.

Remove vegetation to ground level and clear away debris.

Place temporary or permanent fill as allowed by PLACs.

Place rock at outlet of diversion pipe under section 72-4.03, except motorized vehicles and equipment must not be used in areas of flowing or standing water.

Do not construct or reconstruct TCDS if the 72-hour forecasts predict a 50 percent or greater chance of rain in the project area.

Stop all work and remove all material and equipment from the creek between upstream and downstream cofferdams if the 72-hour forecasts predict a 50 percent or greater chance of rain in the project area and the predicted rainfall is estimated to produce a flow rate exceeding the design capacity of the TCDS.

If the required freeboard cannot be maintained and overtopping may occur, implement contingency plan to remove all workers, equipment, and potential sources of pollution from the dry working area of the creek bed.

The TCDS must be constructed within the temporary impact footprint as described in the environmental commitments.

Lap and join joints between the edges of impermeable plastic membrane with commercial-quality waterproof tape with minimum 4-inch lapping at the edges.

Seal openings or penetrations through the impermeable plastic membrane with commercial quality waterproof tape.

The TCDS must be water tight to keep the work area dry for construction and prevent the creation of pollutants. Maintain all portions of the TCDS and fix leaks as soon as they are discovered.

Contact water agencies that discharge to the construction area to ensure that unexpected water is not discharged during construction which could compromise the TCDS.

13-12.03B Maintenance

Maintain the TCDS to provide a minimum freeboard of 12 inches between the water surface and the impermeable top of the cofferdams.

Do not discharge runoff from existing or proposed drainage systems into the dry work area between the cofferdams. Runoff from these systems may be connected to the diversion pipe or conveyed by pipes downstream of the cofferdam.

Prevent leaks in the TCDS. Provide seepage pumps as necessary and keep the work area dry to prevent the creation of sediment-laden water.

Repair holes, rips and voids in the impermeable plastic membrane with commercial-quality waterproof tape. Replace impermeable plastic membrane when patches or repairs compromise the impermeability of the material.

Repair TCDS within 24 hours after the damage occurs.

Prevent debris from entering the TCDS and receiving water.

Remove and immediately replace gravel, gravel-filled bags, impermeable plastic membrane, or plastic pipes contaminated by construction activities.

Remove sediment deposits and debris from the TCDS as needed. If removed sediment is deposited within project limits, it must be stabilized and not subject to erosion by wind or water, under sections 19-1.01 and 19-2.03 B.

13-12.03C Removal

When no longer required, remove all components of TCDS. Return the creek bed and banks to the original condition.

Do not excavate the native creek material. Backfill ground disturbance, including holes and depressions caused by the installation and removal of the TCDS with gravel. Maintain the original line and grade of the creek bed.

13-12.04 PAYMENT

The payment for Water Pollution Control includes all labor, materials, tools and equipment for installation, maintenance and removal of the TCDS and preparation and implementation of the TCDS.

17 GENERAL

Replace 17-2.03D with:

17-2.03D Disposal of Material

Dispose of all objectionable material from clearing and grubbing activities at an appropriate offsite disposal location.

Replace 17-2.04 with:

17-2.04 PAYMENT

The payment for clearing and grubbing includes all equipment, materials and disposal costs for clearing and grubbing.

Add section 17-3.01

17-3.01 DEMOLITION

Demolition includes:

1. Removal of the existing sheet pile wall above an elevation of -1.0, or lower, if necessary to avoid interference with construction.
2. Removal of existing fencing that is not part of the completed project.

19 EARTHWORK

Replace 19-2.01A with:

19-2.01A Summary

Section 19-2 includes specifications for performing roadway excavation.

Roadway excavation consists of all excavation involved in the grading and construction of the channel improvements except for any excavation paid for as a separate bid item.

Roadway excavation includes:

1. Excavating and stockpiling the selected material
2. Removing the stockpiled material and placing it in its final position

3. Removing surcharge material
4. Performing the removal of a slide or slipout which is paid for as the type of roadway excavation involved
5. Removal of material from the three culvert boxes and mixing box upstream from the channel the details of which are available in record drawings from the City.
6. Any dewatering of materials necessary prior to off haul and disposal
7. Off haul and disposal of soil necessary to meet design grades

Replace 19-2.01B with:

19-2.01B Definitions

selected material: Specific material excavated from a described location on the job site. Selected material includes topsoil and soil derived from excavation along the channel below an elevation of 5.5 feet and other material necessary to comply with the Soil Handling Plan.

Replace 19-2.04 PAYMENT with:

19-2.04 PAYMENT

The payment quantity for roadway excavation (Excavation) is the volume of roadway excavation material, including volume of material involved in:

1. All channel construction and related work unless a separate bid item for the item of work is shown on the Bid Item List

The volume of material for roadway excavation is determined from the sum of the products of the number of truckloads of soil disposed of offsite times the volume of material per truckload for the various types of trucks used.

The Engineer's Representative will inspect each truckload. If the Engineer's Representative and Contractor do not agree as to the percent full of any load, the volume of the material will be determined by certified scale weight and material density of a bulk sample of the soil determined by the Engineer's Representative.

Replace Section 20 with:

20 RESTORATION LANDSCAPE

20-01 IRRIGATION SYSTEM

20-01.01 GENERAL

20-01.01A Description of Work

Provide all material, labor and equipment necessary to perform the Work for providing a complete irrigation system as shown on Drawings and as specified herein. The Work of this SECTION includes but is not limited to:

1. Trenching and backfilling trenches.
2. Installing controller (battery-operated).
3. Establishing point of connection.

4. Installing piping; valves; sleeves, conduit; and fittings.
5. Installing bubbler distribution system.
6. Replacing unsatisfactory Work.
7. Conducting tests.
8. Preparing record drawings and submittals.
9. Performing inspections and final acceptance.

20-01.01B Reference Standards

American Society for Testing and Materials (ASTM):

1. D1784: For Rigid PVC Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
2. D1785: For Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
3. D2241: For Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe, Class 200, Class 315.
4. D2464: For Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
5. D2466: For Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
6. D2467: For Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
7. D2564: For Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.
8. D2855: For Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.
9. G154: For Operating Fluorescent Light Apparatus for Ultraviolet (UV) Exposure of Nonmetallic Materials.

NSF: National Sanitation Foundation – Plastics Piping System Components and Related Materials Protocols and Specifications.

UPC: Uniform Plumbing Code.

NFPA 70: National Fire Protection Association National Electrical Code (NEC).

City of Brisbane: Plumbing Code (latest edition).

Water Quality Standards: "Standard Method of Test for Quality of Water to Be Used in Concrete," American Association of State Highway and Transportation Officials (AASHTO) T 26.

All standards shall include the latest additions and amendments as of the date of advertisement for bids.

20-01.01C Submittals

Contractor shall submit the following for the irrigation system:

1. Shop drawings: Contractor shall submit the following shop drawings:
 - 1.1. All assemblies not detailed on Drawings.
 - 1.2. Point of connection. Shop drawing shall include the following information:
 - 1.2.1. Existing domestic water line stub out line size and water pressure.

- 1.2.2. Proposed fittings for connection of stub out to irrigation system shown on Drawings.
 - 1.2.3. Confirmation that the point of connection can supply the required flow and pressure to operate the irrigation system shown on Drawings.
 - 1.3. Lateral line crossing of headwall at Bayshore Boulevard.
2. Irrigation system brochure: Assemble three (3) hardcover 3-ring binders for each Project site. Include the following materials in each document set:
 - 2.1. Any manufacturer's warranties, guaranties, instruction sheets, and parts lists, which are furnished with certain articles or materials incorporated in the Work.
 - 2.2. Materials list: Submit complete materials list. Include manufacturer, model number, and description of all materials and equipment. Include sealants, cements, lubricants, and other proprietary items.
 - 2.3. Product data: Submit manufacturer's data sheets, standard details, and installation instructions. Manufacturer's recommended installation procedures shall, when approved, become the basis for accepting or rejecting actual installation procedures used in the Work.
 - 2.4. Unless resubmission is required, two (2) copies of each document set will be retained and one (1) returned after being reviewed. One (1) approved copy shall be in Contractor's possession at Project site.
3. Operation and maintenance manuals: Deliver to Project Biologist two (2) complete sets of the following data at least ten (10) working days before completion of construction. Data shall be provided as a hard copy (on 8-½ inch by 11-inch sheets, in 3-ring binder) and as a PDF digital copy and shall include:
 - 3.1. Index sheet stating Contractor's address and telephone number, list of equipment with names and addresses of local manufacturer's representatives.
 - 3.2. Catalog and parts sheets on all material and equipment installed under this SECTION.
 - 3.3. Complete operating and maintenance instructions for all equipment.
 - 3.4. Complete and dated manufacturer's warranties for all materials used.
 - 3.5. Warranty statement, per sub-Section Warranty
4. As-Built Drawings of the irrigation system. Submit as specified, within ten (10) working days after start of five (5)-year long-term maintenance period.
 - 4.1. Provide and keep a complete up-to-date record set of Drawings, which shall be corrected weekly and show every change from the original Drawings and Specifications and the exact locations, sizes, and kinds of equipment. This set of Drawings shall be kept at Project site and shall be used only as a record set.
 - 4.2. These drawings shall also serve as Work progress sheets and shall be the basis for measurement and payment for Work completed. Make neat and legible annotations thereon weekly as the Work proceeds showing the Work as actually installed. These plans shall be made available to Project Biologist.
 - 4.3. Dimensions from two (2) permanent points of reference for the following items:
 - 4.3.1. Irrigation Point of Connection
 - 4.3.2. Pressure regulators.
 - 4.3.3. Valves.
 - 4.3.4. Remote control valves.

4.3.5. Routing of main lines.

4.3.6. Other equipment as directed by Project Biologist.

4.3.6.1. Delivery of As-Built drawings shall not relieve Contractor of the responsibility of furnishing required information that may be omitted from Record Documents.

5. Special tools: Two (2) sets of special tools and keys as required to operate, adjust, dismantle, or repair equipment. Include tools not normally found in possession of maintenance personnel.

20-01.01D Timing and Coordination

Irrigation system installation shall be completed prior to commencement of Work in Section 20-02 Seeding and before container plant installation described in Section 20-03 Restoration Planting.

For site access, Contractor shall coordinate with Public Works Inspector Greg Morris (415) 760-3053.

Contractor shall call USA North 811 (811 or 1-800-227-2600) and affected utility companies five (5) working days before digging.

20-01.01E Quality Control

All Work and materials shall be in full accordance with the latest rules and regulations of the National Electrical Code published by the National Fire Protection Association; the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials; and other applicable state or local laws or regulations. Nothing on Drawings or in these Specifications is to be construed to permit Work not conforming to these codes.

When the Specifications call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provision of the Specifications shall take precedence over the requirements of said rules and regulations.

Contractor shall furnish, without any extra charge, any additional material and labor when required by the compliance with these rules and regulations, including when the Work for said compliance is not mentioned in these Specifications or shown on Drawings.

Materials not conforming to these Specifications and requirements shall remain the property of Contractor and shall be removed from Project site at no additional cost to City.

20-01.01F Warranty

Provide guarantee for Work in this SECTION through completion of Work described in SECTION 20-04 Long-Term Maintenance.

Warrant that irrigation system has been installed according to Drawings and Specifications and that system will be free of defects in products and installation. Manufacturer's warranties shall only supplement special warranty.

Agree to repair or replace defective Work, or adjacent Work that is damaged by such defects, with the exception of ordinary wear and tear, abuse, or neglect. This includes damage to site improvements caused by settlement of improperly compacted trench backfill. City reserves the right to make temporary repairs as required.

20-01.01G General System Design

Contractor shall provide bubbler irrigation system to irrigate installed container plants as shown on Drawings.

Contractor shall provide a shop drawing of the point of connection and the lateral line crossing of headwall at Bayshore Boulevard per sub-Section Submittals.

Main line and lateral lines shall be trenched.

Water supply shall be from main line at Brisbane Fire Department.

Due to the scale of Drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. that may be required. Contractor shall carefully investigate the structural and finished conditions affecting all of the Work and plan accordingly. Contractor shall furnish materials as required to meet such conditions.

The irrigation system design is based on an operating pressure of 120 psi at the meter. The water pressure at the point of connection is unknown. The irrigation contractor shall verify water pressure at the point of connection prior to irrigation system installation per the shop drawing described in sub-Section Submittals. If the operating pressure is found to be less than 70psi, Contractor shall make system adjustments as necessary and notify Project Biologist.

Irrigation heads and lines subject to low head drainage, or areas that will cause erosion or water to accumulate, shall have an approved check valve installed.

20-01.01H Bubbler System Design

Contractor shall provide bubbler irrigation system to irrigate container plants in the Riparian Oak Woodland and Riparian Oak Woodland Shrub planting areas.

Water supply shall be per sub-Section Point of Connection.

20-01.02 MATERIALS

20-01.02A Pipe and General Irrigation Products

PVC Pipe and Fittings

1. Polyvinyl Chloride (PVC) Pipe: National Sanitation Foundation-Certified, Type 1, Grade 1 PVC compound; ASTM D1784, ASTM D1785, and ASTM D2241. JM Eagle Co., Los Angeles, CA, or approved equal.
2. Pipe shall bear the following markings:
 - 2.1. Manufacturer's name.
 - 2.2. Nominal pipe size.
 - 2.3. Schedule or class.
 - 2.4. Pressure rating in pounds per square inch.
 - 2.5. National Sanitation Foundation Certification Mark.
 - 2.6. Date of extrusion.
3. Main line pipe: 1120 PVC plastic pipe. Use Class 315 for 1-½-inch and larger pipe. Use schedule 40 for 1-¼-inch and smaller pipe.
4. Lateral line pipe: 1120 PVC plastic pipe. Use schedule 40 for 1-inch to 1-½ inch pipe. Use IPS PVC flex hose for ½-inch to ¾-inch to pipe. Flex hose available from Ewing Irrigation Products, San Francisco, CA 94124, (415) 695-9530.
5. Sleeves (sizes to be determined by Contractor per PART 3 - EXECUTION)
 - 5.1. Water lines: 1120 PVC plastic pipe, schedule 40 PVC.
 - 5.2. Electrical lines: Gray, schedule 40 PVC conduit.

5.3. Sleeve end seal: Model "S" standard pull-on rubber end seals. GPT Industries, Denver, CO, or approved equal.

6. Fittings

6.1. Solvent weld socket fittings: Schedule 40, Type 1, Grade 1, National Sanitation Foundation-Certified, ASTM D2466 or Schedule 80, ASTM D2467. Fittings shall bear manufacturer's name or trademark, material designation, size, applicable Iron Pipe Size (IPS) schedule, and National Sanitation Foundation Certification Mark. Lasco Fittings, Brownsville, TN, or approved equal.

6.2. Threaded fittings: Schedule 40, Type 1, Grade 1, National Sanitation Foundation Certified, Schedule 80, ASTM D2467. Fittings shall bear manufacturer's name or trademark, material designation, size, applicable Iron Pipe Size (IPS) schedule, and National Sanitation Foundation Certification Mark. Lasco Fittings, Inc., Brownsville, TN, or approved equal.

6.3. Solvent cement and primer for PVC solvent-weld pipe and fittings shall be of type and installation methods recommended by pipe manufacturer. IPS Weld-On Corporation, Compton, CA, or approved equal.

7. Polyvinyl chloride (PVC) pipe and fittings for above-grade installation shall be resistant to ultraviolet (UV) light per ASTM G154. If UV-resistant fittings are not available, Contractor may apply a UV-resistant coating, upon approval from Project Biologist.

Pipe joint compound: Non-hardening, non-toxic, designed specifically for use on PVC and metal threaded connections in water-carrying pipe. As recommended by pipe manufacturer and approved by Project Biologist.

Pipe wrapping tape at backflow prevention device: 2 inches wide, 20 mils thick, black PVC all weather corrosion-resistant tape with high tack adhesive formulated to resist corrosion.

Pipe stabilizer: Recommended by pipe manufacturer, as required to secure on-grade pipe to slope.

Galvanized Steel Pipe and Fittings

1. Pipe: Schedule 40 standard galvanized steel.

2. Fittings: Schedule 40 galvanized steel.

3. Pipe wrapping tape at backflow prevention device: 2 inches wide, 20 mils thick, black PVC all weather corrosion-resistant tape with high tack adhesive formulated to resist corrosion. Use same manufacturer's pipe primer to seal pipe and prepare for tape wrapping.

Other Piping Materials

1. Pipe upstream of backflow prevention device: Schedule 40 Copper tube, Type K

2. Flexible riser/connector: EPDM hose, PVC ends, with stainless steel bands. Flex-Riser, King Brothers Industries, Valencia, CA, or approved equal.

3. Provide dielectric fittings where dissimilar metals come into contact.

4. Pipe staple: 11-gauge galvanized, eight (8) inches long. Southeastern Wire Fabricators Inc., Hemingway, SC (1-877-9SE-WIRE), or approved equal.

20-01.02B Valves and Other Devices

Gate valve: Brass construction, screwed connections, with Teflon seats and standard port. Nibco T-113 series, Nibco Inc., Elkhart, IN, or approved equal.

Remote Control Valves: Plastic battery-operated remote control valve: PEB series with D.C. solenoid-actuated, Rain Bird Corporation, Azusa, CA.

Valve Boxes

1. HDPE, purple resistant to ultraviolet light, with stainless steel bolt-down mechanism and heat-branded letters, minimum 1-inch high. Oldcastle Precast Enclosure Solutions, Pomona, CA, or approved equal.
2. Size all valve boxes to provide enough clearance to house, maintain, and adjust devices as shown on Drawings and per City of Brisbane standard details and specifications.
3. Label valve as follows:
 - 3.1. Remote control valve. Letters 'ICV' and the valve number.
 - 3.2. Quick coupler valve: 'QCV'.

Pressure Regulator: In-line high flow pressure regulator, 3-inch, Wilkins 500 series, or approved equal. Use factory preset of 50 pounds per square inch. Available from Ewing Irrigation Products, San Francisco, CA 94124, (415) 695-9530.

