

Town of Friday Harbor **Spring Street Pocket Park** Project Manual

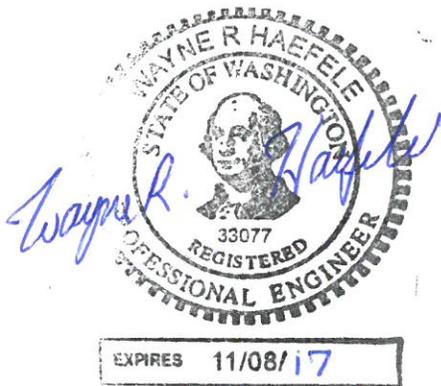


September 2017

CERTIFICATIONS

I hereby certify that the following portions of these specifications were prepared by me or under my direct supervision and that I am a licensed Professional Engineer under the Laws of the the State of Washington.

Specifications 00020, 00100, 00110, 00200, 00300, 00305, 00360, 00405, 00410, 00423, 00430, 00510, 00581, 00610, 00620, 00710, 01010, 01011, 01012, 01013, 01025, 01036, 01050, 01060, 01200, 01300, 01310, 01605, 01700, 01710, 01720, 02510, 02520



I hereby certify that the following portions of these specifications were prepared by me or under my direct supervision and that I am a licensed Landscape Architect under the Laws of the the State of Washington.

Specifications 015300, 02810, 02881, 02200, 02005, 02900, 03201



FRIDAY HARBOR SPRING STREET POCKET PARK PROJECT

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SECTION 00020 - REQUEST FOR SEALED BIDS

The Town of Friday Harbor will receive sealed bids until **2:00 p.m. on Thursday January 12, 2017** for the construction of the Spring Street Pocket Park Project. As soon thereafter as possible, the bids will be opened publicly and read aloud. Bids shall be addressed to:

Duncan Wilson, Town Administrator
Town of Friday Harbor
60 Second Street
Friday Harbor, Washington 98250

and shall be labeled "Bids for Town of Friday Harbor Spring Street Pocket Park Project."

The work includes the furnishing of the labor, materials, and equipment for the installation of the Spring Street Pocket Park Project. The project is located at the intersection of Spring Street and Second , Friday Harbor, Washington in San Juan County.

The project consists of demolishing 95 LF of 8' sidewalk/curb and gutter and removal of 5130 SF of existing HMA pavement to be replaced by construction of a new curb inlet, 105 LF new vertical curb and gutter, three modified Type 4 handicap ramps, 1,170 SF new decorative concrete sidewalk, 200 SF new 18" square decorative paver tile, foundation and mounting for (3) pieces of public Art, foundation and mounting for (1) steel Art wall and new column bases for (5) existing posts. The work also includes installation of an irrigation system, placement of soils and execution of a planting plan in the park planter areas.

The "order of magnitude" cost estimate for this project is \$100,000. The following is the anticipated project schedule:

Bid Document Distribution	December 8, 2016
Prebid Conference*	December 29, 2016 (11:00 AM)
Bid Opening	January 12, 2017 (2:00 PM)
Notice of Award	January 23, 2017
Execute Contract	February 6, 2017
Notice to Proceed	February 13, 2017

*Located at Friday Harbor Town Hall, 60 Second Street

Bidding documents for the project are available through ARC Document Solutions and Northwest Contractors Network. Printed sets may be obtained at the office of Arc Document Solutions (2730 Occidental Avenue South, Seattle, WA 98134, Tel 206-622-6000) for the cost of reproduction. Full size drawings are also available on request. Upon timely request, documents may be shipped or delivered for a non-refundable fee.

Complete PDF Bid Documents are available for download free of charge at Northwest Contractors Network at URL www.nwcontractorsnetwork.com. On the website select Public Projects>Washington Projects>[Project Name]>Download PDF. To receive project addenda, bidders downloading files must register by clicking the "Add Me to The Planholder's List" link.

For assistance in obtaining printed bid documents or downloading files, contact ARC Document Solutions at 206-622-6000.

Each bid shall be accompanied by a bid guaranty bond, or a certified or cashier's check payable to the order of the Town of Friday Harbor in an amount not less than five percent (5%) of the amount of the bid as a guaranty that the bidder will execute the contract if it be awarded in conformity with the bid form. The successful bidder will be required to furnish performance and payment bonds, each in an amount not less than one hundred percent (100%) of the contract price.

The Owner reserves the right to reject any or all bids and to determine which bid is, in the Owner's judgment, the lowest responsive and responsible bid of a bidder or group of bidders. The Owner also reserves the right to waive any informalities in any bid and to delete or add any of the items listed in the bid as set forth therein.

Bidders on this work must comply with all applicable governmental requirements including, but not limited to, affirmative action programs and other equal employment opportunity actions. Bids received after the time established for receiving bids will not be considered. Except as provided in Section 00100-Instructions to Bidders, no bidder may withdraw a bid after the time established for receiving bids or before the award and execution of the contract, unless the award is delayed for a period exceeding ninety calendar days.