20-01.02C Bubbler Distribution System Products

1. Pipe and Fittings
 - 1.1. IPS PVC flex hose for ½-inch to ¾-inch to pipe, as available from Ewing Irrigation Products, San Francisco, CA 94124, (415) 695-9530, or approved equal.
2. Flood Bubbler
 - 2.1. Plastic, pressure compensating over a range of 20-60 psi, with self-cleaning flush, 4 GPH, DB-04-PC, Toro Company, Riverside, CA, (877) 345-8676, or approved equal.

20-01.02D Backflow Prevention Device

Per City standard as shown on Drawings.

20-01.02E In-Line Flow Meter

In-Line, Plastic, Digital Flow Meter: TM series, select size as per system requirements. Assured Automation, Clark, NJ, (800) 899-0553, or approved equal.

20-01.02F Battery-Operated Controller

SoloRain 8014 DuraLife Battery-Operated Controller; L.R. Nelson Corporation, Peoria, IL, (309) 690-2200, or approved equal. If not included, Contractor shall also supply the required battery.

20-01.02G Other Materials

1. Trench backfill: uniform coarse sand 0.5 - 2.0 mm.
2. Drain Rock: Crushed rock or pea gravel with 100 percent passing a ½-inch sieve and not more than 10 percent passing a No. 4 sieve.
3. Valve Box Support: brick.
4. Thrust Blocks: Concrete thrust block, per State of California Department of Transportation (Caltrans), Standard Specifications, 2018 edition.

5. Concrete: Per State of California Department of Transportation (Caltrans), Standard Specifications, 2018 Edition; SECTION 90-2 - MINOR CONCRETE.

20-01.02H Water

Water shall be suitable for agricultural use and shall be free of harmful substances that would adversely affect plant growth or vigor.

20-01.03 CONSTRUCTION

20-01.03A Field Quality Control

Contractor shall inspect Project site and become familiar with any access requirements, access restrictions, and any other site conditions.

Prior to beginning installation of irrigation system, Contractor shall:

1. Obtain all necessary permits as described in sub-Section Timing and Coordination.
2. Flag planting areas and plant locations and excavate planting holes per Section 20-03 Restoration Planting. Contractor shall coordinate with Project Biologist for inspection and acceptance of plant flagging prior to irrigation system installation.

Contractor shall coordinate with Project Biologist to schedule inspections at the following stages:

1. Point of connection establishment.
2. System layout.
3. System installation.
4. System test. A qualified person duly authorized in writing to represent the irrigation Contractor shall be present at this inspection to demonstrate system and prove the performance of the equipment. Prior to this inspection, all Work under SECTION 20-01 Irrigation System shall have been completed, tested, balanced, and adjusted and in final operating condition
5. Acceptance of planting and irrigation system installation.

Progress inspections: In addition to the inspections specified, Project Biologist may make periodic progress inspections.

Project Biologist will refuse review if Contractor calls for a site visit without As-Built Drawings, without completing previously noted corrections, or without preparing the system for review. Additional costs due to Contractor not being prepared shall be borne by Contractor.

Project Biologist reserves the right to take and analyze samples of materials for conformity to these Specifications at any time.

Contractor shall maintain irrigation system to promote healthy plant development until acceptance of Work described in Section 20-04 Long-Term Maintenance.

20-01.03B Point of Connection

Water supply shall be via connection to Brisbane Fire Station water supply. The point of connection is a domestic water line stub out located in the approximate location shown on Drawings. For additional information regarding point of connection, Contractor shall coordinate with Public Works Inspector Greg Morris (415) 760-3053.

Contractor shall test pressure at the point of connection per sub-Section General System Design.

Contractor shall develop a shop drawing for the point of connection for submittal to Project Biologist per sub-Section Submittals.

20-01.03C Layout

Upon approval of plant flagging and plant hole excavation per Section 20-03 Restoration Planting, Contractor shall stake layout of equipment and main line in the approximate location shown on Drawings. Coordinate with staked layout of plants provided under Section 20-03 Restoration Planting. Adjust as directed by Project Biologist. Upon approval from Project Biologist, Contractor shall install the irrigation system.

Drawings are diagrammatic. Provide necessary fittings and offsets to adapt to existing conditions and prevent conflicts with other Work and existing improvements.

Contractor shall develop a shop drawing for the lateral line crossing of headwall at Bayshore Boulevard for submittal to Project Biologist per sub-Section Submittals.

Do not willfully install the irrigation system as shown on Drawings when it is obvious in the field that unknown obstructions, grade differences, or discrepancies in area dimensions exist that might not have been considered on Drawings. Such obstructions or differences shall be brought to the attention of Project Biologist. In the event this notification is not performed, Contractor shall assume full responsibility for any necessary corrections.

Changes or alterations in the irrigation system for the convenience of Contractor shall be made at Contractor's expense and then only if approved by Project Biologist.

20-01.03D Pipe Installation

General

1. Handle plastic pipe carefully. Especially protect pipe that is not resistant to ultraviolet light from prolonged exposure to sunlight.
2. Cap open pipe ends as pipe line is assembled to keep out soil or debris. Remove caps only when necessary to continue assembly.
3. Provide check valve where required to prevent erosion from low head drainage.

Trenching

1. Contractor shall trench main lines to the depth shown on Drawings. Trenches shall be wide enough to allow proper placing of pipe.
2. The minimum cover shown on Drawings shall govern regardless of variations in ground surface profile and occasional deeper excavation required at banks and other field conditions. Excavation shall be such that a uniform trench grade variation will occur in all cases where variations are necessary. In no case shall the angle of deflection from one pipe length to another exceed 5 degrees.
3. During excavation, materials suitable for backfilling shall be stockpiled in an orderly manner at a sufficient distance from the edge of trenches to avoid overloading and prevent slides or cave-ins. No excavated materials shall be placed within or permitted to fall upon roadways.
4. Contractor shall repair all trench locations to pre-existing condition following pipe installation.

Sleeves

1. Sleeve pipe under driveways, sidewalks, unpaved roads, and trails that may accommodate vehicular traffic, or other concrete and/or flatwork as shown on Drawings.
2. Provide sleeves and conduit of sufficient size and quantity to accommodate all pipe. Sleeves and caps shall be minimum twice the irrigation line diameter, and extend minimum 12 inches beyond edge of pavement. In-line fittings are not permitted in sleeves less than 20 feet long.
3. Cap ends of sleeves hand tight until pipe is installed. Where pipes pass through sleeves, provide removable non-decaying plug at ends of sleeves to keep soil out.

Backfilling

1. Backfill with specified material at specified depths after testing pipe as shown on Drawings.
2. Backfill shall contain no lumps or rocks larger than 1 inch. The top 6 inches of backfill shall be free of rocks, subsoil, or trash. Any materials not suitable for backfill shall be removed from the site and disposed of properly.
3. Backfill shall be compacted to a density equal to adjacent soil, or as specified.
4. Any trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth required for compaction, then filled and compacted with the surface restored to the required grade and left in a completed surface condition.

Solvent-Weld PVC

1. Prepare joint by first making sure the pipe end is square, then deburr the pipe and clean pipe and fitting of dirt, dust, and moisture.
2. Allow joints to cure a minimum of 30 minutes before handling and at least 24 hours before allowing water in pipe.
3. Glue pipe and fittings as recommended by manufacturer and in accordance with accepted industry practices.
4. Follow any additional manufacturer's instructions for PVC welding.

Threaded Joints

1. Weld threading of plastic pipe or fittings is not permitted. Factory-formed threads only will be permitted.
2. Factory-made nipples shall be used wherever possible. Field-cut threads in metallic pipe shall be permitted only where absolutely necessary and as approved by Project Biologist. When field-threading, cut threads accurately on axis with sharp dies.
3. Apply pipe joint compound to male threads and first three (3) female threads.
4. Where assembling soft metal (brass or copper) or plastic pipe, use strap-type friction wrench only; do not use metal-jawed wrench.
5. On metal-to-metal joints, no more than three (3) full threads shall show when joint is complete.
6. When assembling threaded plastic fittings, tighten joint no more than one (1) full turn beyond hand tight. Use strap-type friction wrench only; do not use metal-jawed wrench.
7. All threaded joints shall be made up with pipe joint compound or Teflon tape. Apply compound or tape to male threads only.

Pipe staples shall be used to secure on-grade IPS PVC flex hose to the soil surface.

20-01.03E Backflow Prevention Device Installation

Connect to water supply line in approximate location as shown on Drawings. Contractor shall request and receive approval from Project Biologist for final location.

Installation shall comply with applicable codes. Contractor shall arrange and pay for annual tests and certificates required by governing agencies.

20-01.03F Valves and Other Devices Installation

Layout: Locate and install in the approximate locations as shown on Drawings. Contractor shall request and receive approval from by Project Biologist for location of valves and other devices, as well as alignment of valve boxes.

Valves

1. Lines shall be free of soil or debris before installation of valves. After pipe and risers are in place and connected, flush out system with a full head of water.
2. Provide check valve where required to prevent erosion from low head drainage.

Valve Box Installation, General

1. Valves, meters, and pressure regulators shall be located in valve boxes.
2. Install boxes in locations as directed by Project Biologist. Install as shown on Drawings.
3. Install common bricks as required to keep box stable.
4. Excavate three (2) inches below grade under footprint of the valve box and fill with drain rock.
5. Provide enough clearance within valve box to house, maintain, and adjust devices. Center valve box over devices.

20-01.03G Bubbler Distribution System Installation

Layout

1. Locate standpipe assembly in the approximate location shown on Drawings, and flag location for review. Prior to installing these items, Contractor shall request and receive approval from Project Biologist.
2. Locate main line, pressure regulators, valves, and other devices per sub-Section Layout.

Pressure Regulator: Install as shown on Drawings and per manufacturer's recommendations.

Bubbler Distribution Equipment

1. Provide and install a bubbler distribution system to each irrigation zone as shown on Drawings. Notify Project Biologist where field conditions obstruct locations of main or lateral lines.
2. Bubblers
 - 2.1. Thoroughly flush lines before installing bubblers.
 - 2.2. Locate and install bubblers as shown on Drawings.
 - 2.3. Install bubbler irrigation as shown with one (1) bubbler per container plant.

- 2.4. Place bubbler six (6) inches from edge of container plant root ball. On slopes, place on uphill side of plant.
- 2.5. Fasten bubblers within the watering basin with pipe staples.
- 2.6. Follow manufacturer's installation instructions.

20-01.03H Controller (Battery-Operated) Installation

Install on plastic valves per manufacturer's recommendation.

Controllers shall be factory-mounted in manufacturer's enclosure unless otherwise shown on Drawings. Mount enclosure as shown.

Programming is the responsibility of Contractor throughout construction and maintenance period. Program per SECTION 20-4 Long-Term Maintenance.

20-01.03I Testing Pipe and System Adjustment

Before testing, bleed air out of lines at line pressure. Provide vertical pipe at high points during installation.

Trenched lines: Test hydrostatically after joints have cured at least 24 hours.

1. Provide caps, pumps, pressure gauges and other equipment required to perform test.
2. Test pressure trenched lateral trunk line at 150 psi for 2 hours and prove watertight.
3. Repair leaks and repeat tests until system is proven watertight.
4. Do not cover or enclose Work until tests are approved by Project Biologist.

On-grade lines and bubblers: Perform visual inspection and function test as follows:

1. Run system and visually inspect on-grade lateral lines and all joints for leaks.
2. Verify that bubblers are producing specified water output by testing output of a sampling of bubblers as follows:
 - 2.1. Place selected bubblers in a 1-quart (32 fluid ounces) container and make note of the time required to fill the container (a 4 gallon per hour bubbler should fill a 1-quart container in approximately 3.75 minutes).
 - 2.2. If not providing the specified output, replace bubblers, check pressure, and review system for clogs and leaks.
3. Repeat inspection and test until system is proven to function as intended.

Remake faulty joints with new materials. Do not use cement or caulking to seal leaks. Repairs shall conform to these Specifications.

20-01.03J Acceptance of Irrigation

Acceptance of Work: Project Biologist will accept Work when all improvements and corrective Work have been performed as specified and to the satisfaction of Project Biologist.

20-01.04 PAYMENT

The payment for Irrigation System includes all labor, materials, tools and equipment for installation of the irrigation system per the Standard Specifications and these special provisions.

20-02 SEEDING

20-02.01 GENERAL

20-02.01A Description of Work

Provide all material, labor and equipment necessary to perform the Work for seeding as shown on Drawings and as specified herein. The Work of this SECTION includes but is not limited to:

1. Coordinating native habitat seed mix with Erosion Control Plan.
2. Applying hydroseed.
3. Applying straw to areas above top of bank.

20-02.01B Reference Standards

Nomenclature: The Jepson Manual: *Vascular Plants of California, Second Edition*, University of California Press, Berkeley, CA.

California Seed Law (California Department of Food and Agriculture). More information is available online at:

1. http://www.cdfa.ca.gov/plant/pe/nursery/pdfs/SeedLaw_2011.pdf
2. <http://www.cdfa.ca.gov/phpps/pe/nursery/Seed.html>

California Department of Transportation (Caltrans), Standard Specifications, 2018 Edition.

All standards shall include the latest additions and amendments as of the date of advertisement for bids

20-02.01C Submittals

Prior to application, Contractor shall submit to Project Biologist product data sheets from each supplier indicating that the seed and other seeding materials meet the Specification requirements.

Contractor shall submit the following:

1. A letter, or appropriate seed lot tags, from seed supplier stating the botanical name, common name, provenance, minimum percent purity, minimum percent germination, and pounds pure live seed of the seed mix prior to application.
2. Proof that the amendments (i.e., wood fiber, straw, tackifier) meet the Specifications described in this SECTION and that they do not contain noxious weeds or materials that originate from a Sudden Oak Death quarantined county.
3. Prior to delivery of straw to Project site, submit the name, address, and telephone number of the straw supplier.

20-02.01D Timing and Coordination

Timing of seeding application is subject to the timeframes and conditions specified in sub-Section Hydroseeding.

The seeding shown on Drawings may be affected by the submittals required per SECTION 13-2 Water Pollution Control Program and SECTION 13-3 Stormwater Pollution Prevention Plan. Contractor shall request and receive approval from Project Biologist of any changes prior to seed application.

For site access, Contractor shall coordinate with Public Works Inspector Greg Morris (415) 760-3053.

20-02.02 MATERIALS

20-02.02A Seed

Seed shall be a fresh, clean, new crop mixed by dealer and packaged in dealer's unopened container with original label. Containers opened prior to inspection or without a label or tag will not be accepted. Each seed bag shall be delivered to Project site sealed and clearly marked as to the species, purity, percent germination, weed seed, inert material, dealer's guarantee, and date of test.

All seed shall comply with the California Seed Law. Commercially obtained seed shall be labeled under the California Food and Agricultural Code, and by the vendors supplying the seed. The percent of weed seed shall not exceed 1.5 percent by weight of the total seed mixture.

Seed treated with Mercury compounds shall not be used.

Seed shall have been tested for purity and germination not more than fifteen (15) months prior to the application of the seed.

Contractor shall procure seed of the species and proportions presented on Drawings (Native Habitat Seed Mix).

Seed origin shall be as shown on Drawings. If a particular species is not available from the County specified, available seed stock from adjacent counties may be substituted only upon approval from Project Biologist. Contractor shall coordinate with Project Biologist thirty (30) working days prior to seeding to obtain these approvals.

Seed is available from Hedgerow Farms, 21905 County Road 88, Winters, CA (530) 662-6847, or approved equal.

20-02.02B Hydroseeding Materials

Wood Fiber

1. Wood fiber shall:
 - 1.1. Be derived from wood chips or similar wood material manufactured specifically for hydroseeding.
 - 1.2. Be untreated, chemical free, and also free of paints or other finishes, or any other harmful substances that will inhibit plant growth.
 - 1.3. Not originate from a Sudden Oak Death host species derived from a quarantined county.
 - 1.4. Disperse into a uniform slurry when mixed with water.
 - 1.5. Be colored to contrast with the area onto which the fiber is applied.
 - 1.6. Not stain rock surfaces.
2. Wood fiber shall meet the following criteria:
 - 2.1. Ash content: Maximum 7 percent.
 - 2.2. Boron content: Maximum 250 parts per million.
 - 2.3. Water holding capacity: Minimum 1,200 percent.
 - 2.4. Water content before mixing: Maximum 15 percent.

- 2.5. Per California Department of Transportation (Caltrans), Standard Specifications, 2018 edition, SECTION 21-2.02D Fiber.

Tackifier: Tackifier shall be non-asphaltic, non-toxic to plants and wildlife, and non-staining to rock surfaces. Tackifier shall be in powder form, may be re-emulsifiable, and shall be a processed organic adhesive derivative of *Plantago insularis* used as a soil binder, manufactured to be suitable for hydroseed applications.

20-02.02C Water

Water shall be suitable for agricultural use and shall be free of harmful substances that would adversely affect plant growth or vigor.

20-02.02D Straw

Straw shall be either rice or wheat derived from irrigated cropland. Straw pieces shall be at least 8 inches long. Straw shall not contain glass, plastic, metal, rocks, or other inorganic material. Straw shall not have been used previously for any other use and shall be certified weed free.

20-02.02E Hydroseeding Equipment

Equipment used for application of slurry shall be a commercial-type hydroseeder and have a built-in agitation system with an operation capacity sufficient to agitate, suspend, and homogeneously mix slurry. Tank capacity shall be a minimum of 1,500 gallons with adequate-sized lines to prevent stoppage and allow for even distribution of slurry over the site.

20-02.03 CONSTRUCTION

20-02.03A Field Quality Control

Contractor shall request and receive approval from Project Biologist prior to commencing seeding work. Contractor shall inspect Project site and become familiar with any access requirements, access restrictions, and any other site conditions.

Contractor shall coordinate with Project Biologist to schedule inspections at the following stages:

1. Onsite meeting to discuss the layout of the irrigation system.
2. Inspection during seeding.
3. Acceptance of seeding.

Progress inspections: In addition to the inspections specified, Project Biologist may make periodic progress inspections.

Project Biologist reserves the right to take and analyze samples of materials for conformity to these Specifications at any time.

20-02.03B Hydroseeding

Timing

1. Hydroseeding shall occur after
 - 1.1. Grading and other disruptive construction activities are completed and final grades have been approved by Project Biologist per SECTION 19 Earthwork.
 - 1.2. Completion and acceptance of all work in SECTION 20-01 Irrigation System.

2. Hydroseeding shall occur between 15 August and 15 October unless otherwise approved by Project Biologist.
3. Contractor shall request seed delivery from supplier no less than five (5) working days prior to application. Contractor shall keep seed in a cool, dry, shaded place until utilized.
4. Contractor shall coordinate with Project Biologist no less than five (5) working days prior to hydroseed slurry preparation and application so that Project Biologist can be present for the hydroseed application.
5. Work shall be performed only at times when weather conditions at Project site are favorable. No Work shall be performed when wind conditions prohibit uniform distribution of seed unless approved by Project Biologist. No Work shall be performed when soils are saturated. Seed shall be applied before the onset of winter rains.
6. If hydroseeding is delayed and access for hydroseeding equipment is no longer feasible due to saturation of access roads, Contractor shall develop alternate method of applying seed. Alternate method shall be approved by Project Biologist prior to application.

Site Access. If hydroseeding equipment will limit road access, Contractor shall obtain any necessary approvals from City authorities for altering traffic flows.

Layout

1. Hydroseed shall be applied to all areas shown on Drawings and any additional areas impacted by construction including access, staging, and haul routes located within and outside of the planting areas.
2. Contractor shall confirm all seeding areas with Project Biologist prior to hydroseeding.
3. Contractor shall prevent foot traffic or storage of supplies in seeded areas.

Site Preparation

1. Contractor shall coordinate with Project Biologist to identify the limits of the area to be hydroseeded.
2. Hydroseed areas shall be clear of substantial debris and any other impediments to seed-soil contact.
3. Contractor shall scarify areas to be seeded to eliminate glazed surfaces and provide positive surface drainage

Hydroseed Application

1. Seed shall be delivered to Project site in unopened separate containers with the seed tag attached. Containers without a seed tag attached will not be accepted.
2. Contractor shall plan the layout of slurry hose to reduce potential damage to existing vegetation on and off- site. Due diligence shall be practiced to preserve the newly hydroseeded areas. For example, areas furthest from the pump vehicle shall be hydroseeded first and areas nearest to the vehicle last. The slurry hose shall be retracted accordingly to minimize trampling and disturbance of newly hydroseeded areas.
3. Slurry shall be prepared at the Project site as follows:
 - 3.1. Thoroughly mix water, wood fiber, and tackifier.
 - 3.2. Add seed immediately before hydroseeding. Slurry shall be completely homogeneous.

Material	Rate (pounds/acre)
Water	In sufficient quantities to broadcast seed at specified rates
Wood fiber	1,500
Tackifier	100

Seed	As specified in the table in sub-Section Seed.
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- 3.3. Once fully loaded, the complete slurry shall be agitated for three to five (3 to 5) minutes to allow for uniform mixing.
4. Slurry shall be applied as follows:
 - 4.1. Slurry shall be applied with a commercial hydroseeder having a built-in agitation system with capacity to continuously agitate, suspend, and homogeneously mix slurry.
 - 4.2. Slurry shall be sprayed with a sweeping motion to produce uniform mat at required seeding rate.
 - 4.3. Hydroseeding materials shall be applied and emptied from tank within one-half (1/2) hour after addition of the seed to the mix.
 - 4.4. If slurry remains in the tank more than eight (8) hours, it shall be removed from Project site and disposed of at Contractor's expense.

After the site has been hydroseeded, straw shall be applied to all areas above the top of bank using a mechanical blower or by hand labor at a rate of 2,000 lbs/acre. Application shall start on the windward side of the target area. Straw shall be applied to cover areas of similar slope uniformly. No straw shall be applied below the top of bank.

Immediately following straw application, non-asphaltic tackifier shall be applied at a rate of 120 lbs/acre.

Hydroseeded areas disturbed by subsequent construction activities shall be re-seeded.

20-02.03C Site Cleanup

Contractor shall clean up following seeding activities as follows and as directed by Project Biologist:

1. Remove all containers, packaging, and other debris resulting from seeding operations.
2. Dispose of all debris legally at licensed disposal facilities.
3. Clean all surfaces not designated for treatment and remove all residues resulting from mixing, applying, or equipment flushing.
4. Remove temporary items.

Seeded areas disturbed by subsequent construction activities shall be re-seeded within five (5) working days of the completion of such activities.

20-02.03D Acceptance of Seeding

Acceptance of Work: Project Biologist will accept Work when all improvements and corrective Work have been performed as specified and to the satisfaction of Project Biologist.

20-02.04 PAYMENT

The payment for Seeding includes all labor, materials, tools and equipment for applying seed per the Standard Specifications and these special provisions.

20-03 RESTORATION PLANTING

20-03.01 GENERAL

20-03.01A Description of Work

Provide all material (except plant material supplied by City), labor, equipment, and services to perform the Work as shown on Drawings and as specified herein. The Work of this SECTION includes but is not limited to:

1. Flagging planting areas for container plants in geoweb and individual plant locations for container plants not in geoweb.
2. Excavating planting holes.
3. Installing container plants.
4. Constructing watering basins.
5. Installing wood bark mulch.
6. Installing wooden stakes.
7. Maintaining plants until commencement of five (5)-year long-term maintenance period, which shall be upon acceptance of Work in this SECTION per 20-03.03H.

20-03.01B Reference Standards

Nomenclature:

1. *Nomenclature: Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 20+ vols. New York and Oxford.*
2. *Western Garden Book*, 9th Edition, Sunset Publishing Co., Menlo Park, CA.
3. *The Jepson Manual: Vascular Plants of California*, Second Edition, University of California Press, Berkeley, CA.
4. *Hortus Third*, The Staff of the L.H. Bailey Hortorium. 1976. Macmillan Publishing Co., New York

Plant Material Standards: American Standard for Nursery Stock, ANSI Z60.1. American Nursery and Landscape Association, 1250 Eye Street. NW, Suite 500, Washington, DC 20005.

Sudden Oak Death Regulated Host Species: APHIS List of Regulated Hosts and Plants Proven or Associated with *Phytophthora ramorum*, August 2013 edition or later; United States Department of Agriculture Animal and Plant Health Inspection Service, available online at: http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/usdaprlist.pdf

Plant Pathogens Nursery Best Management Practices: Guidelines to Minimize *Phytophthora* Pathogens in Restoration Nurseries. 2016. Working Group for *Phytophthoras* in Native Habitats.

California Department of Transportation (Caltrans), Standard Specifications, 2018 edition.

All standards shall include the latest additions and amendments as of the date of advertisement for bids.

20-03.01C Submittals

Contractor shall submit samples and miscellaneous materials to Project Biologist prior to application as follows:

1. Wood Bark Mulch
 - 1.1. One-half (½) cubic foot sample.
 - 1.2. Manufacturer's receipt or certification describing that the provenance and/or constituents of wood bark mulch meet the specification described in this SECTION.
2. As-Built Drawings

- 2.1. Prepare record plans indicating plant type, quantity, size and location. Use Drawings as a background for the As-Built drawings.
- 2.2. Submit to Project Biologist within ten (10) working days of start of Work in SECTION 20-04 Long-Term Maintenance.

20-03.01D Timing and Coordination

Planting layout, per sub-Section Plant Layout, shall be approved by Project Biologist in the field prior to irrigation system installation per SECTION 20-01 Irrigation System.

Timing of plant installation is subject to the timeframes and soil moisture conditions specified in sub-Sections Plant Installation - General, Container Plant Installation.

20-03.01E Delivery, Storage, and Handling

Contractor shall be responsible for coordination and timing of container plant delivery to Project site for planting between December 1, 2020 and January 31, 2021.

Contractor shall coordinate delivery of container plants from City's native plant nursery (The Watershed Nursery, (510) 234-2222) at least fifteen (15) working days prior to plant installation. Up to three (3) delivery events may be scheduled by the Contractor.

Contractor shall be responsible for the proper storage, handling, and protection of plant materials once they are delivered to Project site.

Contractor shall maintain plant materials in a healthy condition at all times. Contractor shall protect plants from sun and drying winds. Plants that cannot be installed immediately upon delivery shall be kept in the shade, watered, and kept in a deer-proof enclosure to prevent browse.

After delivery, Contractor shall be responsible for replacement of any damaged plant material, as determined by Project Biologist at no expense to City.

20-03.01F Substitutions

In the event that the specified plant list is limited by availability or lacking in quality, City reserves the right to substitute different species of the same size as material specified, at no additional cost to the City.

20-03.02 MATERIALS

20-03.02A General

Materials not conforming to these Specifications and requirements shall remain the property of Contractor and shall be removed from Project site at no additional cost to City.

Contractor shall ensure that installation of all plant materials shown on Drawings are included in his or her bid.

20-03.02B Container Plants

Container plant materials will be supplied by City. Contractor shall coordinate delivery and store and maintain container plants per sub-Section Delivery, Storage, and Handling.

20-03.02C Other Materials

Wood Bark Mulch:

1. Wood chips, tree bark chips, shredded bark, or any combination thereof that meets the following standards:

- 1.1. Wood chips: The particle size of wood chips shall be between 1/2 and 3 inches long and a minimum of 3/8 inch wide and 1/16 inch thick. At least eighty-five (85) percent, by volume, of wood chips shall conform to the sizes specified.
- 1.2. Tree bark chips: Tree bark chips shall have a particle size between 1/2 inch and 1-1/2 inches.
- 1.3. Shredded bark: Shredded bark shall be a mixture of bark and wood and shall have a particle size between 1/8 inch and 1/2 inch in diameter and one (1) inch to eight (8) inches long. At least seventy-five (75) percent, by volume, of shredded bark shall conform to the sizes specified.
- 1.4. 'Gorilla hair' shredded redwood bark mulch is not acceptable.
2. Materials for wood bark mulch shall not contain noxious weeds or plant pathogens, including Sudden Oak Death. Wood bark mulch shall be temperature-treated to eliminate weeds and pathogens or originate from a Sudden Oak Death host plant species derived from a non-quarantined county.
3. Wood bark mulch shall be free of salt, foreign materials, and other harmful substances.
4. Wood bark mulch shall not be produced from tree trimmings that contain leaves, seeds, inflorescences, or small twigs.

Wooden Stakes: 1x2 wooden stake: 4 feet long, redwood, with a tapered driving point; as available from All Bay Lumber, American Canyon, CA; or approved equal.

20-03.02D Water

Water shall be suitable for agricultural use and shall be free of harmful substances that would adversely affect plant growth or vigor.

20-03.03 CONSTRUCTION

20-03.03A Field Quality Control

Contractor shall request and receive approval from Project Biologist prior to commencement of Work in this SECTION.

Contractor shall inspect Project site and become familiar with any access requirements, access restrictions, and any other site conditions.

Contractor shall coordinate with Project Biologist to schedule inspections at the following stages:

1. Layout of planting areas for container plants in geoweb and individual plant locations for container plants not in geoweb.
2. Inspection and acceptance of container plants at the time of delivery.
3. When container plant installation is near eighty (80) percent of completion. Contractor shall correct any deficiencies to the Project Biologist's satisfaction.
4. Acceptance of restoration planting, within ten (10) working days of completion of plant installation.

Progress Inspections: In addition to the inspections specified, Project Biologist may make periodic progress inspections.

Project Biologist reserves the right to take and analyze samples of materials for conformity to these Specifications at any time.

20-03.03B Review and Acceptance of Container Plant Material

Contractor shall coordinate delivery of container plants per sub-Section Delivery, Storage, and Handling.

Project Biologist will review container plants upon delivery at Project site. Contractor shall notify Project Biologist fifteen (15) working days prior to plant delivery to coordinate this review. Project Biologist reserves the right to approve or reject any materials delivered to Project site.

Contractor shall install only material that has been reviewed and accepted by Project Biologist.

20-03.03C Plant Layout

Flagging

1. For each planting area in geoweb, planting area boundary shall be flagged by Contractor and constitute the limits of that planting area. Planting area boundaries are based on elevations as shown on Drawings.
2. For each planting area not in geoweb, each individual container plant shall be flagged by Contractor using a clearly visible, unique, colored flag for each species.
3. See notes on Drawings regarding plant layout adjacent to Bayshore Boulevard.

Coordination with Project Biologist

1. Contractor shall coordinate with Project Biologist at least five (5) working days prior to layout to arrange a site inspection for flagged plant location approval.
2. Project Biologist reserves the right to make minor adjustments in the layout of all plant material. Contractor shall adjust irrigation system as necessary.

Contractor is responsible for maintaining flags in location until final acceptance of Work in this SECTION.

20-03.03D Plant Installation — General

Prior to planting hole excavation or plant installation, irrigation system installation shall be complete and approved per SECTION 20-01 Irrigation System.

Contractor shall not begin plant installation prior to approval of planting layout.

Contractor shall not install plants prior to review and acceptance by Project Biologist upon delivery of plant material to Project site, or install plant material that has been rejected for any reason.

Plant installation shall occur after the onset of winter rain when the soil becomes moist to a depth of eight (8) inches as confirmed by Project Biologist. Prior to planting, Contractor shall request and receive approval from Project Biologist that the soil moisture is adequate.

Contractor shall not plant under unfavorable weather conditions. Ambient temperatures shall be between thirty-five (35) and eighty (80) degrees Fahrenheit and wind velocity shall not exceed twenty (20) miles per hour.

Planting shall initiate in the areas furthest from the access point. This approach is intended to minimize disturbance of installed plants. Additional efforts shall be made to limit trampling of planting areas, including restricting foot traffic to a single-track pathway around the perimeter of each planting area, rather than crisscrossing the planting areas in multiple locations. Workers shall leave the main path only to perform Work at specific locales within the planting areas.

See Section 20-03.03G Site Cleanup for information regarding the return of plant containers to the City's native plant nursery.

20-03.03E Container Plant Installation Not in Geoweb

Timing: Container plants shall be installed after 1 December and before 31 January unless otherwise permitted in writing by Project Biologist.

Layout: See sub-Section Plant Layout.

Planting Hole Excavation

1. Planting holes shall be excavated prior to installation of irrigation system.
2. Planting holes shall be sized as shown on Drawings.
3. Planting holes may be excavated by hand digging, augering, or by drilling. Water jets shall not be used for the excavation of planting holes. When excavating under existing trees, Contractor shall minimize damage to existing tree roots.
4. During excavation Contractor shall:
 - 4.1. Remove all rocks greater than three (3) inches in diameter from the excavated native site soils. Where rock or other hard material prohibits holes from being excavated to the dimensions specified, new holes shall be excavated and the abandoned holes shall be backfilled with the excavated material.
 - 4.2. Notify Project Biologist, in writing, if soil conditions are encountered that Contractor considers detrimental to the growth of plant material. Excavation shall be discontinued until instructions to resolve these conditions are received from Project Biologist.
5. Scarify the sides and bottom of planting holes to eliminate glazed surfaces.

Planting Hole Backfilling

1. Backfill bottom of planting hole with native site soil so that crown of plant is at specified height as shown on Drawings.
2. Soil under root ball shall be compacted by hand to prevent settlement.
3. Backfill top of planting hole to allow for proper placement of plant material.

Container Plant Installation

1. Immediately prior to installing plants, container plants shall be thoroughly moistened.
2. Remove plants from containers in such a manner that the root ball is not broken.
3. Do not install plants with a damaged root ball
4. Gently loosen lower one-third (1/3) of root ball prior to installation.
5. Install plants immediately after removal from the container, and minimize the exposure of the root ball to the air while placing the root ball in the ground.
6. Install plants in such a manner that the roots are not restricted or distorted.
7. Install plants in the center of the planting hole and so that their root crowns are slightly above grade (approx. 1/4 inch) following planting, soil settlement, and initial irrigation.
8. Backfill planting hole and lightly compact to remove air spaces between roots and soil. Take care to avoid overcompaction of the soil, particularly if soil is damp.
9. Using the installed irrigation system, irrigate each container plant within one (1) hour of installation with sufficient water to saturate the soil. This can be done by hand if necessary.

Watering Basins

1. Construct watering basins as shown on Drawings, using four (4) inch high, four (4) inch wide earthen berms around all container plants to create three (3) foot interior diameter basins.
2. Basins shall not slope downward from the inside edge of the berm to the container plant. Slope watering basin surface away from plant to drain.

3. Contractor shall sufficiently hand-compact and level earthen berms so they hold water.

Wood Bark Mulch

1. Subsequent to construction of watering basins, Contractor shall spread a three (3)-inch thick layer of wood bark mulch within the bottom of each watering basin.
2. Mulch shall be pulled away from container plant stems in all directions as shown on Drawings.

Wooden stake: At each container plant, install wooden stake as shown on Drawings.

Contractor shall maintain container plants until commencement of Work in SECTION 20-04 Long-Term Maintenance.

20-03.03F Container Plant Installation in Geoweb

Timing: Container plants in geoweb shall be installed after 1 December and before 31 January unless otherwise permitted in writing by Project Biologist.

Layout: See sub-Section Plant Layout.

Container Plant Installation

1. Planting holes shall be sized as shown on Drawings.
2. Planting holes shall be dug by hand.
3. Immediately prior to installation, container plants shall be thoroughly moistened.
4. Remove plants from containers in such a manner that the root ball is not broken.
5. Do not install plants with damaged root balls.
6. Gently loosen lower one-third (1/3) of root ball prior to installation.
7. Install plants immediately after removal from the container, and minimize the exposure of the root ball to the air while placing the root ball in the ground.
8. Install plants in such a manner that the roots are not restricted or distorted.
9. Install plants in the center of the planting hole and so that their root crowns are at grade.
10. Backfill the planting hole and lightly compact to remove air spaces between roots and soil. Take care to avoid overcompaction of the soil, particularly if soil is damp.
11. Irrigate each container plant, except those in the Tidal Marsh Planting Areas, within one (1) hour of installation with sufficient water to saturate the soil.
 - 11.1. For those plants within an irrigation zone, plants can be irrigated via the installed irrigation system. This can also be done manually if necessary.
 - 11.2. For those plants in the Transition Zone Planting Areas, which are not captured by the irrigation system, contractor shall manually irrigate, from a water truck or other water source:
 - 11.2.1. No high-pressure or fire hoses may be used for irrigation.
 - 11.2.2. Plants shall be watered utilizing a standard garden-type hose with an appropriate low volume spray nozzle capable of providing the specified volume without runoff. The hose nozzle shall be placed within (6) inches to one (1) foot of the root crown of each plant to irrigate.
 - 11.2.3. Sufficient water shall be applied to moisten the upper six (6) inches of soil.

12. Contractor shall maintain container plants until commencement of Work in SECTION 20-04 Long-Term Maintenance.

20-03.03G Site Cleanup

Contractor shall clean up Project site following planting activities as follows and as directed by Project Biologist.

1. Clean Project site and Work area of all packaging and other debris resulting from plant installation operations. The City's native plant nursery contract requires the return of planting containers. Following plant installation, Contractor shall gather containers and coordinate pickup of containers by City's native plant nursery (The Watershed Nursery, (510) 234-2222) at least ten (10) working days prior to desired container pick-up date.
2. Dispose of all debris legally at licensed disposal facilities.
3. Clean all surfaces not designated for treatment and remove all residues resulting from mixing, applying, or equipment flushing.
4. Remove temporary items.

20-03.03H Acceptance of Restoration Planting

Acceptance of Work: Project Biologist will accept Work when all improvements and corrective Work have been performed as specified and to the satisfaction of Project Biologist.

Following inspection and acceptance of the completed Work, Work described in SECTION 20-04 Long-Term Maintenance.

20-03.04 PAYMENT

The payment for Restoration Planting includes all labor, materials, tools and equipment for restoration planting.

20-04 LONG-TERM MAINTENANCE

20-04.01 GENERAL

20-04.01A Description of Work

Provide all material, labor, and equipment necessary to perform the Work for the five (5)-year long-term maintenance period as shown on Drawings and as specified herein. The Work of this SECTION includes but is not limited to:

1. Preparing maintenance logbook.
2. Conducting maintenance inspections.
3. Coordinating with a native plant nursery to custom-collect, grow, and provide replacement container plants.
4. Installing replacement container plants.
5. Maintaining watering basins.
6. Maintaining irrigation system.
7. Programming irrigation battery-operated controller.
8. Conducting weeding events.
9. Conducting non-native plant control events.
10. Removing all above-ground irrigation system components at the direction of Project Biologist.

20-04.01B Reference Standards

Guadalupe Channel Erosion Control Project Habitat Maintenance and Monitoring Plan. Prepared by H. T. Harvey & Associates, dated April 24, 2019.

Nomenclature: *The Jepson Manual: Vascular Plants of California, Second Edition*, University of California Press, Berkeley, CA.

Plant Material Standards: *American Standard for Nursery Stock*, American National Standards Institute (ANSI) Z60.1-2004; American Nursery and Landscape Association.

Control of Non-Native Plant Species:

1. *California Invasive Plant Inventory*, California Invasive Plant Council (Cal IPC) available online at <http://www.cal-ipc.org/plants/inventory/>.
2. *Invasive Non-Native Species to Avoid in Wetland Projects in the San Francisco Bay Region*, 2006 edition or later; San Francisco Bay Regional Water Quality Control Board available online at: http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/stream_wetland/app1inclrefs.pdf.
3. *The Weed Workers Handbook: A Guide to Techniques for Removing Bay Area Invasive Plants*, 2004, the Watershed Project and the California Invasive Plant Council (Cal IPC) available online at: <http://www.cal-ipc.org/docs/ip/management/wwh/pdf/18601.pdf>.
4. *Invasive Plants of California's Wildlands*, 2000, edited by C.C. Bossard, J.M. Randall, and M.C. Hoshovsky, University of California Press.
5. *Integrated Vegetation Management (IVM)*, ANSI A300 (Part 7), 2006.

All standards shall include the latest additions and amendments as of the date of advertisement for bids

20-04.01C Submittals

Contractor shall submit the following:

1. Prior to the commencement of the five (5)-year long-term maintenance period, a proposed maintenance schedule as described in sub-Section Maintenance Schedule.
2. A logbook of mitigation site maintenance activities as described in sub-Section Maintenance Logbook.
3. Prior to each broadcast seeding event per sub-Section Site Cleanup Following Maintenance Activities, all submittals required for seeding per SECTION 20-02 Seeding.
4. All submittals required for plant and other materials per SECTION 20-03 Restoration Planting.

20-04.01D General Coordination

Contractor shall request and receive approval from Project Biologist prior to commencement of the five (5)-year long-term maintenance period. The five (5)-year long-term maintenance period shall begin upon acceptance by Project Biologist and continue for a minimum of five (5) years.

Prior to each maintenance event, Contractor shall:

1. Contact Project Biologist regarding the location, type of work to be done, and the equipment to be used. Project Biologist may or may not approve the proposed maintenance work.
2. For site access, Contractor shall coordinate with Public Works Inspector Greg Morris (415) 760-3053.

Following each year of the five (5)-year long-term maintenance period Contractor shall request approval from Project Biologist for completion of that year's maintenance. Completion of each year of the five (5)-year long-term maintenance period shall be confirmed in writing by Project Biologist.

20-04.02 MATERIALS

20-04.02A General

Materials not conforming to these Specifications and requirements shall remain the property of Contractor and shall be removed from Project site at no additional cost to City.

20-04.02B Replacement Container Plants

Contractor is responsible for furnishing replacement container plants that will be installed during the long-term maintenance period.

Nursery Coordination -- Replacement container plants are long-lead specialty items often requiring a ten to twelve month growing period in a nursery prior to installation. No later than the dates specified in the table below, Contractor shall establish and submit for approval an agreement with the City's native plant nursery (The Watershed Nursery in Richmond, CA), or approved equal, to collect and grow replacement container plants in anticipation of long-term replanting efforts for the following year.

Procurement

1. Contractor's native plant nursery shall custom-collect, grow, and provide replacement container plants meeting the species, size, and genetic origin specified herein.
2. Propagules and/or seeds for container plants shall be collected by Contractor's native plant nursery.
 - 2.1. Propagules and/or seeds for container plants shall be collected by Contractor's native plant nursery from within San Mateo County. If sufficient collection locations are not available from San Mateo County, materials may be collected from adjacent counties only upon approval from Project Biologist.
 - 2.2. For collection locations beyond those controlled by City, Contractor shall be responsible for obtaining all necessary access permission, permits, approvals, etc. to collect the required propagules and/or seeds.

General Requirements

1. Plants shall be nursery grown in accordance with good horticultural practices under climatic conditions similar to those of Project site for at least one (1) year unless otherwise accepted by Project Biologist.
2. Plants shall be labeled at the supplying nursery with genus, species, variety, and collection location.
3. Container plants shall be certified by federal and state codes. All plants shall be free of disease or hazardous insects and, as described by ANSI Z60.1, they shall be healthy, vigorous, well rooted, and established in the container in which they are growing.
 - 3.1. Plants shall have foliage of a normal density, size and color.
 - 3.2. Plants shall have roots at the bottom of the containers by delivery dates but shall not be root-bound. Root systems shall be healthy and free from twisting or girdling. Plants that have been transferred to larger containers to meet specified requirements will not be accepted.
 - 3.3. Plants lacking compactness or proper proportions or plants that are weak or thin will not be accepted. Plants that have been cut back from larger containers to meet specified requirements will not be accepted.
 - 3.4. Nursery shall grow enough plants to ensure that the required number of plants is available in the event that some plants are rejected due to poor health.
 - 3.5. Plants shall not be pruned prior to delivery.
4. Plants shall be nursery grown in accordance with best management practices (BMPs) to minimize *Phytophthora* spp., pathogens in container plants in accordance with Guidelines to Minimize *Phytophthora* Pathogens in Restoration Nurseries (Working Group for *Phytophthoras* in Native Habitats. 2016).

Container Size, Quantity, and Species

1. Contractor shall provide container plants for the long-term maintenance period as follows:
 - 1.1. Container sizes shall be as shown on Drawings.
 - 1.2. Quantity shall be per sub-Section 20-04.03F Replacement Container Plant Installation
 - 1.3. No later than the dates specified in the table below, Contractor's native plant nursery shall provide a list of replacement container plants to Contractor for submittal to and approval by Project Biologist. List shall include species, quantity, and container size information.

Action Required in	Native Plant Nursery Agreement and List of Replacement Plants for Approval by	Replacement Plant Installation in
Year of initial installation (2020)	September 15, 2020	Year-1 (2021)
Year-1 (2021)	June 15, 2021	Year-2 (2022)
Year-2 (2022)	June 15, 2022	Year-3 (2023)

Need provision should more plants be grown than needed? Contractor to replant all plants purchased?

20-04.02C Replacement Wood Bark Mulch

Wood bark mulch shall be per SECTION 20-03 Restoration Planting.

Contractor shall provide replacement wood bark mulch each year of the five (5)-year long-term maintenance period.

20-04.02D Water

Water shall be suitable for agricultural use and shall be free of harmful substances that would adversely affect plant growth or vigor.

20-04.03 CONSTRUCTION

20-04.03A Field Quality Control

Contractor shall inspect Project site and become familiar with any access requirements, access restrictions, and any other site conditions.

Contractor shall coordinate with Project Biologist to schedule inspections at the following stages:

1. Maintenance inspections.
2. Replacement container plant installation.
3. Non-native plant control events.
4. Acceptance of long-term maintenance.

Progress Inspections: In addition to the inspections specified, Project Biologist may make periodic progress inspections.

If Project Biologist determines that significant problems are present at Project site, additional maintenance inspections will be scheduled until Project Biologist determines that these problems are resolved.

20-04.03B Maintenance Schedule

Prior to the commencement of the five (5)-year long-term maintenance period, Contractor shall prepare a detailed maintenance schedule for the five (5)-year long-term maintenance period and submit it to Project Biologist for approval.

Contractor shall update and submit the maintenance schedule to Project Biologist by the first week of the start of each calendar year of the five (5)-year plant establishment period.

Schedule shall include timing of all tasks noted herein.

20-04.03C Maintenance Logbook

Contractor shall submit the maintenance logbook to Project Biologist by the first week of the start of each calendar quarter.

Contractor shall record all maintenance activities and observations in a maintenance logbook, which shall include the following records.

1. For all entries, the following basic information shall be provided
 - 1.1. Date when Work occurred.
 - 1.2. Locations where Work occurred within Project site.
 - 1.3. Maintenance activity performed and materials, techniques, and equipment used.
 - 1.4. Amount of time spent working in each area.
2. Quantity of water applied for irrigation (based on in-line flow meter).
3. Type and quantity of non-native plants removed (including location of removal).
4. Type and quantity of replacement plants installed.

20-04.03D Maintenance Inspections

Contractor shall schedule quarterly (4 times per year) onsite inspections with Project Biologist during each year of the five (5)-year long-term maintenance period. Topics for review and discussion shall include, at a minimum, plantings, irrigation frequency, watering basin maintenance, weed control, and non-native plant control.

During each maintenance inspection, Contractor shall photo-document site conditions.

Contractor shall correct any deficiencies to Project Biologist's satisfaction.

20-04.03E Replacement Container Plant Delivery, Storage, and Handling

Contractor shall be responsible for coordination and timing of plant material delivery to Project site. Contractor shall request that Project Biologist review container plants upon delivery at Project site. Contractor shall notify Project Biologist five (5) working days prior to plant delivery to coordinate this review. Project Biologist reserves the right to approve or reject any materials delivered to Project site.

Once plants are delivered to Project site, Contractor shall be responsible for the proper storage, handling, and protection of plants. Contractor shall maintain plants in a healthy condition at all times and shall protect them from sun and drying winds. Plants that cannot be planted immediately upon delivery shall be kept in the shade, watered, and protected.

20-04.03F Replacement Container Plant Installation

Contractor is responsible for achieving the native plant cover criteria included in the project's Habitat Maintenance and Monitoring Plan. Contractor shall replace all dead container plants during Years 1-3 as noted herein.

The approximate replacement quantities indicated below are provided as a guideline. Contractor shall evaluate the need to adjust the replacement quantities.

1. Contractor shall communicate the determination of need for changes in writing to Project Biologist. Contractor shall request and receive written approval from Project Biologist prior to implementing changes to the replacement quantities.
2. Any changes to the composition of replacement container plants shall be:
 - 2.1. Made prior to the annual ordering and collection of plants per sub-Section 20-04.02B Replacement Container Plants.
 - 2.2. Noted in the maintenance logbook per sub-Section Maintenance Logbook.
3. At the Transition Zone and Tidal Marsh planting areas:
 - 3.1. Year 1 of the five (5)-year long-term maintenance period, anticipated to be approximately 25% of the originally installed plants.
4. At the Riparian Oak Woodland and Riparian Oak Woodland Shrub planting areas: Years 1-3 of the five (5)-year long-term maintenance period:
 - 4.1. Year 1, anticipated to be approximately 25% of the originally installed plants
 - 4.2. Year 2, anticipated to be approximately 20% of the originally installed plants
 - 4.3. Year 3, anticipated to be approximately 15% of the originally installed plants

Timing:

1. Replacement plant installation shall occur after the onset of winter rain when the soil becomes moist to a depth of eight (8) inches. Prior to replacement plant installation, Contractor shall request and receive approval from Project Biologist that the soil moisture is adequate.
2. Contractor shall install replacement container plants between 1 December and 31 January.

Replacement container plants shall be installed and irrigated per SECTION 20-03 Restoration Planting.

20-04.03G Watering Basin Maintenance

The watering basins and the surrounding four (4)-inch earthen berms shall be reformed and maintained as necessary to retain water.

Weed removal within watering basins shall occur whenever weeds become established. Weeds within the watering basins shall be hand-pulled.

Wood bark mulch shall be added to each watering basin that originally received wood bark mulch as necessary to maintain the three (3)-inch thick layer.

20-04.03H Irrigation System Maintenance

Contractor shall be responsible for the maintenance of irrigation system during the five (5)-year long-term maintenance period.

Maintain irrigation system in working order from beginning of Work until the end of the five (5)-year long-term maintenance period as follows:

1. At the commencement of the five (5)-year establishment maintenance period and each year of the five (5)-year long-term maintenance period in May and September, Contractor shall perform a flow test audit at each irrigation zone. Contractor shall place the emitter or bubbler located farthest from the start of the irrigation zone (i.e. farthest from the main line or standpipe) in a one (1)-quart container and make note of the time required to fill the container. Contractor shall use this information to ensure that bubblers are providing the specified flow rates.
2. Contractor shall repair or replace any malfunctioning irrigation components.
3. Contractor shall repair, re-anchor, or replace on-grade lines as needed.
4. In March of each year of the five (5)-year long-term maintenance period, Contractor shall install a new battery in the battery-operated controller on the remote control valve.
5. Each year of the five (5)-year long-term maintenance period, Contractor shall arrange and pay for backflow prevention tests and certificates required by governing agencies.

At the conclusion of the five (5)-year long-term maintenance period, Contractor shall remove all aboveground irrigation system components at the direction of Project Biologist. City may wish to retain part or all of the temporary irrigation system and may waive Contractor's responsibility to remove those irrigation system components.

20-04.03I Optional Manual Irrigation Event – Additive Bid Item

In the event of drought conditions requiring irrigation of plants in the Salt Marsh Planting Area, City will request Optional Manual Irrigation Event(s).

Each Optional Manual Irrigation Event shall be per SECTION 20-03 Restoration Planting, sub-Section Container Plant Installation in Geoweb. Alternate method may be used upon approval from Project Biologist.

Contractor shall have a crew available within ten (10) working days from City's request.

Additive Bid Item will only be performed upon approval from the City. The Contractor will not receive any compensation for an additive bid item that is not implemented.

20-04.03J Programming Irrigation Battery-Operated Controller

Contractor shall be responsible for programming controller during the five (5)-year establishment maintenance period.

Contractor shall program automated system controller to provide approximately ten (10) gallons of water to each watering basin.

Timing and Frequency

1. Plants will require irrigation during the five (5)-year long-term maintenance period to increase the likelihood of plant establishment and success. Irrigation will be most intensive during the first year and the frequency will decrease during subsequent years to gradually transition the plants to natural conditions.
2. Contractor shall provide water to plants at sufficient applications and quantity to maintain all installed plants. The irrigation schedule below is provided as a guideline.
 - 2.1. Contractor shall evaluate the need to adjust the irrigation schedule and controller programming. Contractor shall communicate the determination of need for controller programming changes in writing to Project Biologist. Contractor shall request and receive written approval from Project Biologist prior to implementing changes to the irrigation schedule and note changes in the maintenance log per sub-Section Maintenance Logbook.
 - 2.2. At any time Project Biologist may also determine that the irrigation schedule and controller programming need adjustment and request Contractor to make the necessary alterations.
 - 2.3. Contractor shall program system to run between 15 March and 15 October, unless otherwise approved by Project Biologist.

Maintenance Period Irrigation Schedule

Year	Total # Irrigation Events	Frequency of Irrigation Events											
		January	February	March	April	May	June	July	August	September	October	November	December
1	30	0	0	Weekly, 15 March – 15 October							0	0	
2	15	0	0	Every 2 weeks, 15 March – 15 October							0	0	
3	10	0	0	Every 3 weeks, 15 March – 15 October							0	0	
4	7	0	0	Every 4 weeks, 15 March – 15 October							0	0	
5	Max. 7	0	0	As directed by Project Biologist							0	0	

During the winter ‘non-irrigating’ months Contractor shall program the system to run once a month for ten (10) minutes at each station in order to keep the valves ‘exercised’.

20-04.03K Weeding Event

Weed control events shall include mowing with a ‘weed eater’ all non-native weeds, including non-native grasses and forbs, within the Riparian Oak Woodland and Riparian Oak Woodland Shrub planting areas and outside of watering basins to a height of two (2) inches above grade.

1. Throughout the planting areas (i.e. between the watering basins), weeds shall be maintained close to ground level; at no point shall weeds exceed a height of one (1) foot.
2. Weed removal within watering basins shall be per sub-Section Watering Basin Maintenance.
3. Contractor shall not damage or remove recruiting native vegetation in the planting area. Contractor shall demonstrate to Project Biologist the ability to differentiate native plants from non-native plants. If Project Biologist deems that Contractor is unable to differentiate native plants from non-native plants, Contractor shall train crews to the satisfaction of the Project Biologist.

Timing and Frequency

1. Weeds shall be controlled throughout the five (5)-year long-term maintenance period.
2. Each year of the five (5)-year long-term maintenance period, Contractor shall conduct three (3) weeding events as follows:
 - 2.1. between 1 - 31 March,

- 2.2. between 1 - 31 May, and
- 2.3. between 1 - 31 July
- 3. This schedule is provided as a guideline. The exact timing of weeding events may vary due to weather conditions and plant development rates.
- 4. Contractor shall conduct weed events at the optimum time in the growth cycle of non-native grasses to achieve control and prior to their seed set.
- 5. Contractor shall evaluate the need to adjust the timing of weeding events. Contractor shall request and receive written approval from Project Biologist prior to implementing changes.
- 6. At any time Project Biologist may also determine that the timing of weeding events needs to be adjusted and request Contractor make the necessary alterations.

20-04.03L Optional Weeding Event – Additive Bid Item

In the event that additional weeding is required beyond the included weeding events, the City will request Optional Weeding Event(s), to be conducted per sub-Section Weeding Event.

Additive Bid Item will only be performed upon approval from the City. The Contractor will not receive any compensation for an additive bid item that is not implemented.

20-04.03M Non-Native Plant Control Event

The purpose of non-native plant control events is to remove non-native and invasive plant species not sufficiently controlled via Weeding Events. The non-native species for control will be identified by the Project Biologist during periodic maintenance inspections.

Timing and Frequency

- 1. Non-native plants shall be controlled throughout the five (5)-year long-term maintenance period.
- 2. Annual frequency shall be as follows:
 - 2.1. In Year 1 of the five (5)-year long-term maintenance period, Contractor shall conduct four (4) non-native plant control events.
 - 2.2. In each subsequent year of the five (5)-year long-term maintenance period (i.e. Years 2-5), Contractor shall conduct two (2) non-native plant control events.
- 3. Project Biologist shall request initiation of each non-native plant control event.

For each Non-Native Plant Control Event, Contractor shall provide a crew of two (2) laborers available for eight (8) hours per day for one (1) day. Contractor shall have a crew available within fifteen (15) working days from Project Biologist’s request.

Layout: Contractor shall control all invasive plants within all planting areas. In addition, contractor shall control all non-native trees and shrubs within the Riparian Oak Woodland and Riparian Oak Woodland Shrub planting area and all non-native plants within the Salt Marsh planting area.

Execution:

- 1. Vegetation shall be removed by removing root system by hand pulling or mechanical methods. Herbicides shall not be used.
- 2. Invasive plant species for the project are defined as species rated by the California Invasive Plant Council (Cal-IPC) as having a “high” ecological impact in the most current version of California Invasive Plant Inventory (Cal-IPC 2018). In addition, any other non-native species that the Project Biologist deems a threat to attaining the habitat goals will be considered an invasive plant.
- 3. Contractor shall use care and minimize damage to and protect all existing and naturally recruiting native woody vegetation.

20-04.03N Optional Non-Native Plant Control Event – Additive Bid Item

In the event that additional non-native plant control is required beyond the included non-native plant control events, the City will request Optional Non-Native Plant Control Event(s), to be conducted per sub-Section Non-Native Plant Control Event.

Additive Bid Item will only be performed upon approval from the City. The Contractor will not receive any compensation for an additive bid item that is not implemented.

20-04.03O Trash/Debris Removal

Timing shall be linked to Weeding Events per sub-Section Weeding Event.

During each Weeding Event, remove all trash/debris from the project site and dispose of it legally at licensed disposal facilities.

20-04.03P Site Cleanup Following Maintenance Activities

Contractor shall cleanup Project site following maintenance activities as follows and as directed by Project Biologist:

1. Trash may attract sensitive wildlife species and their predators. Following the completion of each maintenance activity, Contractor shall remove all trash and construction debris from Project site. Trash shall be properly contained and removed from Project site daily.
2. Dispose of all debris legally at licensed disposal facilities. Costs incurred due to cleanup operations shall be as included for the various items of Work and no separate payment will be made thereof.
3. Remove temporary items.
4. Restore any areas disturbed by maintenance activities.
5. Grade any disturbed soil areas to drain.
6. Broadcast seed any areas disturbed by maintenance activities within five (5) working days of the completion of such activities as follows:
 - 6.1. Seed shall be per SECTION 20-02 Seeding, sub-Section Seed.
 - 6.2. Contractor shall request seed delivery from supplier one (1) week prior to application. Contractor shall keep seed in a cool, dry, shaded place until utilized.
 - 6.3. Broadcast seed areas shall be clear of substantial debris and any other impediments to seed-soil contact. Prior to application, prepare soil in all seeding areas by raking with a metal rake in two (2) directions.
 - 6.4. Apply the seed mix evenly and at the rates specified in SECTION 20-02 Seeding. Hand rake all seed into soil immediately after application. Prevent foot traffic or storage of supplies in seeded areas.

Contractor shall cleanup Project site following maintenance activities associated with Additive Alternate Work if accepted by City.

20-04.03Q Acceptance of Long-Term Maintenance

Acceptance of Work: Project Biologist will accept Work when all improvements and corrective Work have been performed as specified and to the satisfaction of Project Biologist.

Inspection and acceptance of the completed Work will end the five (5)-year long-term maintenance period.

20-04.04 PAYMENT

The payment for Long-Term Maintenance Year 1 includes all labor, materials, tools and equipment for conducting long-term maintenance in Year 1 of the five (5)-year long-term maintenance period, excluding additive bid items.

The payment for Long-Term Maintenance Year 2 includes all labor, materials, tools and equipment for conducting long-term maintenance in Year 2 of the five (5)-year long-term maintenance period, excluding additive bid items.

The payment for Long-Term Maintenance Year 3 includes all labor, materials, tools and equipment for conducting long-term maintenance in Year 3 of the five (5)-year long-term maintenance period, excluding additive bid items.

The payment for Long-Term Maintenance Year 4 includes all labor, materials, tools and equipment for conducting long-term maintenance in Year 4 of the five (5)-year long-term maintenance period, excluding additive bid items.

The payment for Long-Term Maintenance Year 5 includes all labor, materials, tools and equipment for conducting long-term maintenance in Year 5 of the five (5)-year long-term maintenance period, excluding additive bid items.

The payment for "Optional Weeding Event – Additive Bid Item" includes all labor, materials, tools and equipment for conducting one (1) optional weeding event.

The payment for "Optional Non-Native Plant Control Event – Additive Bid Item" includes all labor, materials, tools and equipment for conducting one (1) optional non-native plant control event.

The payment for "Optional Manual Irrigation Event – Additive Bid Item" includes all labor, materials, tools and equipment for conducting one (1) optional manual irrigation event.

47 EARTH RETAINING SYSTEMS

**Replace 47-6 ALTERNATIVE EARTH RETAINING SYSTEMS with:
47-6 RETAINING WALLS**

47-6.01 GENERAL

47-6.01A Summary

Section 47-6 includes providing all material, labor, tools and equipment for installation of Cellular Confinement System in the retaining wall configuration as shown in the Contract Documents and as specified in this Section. The Cellular Confinement System shall be used for stacked channel system retaining wall.

47-6.01B References

- A. American Society of Testing and Materials (ASTM)
 - 1. ASTM D1505 - Density of Plastics by the Density-Gradient Technique.
 - 2. ASTM D1603 - Standard Test for Carbon Black in Olefin Plastics
 - 3. ASTM D1693 - Environmental Stress-Cracking of Ethylene Plastics.
 - 4. ASTM D5199 - Measuring Nominal Thickness of Geotextiles and Geomembranes.
 - 5. ASTM E41 - Terminology Relating to Conditioning.

47-6.01C Submittals

47-6.01C(1) General

Submit qualifications certifying the installer is experienced in the installation of the specified products

47-6.01C(2) Shop Drawings

Submit shop drawings for the retaining wall to the Engineer in Adobe Acrobat compatible format. Include the following:

- 1. All information required for construction of the system at each location
- 2. Existing ground line at the wall face

3. Design parameters, material notes, and wall construction procedures

Verify existing ground elevations before submitting drawings.

Shop drawings and calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Allow 5 days for the City's review.

47-6.01C(3) Certificates

Manufacturer shall supply certificate of analysis containing the following test results for the cellular confinement material used for project: Base Resin Lot Number(s), Resin Density per ASTM-1505, Production Lot Number(s), Material Thickness, Short Term Seam Peel Strength, and percentage of Carbon Black.

No material will be considered as an equivalent to the Geoweb material specified herein unless it meets all requirements of this specification, without exception. Manufacturers seeking to supply what they represent as equivalent material must submit records, data, independent test results, samples, certifications, and documentation deemed necessary by the Engineer to prove equivalency. The Engineer shall approve or disapprove other Manufacturers' materials in accordance with the General Conditions after all information is submitted and reviewed. Any substitute materials submitted shall be subject to independent lab testing at the Contractor's expense.

47-6.01D Quality Assurance

A qualified representative of the alternative system manufacturer must be present during erection and backfill of the first 10 vertical feet of the entire length of the wall. The representative must be available during the remaining installation. The representative must not be the Contractor's employee.

Submit qualifications of Manufacturer's field representative certifying the field representative is experienced in the installation of the specified products.

- A. The cellular confinement system material shall be provided from a single Manufacturer for the entire project.
- B. The Manufacturer's Quality management system shall be certified and in accordance with ISO 9001:2015 and CE certification. Any substitute materials submitted shall provide a certification that their cellular confinement manufacturing process is part of an ISO program and a certification will be required specifically stating that their testing facility is certified and in accordance with ISO. An ISO certification for the substitute material will not be acceptable unless it is proven it pertains specifically to the geocell manufacturing operations.
- C. The Manufacturer shall provide certification of compliance to all applicable testing procedures and related specifications upon the customer's written request. Request for certification shall be submitted no later than the date of order placement. The Manufacturer shall have a minimum of 20 years' experience producing cellular confinement systems.
- D. Pre-Installation Meeting: Prior to installation of any materials, conduct a pre-installation meeting to discuss the scope of work and review installation requirements. The pre-installation meeting shall be attended by all parties involved in the installation of the cellular confinement system.
- E. Manufacturer's Field Representative Qualifications
 1. Manufacturer shall provide a qualified field representative on site at the start of construction to ensure the Geoweb system is installed in accordance with the Contract Documents.
 2. Manufacturer's field representative shall have a minimum 5 years installation experience with the specified products in the specified application.

3. Manufacturer of any substitute materials to be used shall certify that a representative can meet the above criteria and will be on site for initial construction start up. Manufacturers other than Presto shall be required to provide proof the representative meets these qualifications.

47-6.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in Manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and Manufacturer.
- B. The materials shall be stored in accordance with Manufacturer's instructions. The materials shall be protected from damage and out of direct sunlight.
- C. The materials shall be delivered, unloaded and installed in a manner to prevent damage.

47-6.03 MATERIALS

47-6.03A ACCEPTABLE MANUFACTURER

- A. Presto Geosystems, PO Box 2399, Appleton, Wisconsin 54912 2399
Toll Free: (800) 548 3424. Phone: (920) 738 1328. Fax: (920) 738 1222.
E Mail: info@prestogeo.com. Website: www.prestogeo.com.

47-6.03B GEOWEB CELLULAR CONFINEMENT SYSTEM

- A. Manufacturing Certification
 1. The Manufacturer shall have earned a certificate of registration, which demonstrates that its quality-management system for its Geoweb cellular confinement system is currently registered to the ISO 9001:2015 and CE quality standards.
- B. Base Materials
 1. Polyethylene Stabilized with Carbon Black
 - a) Density shall be 58.4 to 60.2 pound/ft³ (0.935 - 0.965 g/cm³) in accordance with ASTM D1505.
 - b) ESCR shall be 5000 hours in accordance with ASTM D1693.
 - c) Ultra-Violet light stabilization with carbon black.
 - d) Carbon Black content shall be 1.5 to 2 percent by weight, through addition of a carrier with certified carbon black content.
 - e) Carbon black shall be homogeneously distributed throughout material.
 - f) The manufacturer must have an in-place quality control to prevent irregularities in strip material.
- C. Cell Properties-GW30V
 1. Individual cells shall be uniform in shape and size when expanded.
 2. Individual cell dimension (nominal) shall be plus or minus 10 percent.
 - a) Length shall be 10.5 inches (267 mm).
 - b) Width shall be 13.0 inches (330 mm).
 - c) Nominal area shall be 68.3 in² (440 cm²) plus or minus 1 percent.
 - d) Nominal depth shall be 6 inches (150 mm).

D. Strip Properties and Assembly

1. Perforated Textured Strip/Cell

- a) Strip sheet thickness shall be 50 mils (1.27 mm), minus 5 percent, plus 10 percent in accordance with ASTM D5199. Determine thickness flat, before surface disruption.
- b) Polyethylene strips shall be textured surface with a multitude of rhomboidal (diamond shape) indentations.
- c) Textured sheet thickness shall be 60 mils \pm 6 mils (1.52 mm \pm 0.15 mm).
- d) Indentation surface density shall be 140 to 200 per in² (22 to 31 per cm²).
- e) Perforated with horizontal rows of 0.4 inch (10 mm) diameter holes.
- f) Perforations within each row shall be 0.75 inches (19 mm) on-center.
- g) Horizontal rows shall be staggered and separated 0.50 inches (12 mm) relative to hole centers.
- h) Edge of strip to nearest edge of perforation shall be a minimum of 0.3 inches (8 mm).
- i) Centerline of spot weld to nearest edge of perforation shall be a minimum of 0.7 inches (18 mm).
- j) A slot with a dimension of 3/8 inch x 1-3/8 inch (10 mm x 35 mm) is standard in the center of the non-perforated areas and at the center of each weld.

2. Non-Perforated Textured Strip/Cell

- a) Non-perforated textured strip/cells shall only be used on the front face of earth retention systems.
- b) Strip sheet thickness shall be 50 mils (1.27 mm), minus 5 percent, plus 10 percent in accordance with ASTM D5199. Determine thickness flat, before surface disruption.
- c) Textured sheet thickness shall be 60 mils \pm 6 mils (1.52 mm \pm 0.15 mm).
- d) Polyethylene strips shall be textured surface with a multitude of rhomboidal (diamond shape) indentations.
- e) Indentation surface density shall be 140 to 200 per in² (22 to 31 per cm²).
- f) The thickness of the textured sheet shall be 60 mil \pm 6 mil (1.52 mm \pm 0.15 mm) determined in accordance with ASTM D5199.

3. Assembly of Cell Sections

- a) Fabricate using strips of sheet polyethylene each with a length of 142 inches (3.61 m) and a width equal to cell depth.
- b) Connect strips using full depth ultrasonic spot-welds align perpendicular to longitudinal axis of strip.
- c) Ultrasonic weld melt-pool width shall be 1.0 inch (25 mm) maximum.
- d) Weld spacing for GW30V-cell sections shall be 17.5 inches \pm 0.10 inch (445 mm \pm 2.5 mm).

E. GW30V Section Types and Sizes:

1. Section Width for all lengths: 8.67 feet (2.64 meters)
2. Face Area for all sections: 4.33 square feet (0.40 square meters)

F. Cell Seam Strength Tests (see test details at the end of this Section 47-6, labeled Appendix A and B)

1. Minimum seam strengths are required by design and shall be reported in test results. Materials submitted with average or typical values will not be accepted. Written certification of minimum strengths must be supplied to the Engineer at the time of submittals.
2. Short-Term Seam Peel-Strength Test
 - a) Cell seam strength shall be uniform over full depth of cell.
 - b) Minimum seam peel strength shall be 480 lbf (2,130 N) for 6 inch (150 mm) depth.
3. Long-Term Seam Peel-Strength Test
 - a) Conditions: Minimum of 7 days in a temperature-controlled environment that undergoes change on a 1 hour cycle from room temperature to 130°F (54°C).
 - b) Room temperature shall be in accordance with ASTM E41.
 - c) Test samples shall consist of two, 4 inch (100 mm) wide strips welded together.
 - d) Test sample consisting of 2 carbon black stabilized strips shall support a 160 pound (72.5 kg) load for test period.
4. 10,000 Hour Seam Peel-Strength Test
 - a) Manufacturer shall provide data showing that the high-density polyethylene resin used to produce the Geoweb sections has been tested using an appropriate number of seam samples and varying loads to generate data indicating that the seam peel strength shall survive a loading of at least 160 lbf (73 kg) for a minimum of 10,000 hours.

47-6.03C INTEGRAL COMPONENTS

- A. ATRA® Key
 1. ATRA keys shall be constructed of polyethylene and provide a high strength connection with minimum pull-through of 275 lbs (125 kg).
 2. ATRA keys shall be used to connect Geoweb panels together at each interleaf and end to end connection for all applications, except for the front face of walls.
- B. ATRA® Speed Stake
 1. ATRA® Speed Stake shall be one piece injected molded design with integral flanged arms and barbs.
 2. The stake shall be constructed of a specialty based HDPE polymer alloy.
 3. The minimum tensile strength shall be 14.5 kips (100 mPa).
 4. The minimum bending strength shall be 575 lbs (2.55 kN).
 5. The stake shall be non-magnetic, non-conducting and corrosion resistant.
 6. The stake length and placement shall be as shown in the Contract Documents.

47-6.03D CELL INFILL MATERIALS

- A. Front fascia infill material shall be Fill to match material based on elevation as required by the Contract Documents for the channel section. as specified in the Contract Documents.
- B. Geoweb infill material shall be as specified in the Contract Documents.
- C. Infill material behind the Geoweb shall be Soil as specified in the Contract Documents.
- D. Infill material shall be free of any foreign material.
- E. Clays, silts, and organic soils are not acceptable infill material.

F. Infill material shall be free-flowing and not frozen when placed in the Geoweb sections.

47-6.03E SURFACE TREATMENTS

G. Surface treatment includes one or a combination of the following:

1. Top soil
2. Aggregate
3. Vegetation

47-6.03F ADDITIONAL COMPONENTS

A. Drainage System

1. Drainage system shall be as specified in the Contract Documents.

B. Geotextile Separation Layer

1. The geotextile separation layer shall be as specified in the Contract Documents.

47-6.03G WARRANTY

- A. The Manufacturer shall warrant each Geoweb section that it ships to be free from defects in materials and workmanship at the time of manufacture. The Manufacturer's exclusive liability under this warranty or otherwise will be to furnish without charge to the original f.o.b. point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment. The Manufacturer reserves the right to inspect any allegedly defective section in order to verify the defect and ascertain its cause.
- B. This warranty shall not cover defects attributable to causes or occurrences beyond the Manufacturer's control and unrelated to the manufacturing process, including, but not limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation, improper alteration or improper application.
- C. In no event shall the Manufacturer be liable for any special, indirect, incidental or consequential damages for the breach of any express or implied warranty or for any other reason, including negligence, in connection with the cellular confinement system.

47-6.04 CONSTRUCTION

47-6.04A EXAMINATION

- A. 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. Verify layout of structure is as indicated on the drawings. Notify the Engineer if layout of structure is not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

47-6.04B INSTALLATION OF STACKED CHANNEL SYSTEM

- A. Prepare subgrade as specified and install earth retention system in accordance with Manufacturer's instructions.
- B. On-site time for installation assistance by the Manufacturer's field representative shall be 2 day(s) with one trip. All travel and expense costs for Manufacturer's field representative installation assistance shall be included in the base bid price.
- C. Subgrade Preparation

1. Excavate, shape or fill foundation soils to elevations indicated on the drawings.
2. Ensure foundation soil meets minimum strength requirements through proof rolling or other conventional method and is approved by the Engineer. If unacceptable foundation soils are encountered, excavate affected areas and replace with suitable quality material as directed by the Engineer.
3. Install geotextile separation layer as shown in the Contract Documents. Ensure outer edges of geotextile are buried a minimum of 6 inches (150 mm) and install in accordance with the Manufacturer's instructions.

D. Base and Spread Footing Installation

1. Place and shape granular base materials. If a free draining granular base is utilized, encapsulate in a non-woven geotextile. Compact to a minimum 95 percent Standard Proctor.
2. Expand Geoweb sections into place and temporarily anchor at corners with ATRA anchors.
3. Overfill Geoweb cells with specified granular infill. Maximum particle size shall be 2 inches (50 mm). Level surface approximately 2 inches (50 mm) above cell walls.
4. Compact fill in Geoweb cells to a minimum 95 percent Standard Proctor.
5. Place and compact fill to a minimum 95 percent Standard Proctor along each side of footing.
6. Screed off excess infill to be level with top of cells.

E. Drainage System Installation

1. Install perforated subdrain and outlet pipes in accordance with the drawings. The subdrain pipe shall be wrapped with non-woven geotextile or backfilled with clear stone to prevent plugging.
2. Provide a minimum slope of 1 percent for all drainage piping.
3. Wrap outlet pipes which pass through wall fascia with non-woven geotextile to prevent loss of cell infill materials.
4. Ensure outlets for all discharge piping will not cause localized erosion that could undermine the wall.

F. Installation of Gravity Geoweb Stacked Channel System

1. Expand Geoweb sections into place. Hold individual sections in their expanded position with stretcher frames, stretcher bars or ATRA Speed Stakes positioned inside selected outer cells.
2. Confirm each Geoweb section is expanded uniformly to required dimensions and outer cells of each layer are correctly aligned and upper surfaces are flush.
3. Interleaf edges of adjacent sections and connect with ATRA keys on all connections including the front fascia panels.
4. Overfill cells with granular material and level surface approximately 2 inches (50 mm) above cell walls.
5. Compact cell infill material to a minimum 95 percent Standard Proctor with a walk-behind-compact. Avoid using heavy compaction equipment within 3 feet (1 meter) of the front face of the wall.
6. Place the backfill material behind the Geoweb sections in maximum 8 inch (200 mm) lifts and compact as specified.
7. Screed off excess infill so the infill is level with the top of the cells.
8. When topsoil or special infill materials are specified for exposed face cells of Geoweb sections, temporarily cover outer cells with a moveable board to prevent unwanted spillage during placement of internal fill materials as each layer is installed. Place topsoil or special infill in empty outer cells as each layer is completed. Partial spillage of internal infill material into outer cells may be permitted.

9. When positioning subsequent layers, ensure specified set back of each layer and the vertical alignment of the outer cells are maintained to prevent the loss of infill materials.

G. Surface Treatment

1. Vegetation shall be as specified in the Contract Documents. Seeding of the cell area shall be completed no-later-than October 15 unless an alternative schedule is approved by the City. Container plant installation shall be completed according to the Contract schedule requirements.

47-6.05 PAYMENT

The payment for Retaining Wall includes all labor, materials, tools and equipment for installation of the retaining wall.

**Appendix A
Short-Term
Strength
Procedure**

**Seam
Test**

Frequency of Test

The short-term seam peel strength test (referred to as the test in this section) shall be performed on a geocell section randomly taken directly from the production line each two hours.

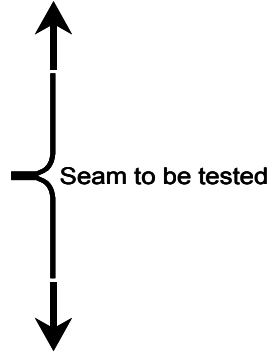


Figure A1

**Test Sample
Preparation**

Randomly choose 10 welds within the selected section and cut those welds from the section such that 10 cm (4 in) of material exist on each side of the weld. The test sample shall have a general appearance as illustrated in Figure A1. Prior to testing, the test samples shall have air cool for a minimum of 30 minutes from the time the selected geocell section was manufactured.

Short-term Seam Peel Strength Test

The apparatus used for testing the short-term seam peel strength shall be of such configuration that the jaws of the clamp shall not over stress the sample during the test period. Load shall be applied at a rate of 12 in (300 mm) per minute and be applied for adequate time to determine the maximum load. The date, time and load shall be recorded.

Short-term seam peel strength shall be defined as the maximum load applied to the test sample. Minimum required short-term seam peel strength shall be:

- 640 lbf (2840 N) for the 8 in (200 mm) depth cell
- 480 lbf (2130 N) for the 6 in (150 mm) depth cell
- 320 lbf (1420 N) for the 4 in (100 mm) depth cell
- 240 lbf (1060 N) for the 3 in (75 mm) depth cell.

Definition of Pass / Failure

Two methods shall be used to determine acceptability of the manufactured geocell sections. The successful passing of the short-term seam peel test shall not be used to determine acceptable of the polyethylene for use in manufacturing of the geocell sections. Acceptability of the polyethylene shall be determined through tests conducted in Appendix B.

The Tested Value

If more than one of the tested seam samples fails to meet the minimum peel strength, all sections

manufactured after the previously successful test shall be rejected.

If all tested seam samples meet the minimum peel strength, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

When one of the tested seam samples fails to meet the minimum peel strength, another 10 samples shall be randomly selected and cut from the previously selected section. If more than one of these samples fails, all sections manufactured after the previously successful test shall be rejected. Otherwise, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

Visual Failure Mode

After each sample is tested, the seam shall be examined to determine the failure mode. Two failure modes are possible.

- Material failure within and adjacent to the weld indicated by material strain and
- Weld failure resulting in complete separation of the seam and shows little or no material strain.

Upon examination, when the failure mode results in complete separation of the seam and indicates little or no material strain, product manufactured shall be rejected.

Appendix B

Long-Term Seam-Strength Test Procedure

Frequency of Test

The long-term seam peel strength test (referred to as the test in this section) shall be performed:

1. on each new resin lot number if the geocell manufacturer extrudes the sheet or strip used to produce the geocell material.
2. on each new order of sheet and/or strip if the geocell manufacturer does not extrude the sheet and/or strip used to produce the geocell material.

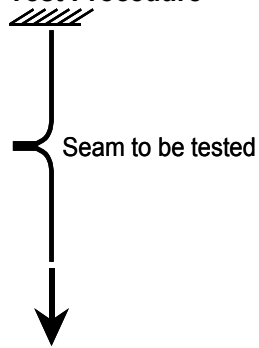


Figure B1

Test Sample Preparation

A test sample shall be made using two sets of two strips meeting all aspects of the material portion of this specification. Testing shall be done on non-perforated samples to obtain the true seam strength of the bond. One set of two strips are to be welded in welder position "A" and the other set of two strips are to be welded in welder position "B" producing two 1-cell long sections of geocell product. Welding should be done using a warm welder. The welded samples shall be labeled "A" and "B" and the weld seams of each sample shall be numbered consecutively from left to right starting with the number 1 (one) and corresponding to the welding head number.

The samples shall air cool for a minimum of 30 minutes. Randomly choose 10 welds from samples "A" and "B" and cut those welds from the geocell samples such that 4 in (10 cm) of material exist on each side of the weld. These samples shall be cut to a width of 4 in (10 cm). Properly identify each weld using the sample letter and weld seam number.

These samples are now ready to be tested.

Long-term Seam Peel Strength Test

The long-term seam peel strength test shall take place within an environmentally controlled chamber that under goes temperature change on a 1-hour cycle from room temperature to 130°F (54°C). Room temperature shall be defined per ASTM E41.

Within the environmentally controlled chamber, one of the ends of the samples (10 samples in total) shall be secured to a stationary upper clamp. The jaws of the clamp shall be of such configuration that the grip does not over stress the sample during the test period. The sample shall be secured so that its axis is

vertical and the welds being tested are horizontal as the sample hangs within the environmentally controlled chamber.

A weight of 160 lb. (72.5 kg) shall be lifted via a hoist or lift platform and attached to the free lower end, of the sample. The weight shall be lowered in a way so that no impact load occurs on the sample being tested. The weight shall be sufficient distance from the floor of the chamber so that the weight will not touch the floor of the chamber as the sample undergoes creep during the test period. The date and hour the weight is applied shall be recorded.

The temperature cycle shall commence immediately within the environmentally controlled chamber. The test period for the applied load shall be 168 hours.

Definition of Pass / Failure

If any of the 10 seams fail prior to the end of the 168-hour (7-day) period, the date and hour of the failure shall be recorded and the polyethylene resin and strip material shall be considered unsuitable for geocell manufacturing.

END OF SECTION

51 CONCRETE STRUCTURES

Add to 51-7.01A GENERAL

Minor Structures include the Geoweb Retaining Wall Footing.

Replace 51-7.01D with:

51-7.01D Payment

Payment for concrete includes all labor, materials, tools and equipment for the Geoweb Retaining Wall Footing and no additional compensation will be allowed therefore.

72 SLOPE PROTECTION

Insert 72-26 Geocell Channel Lining

72-26.01 GENERAL

72-26.01A Summary

Section 72-26 includes providing all material, labor, tools and equipment for installation of Cellular Confinement System in the channel lining configuration as shown in the Contract Documents and as specified in this Section.

The Cellular Confinement System shall be used for channel protection.

72-26.01B References

- A. American Association of State Highway and Transportation Officials (AASHTO)
 - 1. AASHTO M 218 - Steel Sheet, Zinc-Coated (Galvanized) for Corrugated Steel Pipe.
 - 2. AASHTO M 288 - Geotextile Specification for Highway Applications
- B. American Society of Testing and Materials (ASTM)
 - 1. ASTM D 1505 - Density of Plastics by the Density-Gradient Technique.
 - 2. ASTM D 1603 – Standard Test for Carbon Black in Olefin Plastics
 - 3. ASTM D 1693 – Environmental Stress-Cracking of Ethylene Plastics.
 - 4. ASTM D 5199 – Measuring Nominal Thickness of Geotextiles and Geomembranes.
 - 5. ASTM E 41 – Terminology Relating to Conditioning.
- C. Section 47
 - 1. Appendix A: Short-Term Seam Strength Test Procedure
 - 2. Appendix b: Long-Term Seam Strength Test Procedure

72-26.01C Submittals

72-26.01C(1) General

Submit qualifications certifying the installer is experienced in the installation of the specified products

72-26.01C(2) Shop Drawings

Submit shop drawings for the Geocell Channel Lining to the Engineer in Adobe Acrobat compatible format. Include the following:

1. All information required for construction of the system at each location
2. Finished ground line at the top of channel lining system
3. Design parameters, material notes, and channel construction procedures

Verify existing ground elevations before submitting drawings.

Shop drawings and calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Allow 5 days for the Department's review.

72-26.01C(3) Certificates

Manufacturer shall supply certificate of analysis containing the following test results for the cellular confinement material used for project: Base Resin Lot Number(s), Resin Density per ASTM-1505, Production Lot Number(s), Material Thickness, Short Term Seam Peel Strength, and percentage of Carbon Black.

No material will be considered as an equivalent to the Geoweb material specified herein unless it meets all requirements of this specification, without exception. Manufacturers seeking to supply what they represent as equivalent material must submit records, data, independent test results, samples, certifications, and documentation deemed necessary by the Engineer to prove equivalency. The Engineer shall approve or disapprove other Manufacturers materials in accordance with the General Conditions after all information is submitted and reviewed. Any substitute materials submitted shall be subject to independent lab testing at the Contractor's expense.

72-26.01D Quality Assurance

A qualified representative of the channel lining system manufacturer must be present during installation of the first 20 feet of channel lining as measured along the channel centerline. The representative must be available during the remaining installation. The representative must not be your employee.

Submit qualifications of Manufacturer's field representative certifying the field representative is experienced in the installation of the specified products.

A. The cellular confinement system material shall be provided from a single Manufacturer for the entire project.

B. The Manufacturer's Quality management system shall be certified and in accordance with ISO 9001:2015 and CE certification. Any substitute materials submitted shall provide a certification that their cellular confinement manufacturing process is part of an ISO program and a certification will be required specifically stating that their testing facility is certified and in accordance with ISO. An ISO certification for the substitute material will not be acceptable unless it is proven it pertains specifically to the geocell manufacturing operations.

C. The Manufacturer shall provide certification of compliance to all applicable testing procedures and related specifications upon the customer's written request. Request for certification shall be submitted no later than the date of order placement. The Manufacturer shall have a minimum of 20 years' experience producing cellular confinement systems.

D. Pre-Installation Meeting: Prior to installation of any materials, conduct a pre-installation meeting to discuss the scope of work and review installation requirements. The pre-installation meeting shall be attended by all parties involved in the installation of the cellular confinement system.

E. Manufacturer's Field Representative Qualifications

1. Manufacturer shall provide a qualified field representative on site at the start of construction to ensure the Geoweb system is installed in accordance with the Contract Documents.
2. Manufacturer's field representative shall have a minimum 5 years of installation experience with the specified products in the specified application.
3. Manufacturer of any substitute materials to be used shall certify that a representative can meet the above criteria and will be on site for initial construction start up. Manufacturers other than Presto shall be required to provide proof the representative meets these qualifications.

72-26.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in Manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and Manufacturer.
- B. The materials shall be stored in accordance with Manufacturer's instructions. The materials shall be protected from damage and out of direct sunlight.
- C. The materials shall be delivered, unloaded and installed in a manner to prevent damage.

72-26.03 MATERIALS

72-26.03A ACCEPTABLE MANUFACTURER

Presto Geosystems, PO Box 2399, Appleton, Wisconsin 54912 2399.

Toll Free: (800) 548 3424. Phone: (920) 738 1328. Fax: (920) 738 1222.

E Mail info@prestogeo.com. Website www.prestogeo.com.

72-26.03B GEOWEB CELLULAR CONFINEMENT SYSTEM

A. Manufacturing Certification

1. Presto Geosystems (the manufacturer) shall have earned a certificate of registration, which demonstrates that its quality-management system for its Geoweb cellular confinement system is currently registered to the ISO 9001:2008 and CE quality standards.

B. Base Materials

1. Polyethylene Stabilized with Carbon Black
 - a. Density shall be 58.4 to 60.2 pound/ft³ (0.935 to 0.965 g/cm³) in accordance with ASTM D 1505.
 - b. Environmental Stress Crack Resistance (ESCR) shall be 5000 hours in accordance with ASTM D 1693.
 - c. Ultra-Violet light stabilization with carbon black.
 - d. Carbon Black content shall be 1.5 to 2 percent by weight, through addition of a carrier with certified carbon black content.
 - e. Carbon black shall be homogeneously distributed throughout material.
 - f. The manufacturer must have an in-place quality control to prevent irregularities in strip.

C. Cell Properties

1. Individual cells shall be uniform in shape and size when expanded.
 2. Individual cell dimensions (nominal) shall be dimensions $\pm 10\%$.
 3. GW30V-Cell
 - a. Length shall be 11.3 inches (287 mm).
 - b. Width shall be 12.6 inches (320 mm).
 - c. Nominal area shall be 71.3 in² (460 cm²) $\pm 1\%$.
 - d. Nominal depth shall be 6 inches (150 mm).
- D. Strip Properties and Assembly
1. Perforated Textured Strip/Cell
 - a. Strip sheet thickness shall be 50 mil (1.27 mm), minus 5 percent, plus 10 percent in accordance with ASTM D 5199. Determine thickness flat, before surface disruption.
 - b. Polyethylene strips shall be textured surface with a multitude of rhomboidal (diamond shape) indentations.
 - c. Texture sheet thickness shall be 60 mil, -5% + 10% (1.52 mm, -5% + 10%).
 - d. Indentation surface density shall be 140 to 200 per in² (22 to 31 per cm²).
 - e. Perforated with horizontal rows of 0.4 inch (10 mm) diameter holes.
 - f. Perforations within each row shall be 0.75 inches (19 mm) on-center.
 - g. Horizontal rows shall be staggered and separated 0.50 inches (12 mm) relative to hole centers.
 - h. Edge of strip to nearest edge of perforation shall be a minimum of 0.3 inches (8 mm).
 - i. Centerline of spot weld to nearest edge of perforation shall be a minimum of 0.7 inches (18 mm).
 - j. A slot with a dimension of 3/8 inch x 1-3/8 inch (10 mm x 35 mm) is standard in the center of the non-perforated areas and at the center of each weld.
 2. Assembly of Cell Sections
 - a. Fabricate using strips of sheet polyethylene each with a length of 142 inches (3.61 m) and a width equal to cell depth.
 - b. Connect strips using full depth ultrasonic spot-welds aligned perpendicular to longitudinal axis of strip.
 - c. Ultrasonic weld melt-pool width shall be 1.0 inch (25 mm) maximum.
 - d. Weld spacing for GW30V-cell sections shall be 17.5 inches ± 0.10 inch (445 mm ± 2.5 mm).
- E. Cell Seam Strength Tests (see test details at the end of Section 47-6 labeled Appendix A and B)
1. Minimum seam strengths are required by design and shall be reported in test results. Materials submitted with average or typical values will not be accepted. Written

certification of minimum strengths must be supplied to the engineer at the time of submittals.

2. Short-Term Seam Peel-Strength Test
 - a. Cell seam strength shall be uniform over full depth of cell.
 - b. Minimum seam peel strength shall be 480 lbf (2,130 N) for 6 inch (150 mm) depth.
3. Long-Term Seam Peel-Strength Test
 - a. Conditions: Minimum of 7 days in a temperature-controlled environment that undergoes change on a 1 hour cycle from room temperature to 130 degrees F (54 degrees C).
 - b. Room temperature shall be in accordance with ASTM E41.
 - c. Test samples shall consist of two, 4 inch (100 mm) wide strips welded together.
 - d. Test sample consisting of 2 carbon black stabilized strips shall support a 160 pound (72.5 kg) load for test period.
4. 10,000-hour Seam Peel Strength Certification
 - a. Presto Geosystems shall provide data showing that the high-density polyethylene resin used to produce the Geoweb sections has been tested using an appropriate number of seam samples and varying loads to generate data indicating that the seam peel strength shall survive a loading of at least 209 lbf (95 kg) for a minimum of 10,000 hours.

72-26.03C INTEGRAL COMPONENTS

- A. ATRA® Tendon Clip
 1. The ATRA Tendon Clip is a molded, high-strength polyethylene device with a locking member and post with minimum pull-through of 420 lbs (191 kg).
 2. The ATRA Tendon Clip is the recommended anchorage connection method for securing sections with tendons and transferring the driving gravity forces to the cell wall.
- B. ATRA® Key
 1. ATRA keys shall be constructed of polyethylene and provide a high strength connection with minimum pull-through of 275 lbs (125 kg).
 2. ATRA keys shall be used to connect sections together at each interleaf and end to end connection.

72-26.03D STAKE ANCHORAGE

(References to ATRA Anchors includes Speed Stakes and GFRP Anchors)

- A. ATRA® Speed Stake
 1. ATRA® Speed Stake shall be one piece injected molded design with integral flanged arms and barbs.
 2. The stake shall be constructed of a specialty based HDPE polymer alloy.
 3. The minimum tensile strength shall be 14.5 kips (100 mPa).
 4. The minimum bending strength shall be 575 lbs (2.55 kN).

5. The stake shall be non-magnetic, non-conducting and corrosion resistant.
 6. The stake length and placement shall be as shown in the Contract Documents.
- B. ATRA® Glass Fiber Reinforced Polymer (GFRP) Anchor
1. ATRA® GFRP Rods shall be used with preassembled ATRA Stake Clip
 2. The stake shall be constructed of a minimum 75% glass fiber polymeric composite material
 3. The minimum tensile strength shall be 95 kips (655 mPa).
 4. The stake shall be non-magnetic, non-conducting and corrosion resistant.
 5. The stake length and placement shall be as shown in the Contract Documents.

72-26.03E TENDON ANCHORAGE

- A. Tendon Type
1. Woven Polyester - TP 31
 - a. Material shall be bright, high-tenacity, industrial-continuous-filament, polyester yarn woven into a braided strap.
 - b. Elongation shall be 9 to 15 percent at break.
 - c. Minimum break strength shall be 700 lbf (3.11 kN) for TP-31.
- B. Type of Tendon Anchorage
1. Tendons, ATRA Tendon Clips, ATRA Speed Stakes and ATRA Anchors.

72-26.03F CELL INFILL MATERIALS

- A. Cell infill material shall be as indicated on the plans and described in the approved Horticultural Soil Preparation Plan.
1. The percentage void space of the aggregate portion when compacted shall be at least 30%.
 2. Aggregate must meet quality characteristics for rock material in section 72-2.02 with 100% passing a 2-inch square screen and 0% passing a 1-inch square screen.

72-26.03G ADDITIONAL COMPONENTS

- A. Vegetation
1. Vegetation shall be as specified in the Contract Documents.
- B. Surface Protection
1. Surface protection shall consist of soil, aggregate and vegetation as specified in the Contract Documents.
- C. Geotextile
1. The geotextile separation layer shall be as specified in the Contract Documents.

72-26.04 CONSTRUCTION

72-26.04A EXAMINATION

- A. 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. Verify layout of structure is as indicated on the drawings. Notify the Engineer if layout of structure is not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

72-26.04B INSTALLATION OF THE CHANNEL PROTECTION SYSTEM

- A. Prepare sub grade and install channel protection system in accordance with the Contract Documents and Manufacturer's recommendations.
- B. On-site time for installation assistance by the Manufacturer's field representative shall be 2 days with one trip. All travel and expense costs for Manufacturer's field representative installation assistance shall be included in the base bid price.
- C. Sub Grade Preparation:
 - 1. Excavate or fill foundation soils so top of installed section is flush with or slightly lower than adjacent terrain or final grade as indicated on the drawings or as directed by the Engineer.
 - 2. Decompact soil to a depth of 12 inches in areas indicated in the Contract Documents. Method for decompaction shall be submitted to the Engineer for approval.
 - 3. Install geotextile separation layer on prepared surfaces ensuring required overlaps are maintained and outer edges of geotextile are buried in accordance with the Manufacturer's recommendations.
- D. Section Anchorage
 - 1. Anchorage requirements for the sections shall be as shown on the Contract Documents and as directed by the Engineer.
 - 2. Anchorage with ATRA Anchors
 - a. Position collapsed sections at the crest of the channel slope.
 - b. If required, excavate the anchor trench at the top of the slope to the depth as shown on the Contract Documents.
 - c. Drive ATRA anchors at the crest of the slope to secure the sections in place and allow expansion of the sections into position.
 - d. After the sections are expanded as desired, drive ATRA Anchors so the arm of the ATRA Stake Clip or top of Speed Stake engages with the top of the cell wall.
 - e. Anchorage pattern and stake length shall be as indicated on the Contract Documents.
 - f. Fill the anchorage trench with the specified material and compact as required by the Contract Documents.
 - 3. Anchorage with Tendons, ATRA Tendon Clips and Buried at Crest

Preferred Method – Top of Channel Slope Installation

- a. Excavate the anchor trench at the top of the channel slope to the depth as shown on the Contract Documents.
- b. Position the collapsed sections at the crest of the slope.
- c. Measure and cut the tendon run lengths for each tendon location.
- d. Mark the tendons with a black permanent marker per the ATRA Tendon Clip Location Chart.
- e. Starting from the first cell, count the number of cells to the next ATRA Tendon Clip location and repeat along that cell row.
- f. Repeat this procedure for each additional cell row Tendon/ATRA Tendon Clip run.
- g. With all the ATRA Tendon Clips placed in the section, thread the tendons through the cell wall I-slots in the unexpanded section.
- h. Locate the corresponding mark on the tendon and position it in front of the cell wall. Hold the tendon and connect to the ATRA Tendon Clip. Refer to the Channel Installation Manual for ATRA Tendon Clip tie-off instructions.
- i. Leave the trailing length of the tendon on the upslope side of the section to allow connection to ATRA Tendon Clip.
- j. Repeat this process on each cell row Tendon/ATRA Tendon Clip run.
- k. Place the collapsed section in the anchor trench, secure with temporary stakes or ATRA Anchors and expand down the slope.
- l. Adjust the section (i.e. a shake or two of the expanded section works well for this) so that the section and tendons are uniformly taut.
- m. Terminate the bottom of the tendons with ATRA Tendon Clips.
- n. Fill the anchorage trench with the specified material and compact as required by the Contract Documents.

Alternate Method – On Channel Slope Installation

- a. Excavate the anchor trench at the top of the channel slope to the depth as shown on the Contract Documents.
- b. Position collapsed sections at the crest of the slope.
- c. Feed precut lengths of specified tendon material through the I-slots in cell walls before expanding individual sections into position. Number of tendons per section shall be per the Contract Documents. Leave the trailing length of the tendon on the upslope side of the section to allow for connection of the ATRA Tendon Clips.
- d. Place the collapsed section in the anchor trench, secure with temporary stakes or ATRA Anchors and expand down the slope.
- e. Install the ATRA Tendon Clips at the locations indicated on the Contract Documents.

- f. Hold the tendon and connect to each ATRA Tendon Clip. Refer to the Channel Installation Manual for ATRA Tendon Clip tie-off instructions.
- g. Adjust the section (i.e. a shake or two of the expanded section works well for this) so that the section and tendons are uniformly taut.
- h. Terminate the bottom of the tendons with ATRA Tendon Clips.
- i. Fill the anchorage trench with the specified material and compact as required by the Contract Documents.

4. Anchorage with Tendons, ATRA Tendon Clips and ATRA Anchors

Preferred Method – Top of Channel Slope Installation

- a. Excavate the anchor trench at the top of the channel slope to the depth as shown on the Contract Documents.
- b. Position the collapsed sections at the crest of the slope.
- c. Measure and cut the tendon run lengths for each tendon location.
- d. Mark the tendons with a black permanent marker per the ATRA Tendon Clip Location Chart.
- e. Thread the tendons through the unexpanded section.
- f. Starting from the first cell, count the number of cells to the next ATRA Tendon Clip location and repeat along that cell row.
- g. Repeat this procedure for each additional cell row Tendon/ATRA Tendon Clip run.
- h. With all the ATRA Tendon Clips placed in the section, thread the tendons through the cell wall I-slots in the unexpanded section.
- i. Locate the corresponding mark on the Tendon and position it in front of the cell wall. Hold the tendon and connect to the ATRA Tendon Clip. Refer to the Channel Installation Manual for ATRA Tendon Clip tie-off instructions.
- j. Repeat this process on each cell row Tendon/ATRA Tendon Clip run.
- k. Place the collapsed section in the anchor trench, drive ATRA Anchors in the first row of cells so the arm of the anchor engages with the top of the cell wall and expand down the slope. Number of anchors shall be per the Contract Documents.
- l. Adjust the section (i.e. a shake or two of the expanded section works well for this) so that the section and tendons are uniformly taut.
- m. After the sections are expanded, drive ATRA Anchors so the arm of the anchor engages with the top of the cell wall.
- n. Anchorage pattern and stake length shall be as indicated on the Contract Documents.
- o. Terminate the bottom of the tendons with ATRA Tendon Clips.

- p. Fill the anchorage trench with the specified material and compact as required by the Contract Documents.

Alternate Method – On Channel Installation

- a. Excavate the anchor trench at the top of the channel slope to the depth as shown on the Contract Documents.
- b. Position collapsed sections at the crest of the slope.
- c. Feed precut lengths of specified tendon material through the I-slots in the cell walls before expanding individual sections into position. Number of tendons per section shall be per the Contract Documents. Leave the trailing length of the tendon on the upslope side of the section to allow for connection of the ATRA Tendon Clips.
- d. Place the collapsed section in the anchor trench, drive ATRA Anchors (GFRP Anchors or Speed Stakes as required per Contract Documents) in the first row of cells so the arm of the anchor engages with the top of the cell wall and expand down the slope.
- e. Install the ATRA Tendon Clips at the locations indicated on the Contract Documents.
- f. Hold the tendon and connect to each ATRA Tendon Clip. Refer to the Channel Installation Manual for ATRA Tendon Clip tie-off instructions.
- g. Adjust the section (i.e. a shake or two of the expanded section works well for this) so that the section and tendons are uniformly taut.
- h. After the sections are expanded as desired, drive ATRA Anchors so the arm of the anchor engages with the top of the cell wall.
- i. Anchorage pattern and stake length shall be as indicated on the Contract Documents.
- j. Terminate the bottom of the tendons as required.
- k. Fill the anchorage trench with the specified material and compact as required by the Contract Documents.

E. Section Placement and Connection

- 1. Verify all sections are expanded uniformly to required dimensions and that outer cells of each section are correctly aligned. Interleaf or overlap edges of adjacent sections. Ensure upper surfaces of adjoining sections are flush at joint and adjoining cells are fully aligned at the cell wall slot.
- 2. Connect the sections with ATRA keys at each interleaf and end to end connection. Insert the ATRA key through the cell wall I-slot before inserting through the adjacent cell. Turn the ATRA key 90 degrees to lock the sections together

F. Topsoil Infill Placement

- 1. Place specified infill in expanded cells with suitable material handling equipment, such as a backhoe, front-end loader, conveyor, or crane-mounted skip.
- 2. Limit drop height to a maximum of 3 feet (1 m) to prevent panel distortion.
- 3. Fill aggregate portion first and then fill the sections from the crest of the channel slope to the aggregate level in accordance with Contract Documents.

4. Infill material shall be free-flowing and not frozen when placed into the sections.
 5. Evenly spread infill and tamp into place.
- G. Aggregate Infill Placement
1. Place specified infill in expanded cells with suitable material handling equipment, such as a backhoe, front-end loader, conveyor, or crane-mounted skip.
 2. Limit drop height to a maximum of 3 feet (1 m) to prevent panel distortion.
 3. Fill sections from the indicated top of aggregate elevation to toe or in accordance with Engineer's direction.
 4. Infill material shall be free-flowing and not frozen when placed into the sections.
 5. Evenly spread infill and ensure the infill is flush with the cell walls.
- H. Surface Treatment
1. Vegetation shall be as specified in the Contract Documents. Seeding of the cell area shall be completed no-later-than October 15 unless an alternative schedule is approved by the City. Container plant installation shall be completed according to the Contract schedule requirements.

72-26.05 PAYMENT

The payment for Geocell Channel Lining includes all labor, materials, tools and equipment for installation of the Geocell Channel Lining.

The payment for Aggregate includes all labor, materials, tools and equipment for placement of the Aggregate in the Geocell Channel Lining and Retaining Wall.

80 FENCES

Add to the end of 80-3.01B Definitions:

New chain link fence – Chain link fence match the type of the existing chain link fence on site.

Replace section 80-3.04 with:

80-3.04 PAYMENT

The payment for Chain Link Fences includes all labor, materials, tools and equipment for installation of the new chain link fence. Preservation, removal and reinstallation of existing chain link fence along its original alignment shall be included in the items of work necessitating work to maintain and/or restore the existing fence.



APPENDIX B-1: Small Construction Project Safety Protocol

1. Any construction project meeting any of the following specifications is subject to this Small Construction Project Safety Protocol (“SCP Protocol”), including public works projects unless otherwise specified by the Health Officer:
 - a. For residential projects, any single-family, multi-family, senior, student, or other residential construction, renovation, or remodel project consisting of 10 units or less. This SCP Protocol does not apply to construction projects where a person is performing construction on their current residence either alone or solely with members of their own household.
 - b. For commercial projects, any construction, renovation, or tenant improvement project consisting of 20,000 square feet of floor area or less.
 - c. For mixed-use projects, any project that meets both of the specifications in subsection 1.a and 1.b.
 - d. All other construction projects not subject to the Large Construction Project Safety Protocol set forth in Appendix B-2.
2. The following restrictions and requirements must be in place at all construction job sites subject to this SCP Protocol:
 - a. Comply with all applicable and current laws and regulations including but not limited to OSHA and Cal-OSHA. If there is any conflict, difference, or discrepancy between or among applicable laws and regulations and/or this SCP Protocol, the stricter standard shall apply.
 - b. Designate a site-specific COVID-19 supervisor or supervisors to enforce this guidance. A designated COVID-19 supervisor must be present on the construction site at all times during construction activities. A COVID-19 supervisor may be an on-site worker who is designated to serve in this role.
 - c. The COVID-19 supervisor must review this SCP Protocol with all workers and visitors to the construction site.
 - d. Establish a daily screening protocol for arriving staff to ensure that potentially infected staff do not enter the construction site. If workers leave the jobsite and return the same day, establish a cleaning and decontamination protocol prior to entry and exit of the jobsite. Post the daily screening protocol at all entrances and exits to





- e. the jobsite. More information on screening can be found online at: <https://www.cdc.gov/coronavirus/2019-ncov/community/index.html>.
- f. In the event of a confirmed case of COVID-19 at any jobsite, the following must take place:
 - i. Immediately remove the infected individual from the jobsite with directions to seek medical care.
 - ii. Each location the infected worker was at must be decontaminated and sanitized by an outside vendor certified in hazmat clean ups, and work in these locations must cease until decontamination and sanitization is complete.
 - iii. The County Public Health Department must be notified immediately and any additional requirements per the County health officials must be completed, including full compliance with any tracing efforts by the County.
- g. Practice social distancing by maintaining a minimum six-foot distance between workers at all times, except as strictly necessary to carry out a task associated with the construction project.
- h. Where construction work occurs within an occupied residential unit, separate work areas must be sealed off from the remainder of the unit with physical barriers such as plastic sheeting or closed doors sealed with tape to the extent feasible. If possible, workers must access the work area from an alternative entry/exit door to the entry/exit door used by residents. Available windows and exhaust fans must be used to ventilate the work area. If residents have access to the work area between workdays, the work area must be cleaned and sanitized at the beginning and at the end of workdays. Every effort must be taken to minimize contact between workers and residents, including maintaining a minimum of six feet of social distancing at all times.
- i. Where construction work occurs within common areas of an occupied residential or commercial building or a mixed-use building in use by on-site employees or residents, separate work areas must be sealed off from the rest of the common areas with physical barriers such as plastic sheeting or closed doors sealed with tape to the extent feasible. If possible, workers must access the work area from an alternative building entry/exit door to the building entry/exit door used by residents or other users of the building. Every effort must be taken to minimize contact between worker and building residents and users, including maintaining a minimum of six feet of social distancing at all times.
- j. Prohibit gatherings of any size on the jobsite, including gatherings for breaks or eating, except for meetings regarding compliance with this protocol or as strictly necessary to carry out a task associated with the construction project.
- k. Cal-OSHA requires employers to provide water, which should be provided in single-serve containers. Sharing of any of any food or beverage is strictly prohibited and if sharing is observed, the worker must be sent home for the day.
- l. Provide personal protective equipment (“PPE”) specifically for use in construction, including gloves, goggles, face shields, and face coverings as appropriate for the



- m. activity being performed. At no time may a contractor secure or use medical-grade PPE unless required due to the medical nature of a jobsite. Face coverings must be worn in compliance with the Health Officer's Order No. C19-8, dated April 18, 2020, or any subsequently issued or amended order.
- n. Strictly control "choke points" and "high-risk areas" where workers are unable to maintain six-foot social distancing and prohibit or limit use to ensure that six-foot distance can easily be maintained between individuals.
- o. Minimize interactions and maintain social distancing with all site visitors, including delivery workers, design professionals and other project consultants, government agency representatives, including building and fire inspectors, and residents at residential construction sites.
- p. Stagger trades as necessary to reduce density and allow for easy maintenance of a minimum six-foot separation.
- q. Discourage workers from using others' desks, work tools, and equipment. If more than one worker uses these items, the items must be cleaned and disinfected with disinfectants that are effective against COVID-19 in between use by each new worker. Prohibit sharing of PPE.
- r. If hand washing facilities are not available at the jobsite, place portable wash stations or hand sanitizers that are effective against COVID-19 at entrances to the jobsite and in multiple locations dispersed throughout the jobsite as warranted.
- s. Clean and sanitize any hand washing facilities, portable wash stations, jobsite restroom areas, or other enclosed spaces daily with disinfectants that are effective against COVID-19. Frequently clean and disinfect all high touch areas, including entry and exit areas, high traffic areas, restrooms, hand washing areas, , tools, and equipment.
- t. Maintain a daily attendance log of all workers and visitors that includes contact information, including name, phone number, address, and e-mail.
- u. Post a notice in an area visible to all workers and visitors instructing workers and visitors to do the following:
 - i. Do not touch your face with unwashed hands or with gloves.
 - ii. Frequently wash your hands with soap and water for at least 20 seconds or use hand sanitizer with at least 60% alcohol.
 - iii. Clean and disinfect frequently touched objects and surfaces such as work stations, keyboards, telephones, handrails, machines, shared tools, elevator control buttons, and doorknobs.
 - iv. Cover your mouth and nose when coughing or sneezing, or cough or sneeze into the crook of your arm at your elbow/sleeve.
 - v. Do not enter the jobsite if you have a fever, cough, or other COVID-19 symptoms. If you feel sick, or have been exposed to anyone who is sick, stay at home.



SAN MATEO COUNTY HEALTH

**PUBLIC HEALTH,
POLICY & PLANNING**

- vi. Constantly observe your work distances in relation to other staff. Maintain the recommended minimum six feet at all times. If not possible, wear the necessary PPE for working in close proximity to another person.
- vii. Do not carpool to and from the jobsite with anyone except members of your own household unit, or as necessary for workers who have no alternative means of transportation.
- viii. Do not share phones or PPE.



APPENDIX B-2: Large Construction Project Safety Protocol

1. Any construction project meeting any of the following specifications is subject to this Large Construction Project Safety Protocol (“LCP Protocol”), including public works projects unless otherwise specified by the Health Officer:
 - a. For residential construction projects, any single-family, multi-family, senior, student, or other residential construction, renovation, or remodel project consisting of more than 10 units.
 - b. For commercial construction projects, any construction, renovation, or tenant improvement project consisting of more than 20,000 square feet of floor area.
 - c. For construction of Essential Infrastructure, as defined in section 16.c of the Order, any project that requires five or more workers at the jobsite at any one time.
2. The following restrictions and requirements must be in place at all construction job sites subject to this LCP Protocol:
 - a. Comply with all applicable and current laws and regulations including but not limited to OSHA and Cal-OSHA. If there is any conflict, difference or discrepancy between or among applicable laws and regulations and/or this LCP Protocol, the stricter standard will apply.
 - b. Prepare a new or updated Site-Specific Health and Safety Plan to address COVID-19-related issues, post the Plan on-site at all entrances and exits, and produce a copy of the Plan to County governmental authorities upon request. The Plan must be translated as necessary to ensure that all non-English speaking workers are able to understand the Plan.
 - c. Provide personal protective equipment (PPE) specifically for use in construction, including gloves, goggles, face shields, and face coverings as appropriate for the activity being performed. At no time may a contractor secure or use medical-grade PPE, unless required due to the medical nature of a job site. Face Coverings must be worn in compliance with the Health Officer’s Order No. C19-8, dated April 18, 2020, or any subsequently issued or amended order.
 - d. Ensure that employees are trained in the use of PPE. Maintain and make available a log of all PPE training provided to employees and monitor all employees to ensure proper use of the PPE.
 - e. Prohibit sharing of PPE.





- f. Implement social distancing requirements including, at minimum:
- i. Stagger stop- and start-times for shift schedules to reduce the quantity of workers at the jobsite at any one time to the extent feasible.
 - ii. Stagger trade-specific work to minimize the quantity of workers at the jobsite at any one time.
 - iii. Require social distancing by maintaining a minimum six-foot distance between workers at all times, except as strictly necessary to carry out a task associated with the project.
 - iv. Prohibit gatherings of any size on the jobsite, except for safety meetings or as strictly necessary to carry out a task associated with the project.
 - v. Strictly control “choke points” and “high-risk areas” where workers are unable to maintain minimum six-foot social distancing and prohibit or limit use to ensure that minimum six-foot distancing can easily be maintained between workers.
 - vi. Minimize interactions and maintain social distancing with all site visitors, including delivery workers, design professionals and other project consultants, government agency representatives, including building and fire inspectors, and residents at residential construction sites.
 - vii. Prohibit workers from using others’ phones or desks. Any work tools or equipment that must be used by more than one worker must be cleaned with disinfectants that are effective against COVID-19 before use by a new worker.
 - viii. Place wash stations or hand sanitizers that are effective against COVID-19 at entrances to the jobsite and in multiple locations dispersed throughout the jobsite as warranted.
 - ix. Maintain a daily attendance log of all workers and visitors that includes contact information, including name, address, phone number, and email.
 - x. Post a notice in an area visible to all workers and visitors instructing workers and visitors to do the following:
 1. Do not touch your face with unwashed hands or with gloves.
 2. Frequently wash your hands with soap and water for at least 20 seconds or use hand sanitizer with at least 60% alcohol.
 3. Clean and disinfect frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, machines, shared tools, elevator control buttons, and doorknobs.
 4. Cover your mouth and nose when coughing or sneezing or cough or sneeze into the crook of your arm at your elbow/sleeve.
 5. Do not enter the jobsite if you have a fever, cough, or other COVID-19 symptoms. If you feel sick, or have been exposed to anyone who is sick, stay at home.
 6. Constantly observe your work distances in relation to other staff. Maintain the recommended minimum six-feet distancing at all times. If not possible, wear the necessary PPE for working in close proximity to another person.
 7. Do not share phones or PPE.
 - xi. The notice in section 2.f.x must be translated as necessary to ensure that all non-English speaking workers are able to understand the notice.



- g. Implement cleaning and sanitization practices in accordance with the following:
 - i. Frequently clean and sanitize, in accordance with CDC guidelines, all high-traffic and high-touch areas including, at a minimum: meeting areas, jobsite lunch and break areas, entrances and exits to the jobsite, jobsite trailers, hand-washing areas, tools, equipment, jobsite restroom areas, stairs, elevators, and lifts.
 - ii. Establish a cleaning and decontamination protocol prior to entry and exit of the jobsite and post the protocol at entrances and exits of jobsite.
 - iii. Supply all personnel performing cleaning and sanitization with proper PPE to prevent them from contracting COVID-19. Employees must not share PPE.
 - iv. Establish adequate time in the workday to allow for proper cleaning and decontamination including prior to starting at or leaving the jobsite for the day.
- h. Implement a COVID-19 community spread reduction plan as part of the Site-Specific Health and Safety Plan that includes, at minimum, the following restrictions and requirements:
 - i. Prohibit all carpooling to and from the jobsite except by workers living within the same household unit, or as necessary for workers who have no alternative means of transportation.
 - ii. Cal-OSHA requires employers to provide water, which should be provided in single-serve containers. Prohibit any sharing of any food or beverage and if sharing is observed, the worker must be sent home for the day.
 - iii. Prohibit use of microwaves, water coolers, and other similar shared equipment.
- i. Assign a COVID-19 Safety Compliance Officer (SCO) to the jobsite and ensure the SCO's name is posted on the Site-Specific Health and Safety Plan. The SCO must:
 - i. Ensure implementation of all recommended safety and sanitation requirements regarding the COVID-19 virus at the jobsite.
 - ii. Compile daily written verification that each jobsite is compliant with the components of this LCP Protocol. Each written verification form must be copied, stored, and made immediately available upon request by any County official.
 - iii. Establish a daily screening protocol for arriving staff, to ensure that potentially infected staff do not enter the construction site. If workers leave the jobsite and return the same day, establish a cleaning and decontamination protocol prior to entry and exit of the jobsite. Post the daily screening protocol at all entrances and exit to the jobsite. More information on screening can be found online at: <https://www.cdc.gov/coronavirus/2019-ncov/community/index.html>.
 - iv. Conduct daily briefings in person or by teleconference that must cover the following topics:
 - 1. New jobsite rules and pre-job site travel restrictions for the prevention of COVID-19 community spread.
 - 2. Review of sanitation and hygiene procedures.
 - 3. Solicitation of worker feedback on improving safety and sanitation.
 - 4. Coordination of construction site daily cleaning/sanitation requirements.
 - 5. Conveying updated information regarding COVID-19.
 - 6. Emergency protocols in the event of an exposure or suspected exposure to COVID-19.
 - v. Develop and ensure implementation of a remediation plan to address any non-compliance with this LCP Protocol and post remediation plan at entrance and exit of jobsite during



- remediation period. The remediation plan must be translated as necessary to ensure that all non-English speaking workers are able to understand the document.
- vi. The SCO must not permit any construction activity to continue without bringing such activity into compliance with these requirements.
 - vii. Report repeated non-compliance with this LCP Protocol to the appropriate jobsite supervisors and a designated County official.
- j. Assign a COVID-19 Third-Party Jobsite Safety Accountability Supervisor (JSAS) for the jobsite, who at a minimum holds an OSHA-30 certificate and first-aid training within the past two years, who must be trained in the protocols herein and verify compliance, including by visual inspection and random interviews with workers, with this LCP Protocol.
- i. Within seven calendar days of each jobsite visit, the JSAS must complete a written assessment identifying any failure to comply with this LCP Protocol. The written assessment must be copied, stored, and, upon request by the County, sent to a designated County official.
 - ii. If the JSAS discovers that a jobsite is not in compliance with this LCP Protocol, the JSAS must work with the SCO to develop and implement a remediation plan.
 - iii. The JSAS must coordinate with the SCO to prohibit continuation of any work activity not in compliance with rules stated herein until addressed and the continuing work is compliant.
 - iv. The remediation plan must be sent to a designated County official within five calendar days of the JSAS's discovery of the failure to comply.
- k. In the event of a confirmed case of COVID-19 at any jobsite, the following must take place:
- i. Immediately remove the infected individual from the jobsite with directions to seek medical care.
 - ii. Each location the infected worker was at must be decontaminated and sanitized by an outside vendor certified in hazmat clean ups, and work in these locations must cease until decontamination and sanitization is complete.
 - iii. The County Public Health Department must be notified immediately and any additional requirements per the County health officials must be completed, including full compliance with any tracing efforts by the County.
- l. Where construction work occurs within an occupied residential unit, any separate work area must be sealed off from the remainder of the unit with physical barriers such as plastic sheeting or closed doors sealed with tape to the extent feasible. If possible, workers must access the work area from an alternative entry/exit door to the entry/exit door used by residents. Available windows and exhaust fans must be used to ventilate the work area. If residents have access to the work area between workdays, the work area must be cleaned and sanitized at the beginning and at the end of workdays. Every effort must be taken to minimize contact between workers and residents, including maintaining a minimum of six feet of social distancing at all times.
- m. Where construction work occurs within common areas of an occupied residential or commercial building or a mixed-use building in use by on-site employees or residents, any separate work area must be sealed off from the rest of the common areas with physical barriers such as plastic



SAN MATEO COUNTY HEALTH

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POLICY & PLANNING**

sheeting or closed doors sealed with tape to the extent feasible. If possible, workers must access the work area from an alternative building entry/exit door to the building entry/exit door used by residents or other users of the building. Every effort must be taken to minimize contact between worker and building residents and users, including maintaining a minimum of six feet of social distancing at all times.

**City of Brisbane
Guadalupe Channel Erosion Control Project**

Mitigation, Monitoring, and Reporting Program

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January 2020

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Table 1 – Mitigation, Monitoring, and Reporting Program

Environmental Factor	Mitigation Measures	Significance After Mitigation	Responsible Entity	Timing
Air Quality	<p>Mitigation Measure AQ-1: During any construction period ground disturbance, the applicant shall ensure that the Project contractor implement measures to control dust and exhaust.</p> <ol style="list-style-type: none"> 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph). 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR)). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. <p>Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.</p>	Less than Significant	Construction Contractor	During Construction

Environmental Factor	Mitigation Measures	Significance After Mitigation	Responsible Entity	Timing
Biological Resources	<p>Mitigation Measure BIO-1: Prior to dewatering activities in Guadalupe Channel, qualified biologists will use nets to exclude fish from the construction area. During the low end of a falling tide, a block net would be placed at the upper end of the reach to be dewatered. Subsequently, qualified biologists would walk from the upper to lower end of the reach with a net stretched across the channel to encourage fish to move out of the construction area. When the lower end of the construction area is reached, a second block net would be installed to isolate the construction reach. This procedure would be repeated a minimum of three times per dewatered tidal reach to ensure that no fish, including Central California coast steelhead or longfin smelt, remain within the construction area. Mesh size would not exceed 9.5 millimeters to ensure that longfin smelt, as well as all other native fish that may be present in the channel, are adequately excluded from this area. These nets would be maintained in place until the coffer dam has been constructed to isolate the in-channel work area from areas in which fish occur.</p>	Less than Significant	Project Proponent / Qualified Biologist	Prior to Construction

Environmental Factor	Mitigation Measures	Significance After Mitigation	Responsible Entity	Timing
Biological Resources	<p>Mitigation Measure BIO-2: To the extent feasible, construction activities shall be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Mateo County extends from February 1 through August 31.</p> <p>If it is not possible to schedule construction activities between September 1 and January 31, then preconstruction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. These surveys shall be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist would inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests.</p> <p>If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist would determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code would be disturbed during project implementation.</p> <p>If construction activities cannot be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) scheduled to for removal by the project may be removed prior to the start of the nesting season (e.g., prior to February 1). This would preclude the initiation of nests in this vegetation, and prevent the potential delay of the project due to the presence of active nests in these substrates.</p>	Less than Significant	Project Proponent / Construction Contractor / Qualified Biologist	Prior to Construction

Environmental Factor	Mitigation Measures	Significance After Mitigation	Responsible Entity	Timing
Biological Resources	<p>Mitigation Measure BIO-3: All disturbed upland and riparian soils would be stabilized and planted with a native seed mix from seed sourced from local genotypes following construction. All straw used as erosion control materials for the project would be certified weed-free. The removed vegetation, much of which is invasive, would be collected and completely removed from the project site. This material would be disposed of in a legally operating landfill so that propagules are not spread to other areas. All equipment used to remove project vegetation would be washed prior to use on another project site.</p>	Less than Significant	Qualified Biologist	During Construction
Cultural Resources	<p>Mitigation Measure CUL-1: If historic or archaeological materials are discovered during ground disturbing activities, project construction would cease within a 50-foot radius of the discovery in order to proceed with the testing and mitigation required under Section 7050.5(b) of the California Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California. The State Historic Preservation Officer would be contacted as soon as possible. Construction in the affected area would not resume until the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) have been satisfied.</p>	Less than Significant	Project Proponent/ Construction Contractor	During Construction
Cultural Resources	<p>Mitigation Measure CUL-2: In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.94 of the Public Resources Code.</p>	Less than Significant	Project Proponent/ Construction Contractor	During Construction

Environmental Factor	Mitigation Measures	Significance After Mitigation	Responsible Entity	Timing
Geology and Soils	<p>Mitigation Measure GEO-1: Prior to the City’s approval of a grading plan, a licensed geotechnical engineer shall prepare a design-level geotechnical report outlining site-specific construction methods and recommendations regarding grading activities, fill placement, soil corrosivity, soil expansion, soil compaction, drainage control, and avoidance of seismic hazards, liquefaction, and differential settlement in accordance with current California Building Code requirements or an equivalent standard approved by the City. The report shall require that all subsurface improvements that include any materials susceptible to corrosive effects would be engineered in conformance with the most recently adopted California Building Code requirements including the use of engineered backfill. The report shall also include stability analyses of final design cut and fill slopes, including recommendations for avoidance of slope failure. The final grading plan shall be designed in accordance with requirements of the design-level geotechnical investigation.</p>	Less than Significant	Licensed Geotechnical Engineer / Project Proponent	Prior to Construction
Geology and Soils	<p>Mitigation Measure GEO-2: Discovery of a paleontological specimen during any phase of the Project shall result in a work stoppage in the vicinity of the find until it can be evaluated by a professional paleontologist. Should loss or damage be detected, additional protective measures or further action (e.g., resource removal), as determined by a professional paleontologist, shall be implemented to mitigate the impact.</p>	Less than Significant	Professional Paleontologist / Project Proponent / Construction Contractor	During Construction
Hydrology and Water Quality	<p>Mitigation Measure HYDRO-1: Dewatering procedures would comply with applicable dewatering provisions typically included in a NPDES Permit, which require surface discharges to be clean or relatively pollutant-free. The project must meet effluent screening requirements for potentially harmful pollutants such as sediments, outlying pH levels, and harmful chemicals. Discharge and receiving water requirements, including water quality objectives, are defined in the Water Quality Control Plan for the San Francisco Bay Basin.</p>	Less than Significant	Project Proponent/ Construction Contractor	Prior to Construction

Environmental Factor	Mitigation Measures	Significance After Mitigation	Responsible Entity	Timing
Noise	<p>Mitigation Measure NOISE-1: The project shall comply with the following noise reduction measures during all construction-related activities under the supervision of a qualified acoustical consultant as a pre-requisite to issuance of a grading permit. These attenuation measures shall include all or any combination of the following control strategies:</p> <ul style="list-style-type: none"> • Limit standard construction activities to between 7:00 AM and 7:00 PM Monday through Friday and between 9:00 AM and 7:00 PM on weekends and holidays. No extreme noise-generating activities would be allowed on weekends and holidays; • Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds); • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used. Individual pieces of construction equipment are prohibited from operating at a noise level in excess of 83 dBA at a distance of 25 feet from the equipment or operating such that the noise level at any point beyond the property line of the project site exceeds 86 dBA. 	Less than Significant	Project Proponent / Construction Contractor	During Construction