A pre-bid conference will be held at **11:00 AM** on the date indicated above at Town Hall, 60 Second Street, Friday Harbor, Washington. Wayne Haefele, Civil Engineer for the project, will be available to answer questions, and familiarize prospective bidders with the Project.

Contractors may arrange site visits by contacting Mr. Wayne Haefele, Public Works Director, at 360-378-2154. For additional information, please contact Patricia Lensen, Landscape Architect, at 1 (360) 766-4333, or plensen@thephilbingroup.com.

****END OF SECTION****

SECTION 00100 - INSTRUCTIONS TO BIDDERS

1.00 CONTRACT TYPE AND BASIS OF AWARD

BIDS will be received by The Town of Friday Harbor (herein called the "OWNER") as set forth in the Request for Sealed Bids herein. The basis for measurement and payment for this work will be a Unit Price contract. The basis of the award will be the lowest bid total for all items of work. See 1.10 D below.

1.01 INSPECTION OF SITE

Before submitting their proposal, the BIDDER shall examine the site of the work and review the drawings and specifications including ADDENDA and ascertain for themselves the work required and all of the physical conditions in relation thereto. Failure to take this precaution will not release the successful BIDDER from entering into contracts nor excuse the BIDDER from performing the work in strict accordance with the terms of the contract. No verbal statement made by any officer, agent, or employee of the OWNER, in relation to the physical conditions pertaining to the site of the work, will be binding on the OWNER during the gathering of information for proposal preparation by each BIDDER. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

Bidders should note that the only public access to Friday Harbor is by air or by ferry. Bringing a vehicle on the ferry may require placing the vehicle in line up to several hours prior to the scheduled departure of the ferry. Access for foot passengers on the ferry is not restricted. The project site is within 1/4 mile of the ferry landing in Friday Harbor.

1.02 EXAMINATION OF PROJECT MANUAL

A. PROJECT MANUAL:

Each bidder shall thoroughly examine and be familiar with those contract documents contained in the project manual. Submission of a bid shall constitute acknowledgment upon which the Owner may rely that the bidder has thoroughly examined and is familiar with the project manual.

Failure or neglect of a bidder to examine any of the contract documents contained in the project manual shall in no way relieve him from any obligation with respect to his bid or to the contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of the work.

1.03 INTERPRETATION OF PROJECT MANUAL

Bidders, prospective subcontractors, manufacturers and suppliers may request interpretation of the project manual prior to bid opening. Requests shall be directed in writing to Wayne Haeefele, Public Works Director at (360) 378-2154 or wayneh@.fridayharbor.org.

Requests to clarify the source of materials, equipment, suppliers, or any other such matter which does not modify, change, increase, or decrease the scope of work requires no action by the Owner other than a response to the bidder requesting the clarification.

Requests to clarify possible ambiguous, conflicting or incomplete statements or designs, or any other such clarification which modifies, changes, increases or decreases the scope of work, requires issuance of an addendum by the Owner for the interpretation to become effective.

1.04 STATE INTEREST EXCLUSION CLAUSE

(Not Used)

1.05 BID DOCUMENTS

A. BID FORMS:

1. **GENERAL:** Bids shall be made on the blank bid forms (colored pages) prepared and provided by the Owner. The Contractor, at his option, may submit the bid forms without removal from the project manual, or remove the forms from the project manual and submit only the required bid forms. The Contractor is cautioned to complete and submit all bid documents. Bids shall give the prices proposed, in figures, shall give all other information requested, and shall be signed by the bidder or his authorized representative, with his address.

2. **BID PRICES:** Bid prices shall include everything necessary for the completion of the work including but not limited to providing the materials, equipment, tools, plant and other facilities, and the management, superintendence, labor and services. Bid prices shall include allowance for federal, state and local taxes. State sales tax shall be tabulated as a separate line item in the space provided.

In the event that the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amounts quoted, the individual item amounts shall govern and the correct total shall be deemed to be the amount bid.

3. **BIDDER'S SIGNATURE AND AUTHORITY:** If the bid is made by an individual, his name, signature, and post office address must be shown; if made by a firm or partnership, the name and post office address of the firm or partnership, a list of the partners, and the signature of at least one of the general partners must be shown; if made by a corporation, the bid shall show the name of the state under the laws of which the corporation is chartered, the name and post office address of the corporation, and the title of the person who signs on behalf of the corporation. If the bid is made by the corporation, a certified copy of the bylaws or resolution of the Board of Directors of the corporation shall be furnished showing the authority of the officer signing the bid to execute contracts on behalf of the corporation. If the bid is made by a joint venture, the bid shall be signed by a representative of one of the joint venture firms. Additionally, the bid shall include a copy of the resolution or agreement empowering the representative to execute the bid and bind the joint venture.

4. **BID IRREGULARITIES:** Each bid and the information requested shall be enclosed in a sealed envelope and labeled as specified in the Advertisement for Bid. Bidders are warned against making erasures or alterations of any kind, and bids which contain omissions, erasures, or irregularities of any kind may be rejected. No oral, telegraphic, or telephonic bids or modifications will be considered.

5. **MODIFICATION OF BID:** Modification of a bid already received will be considered only if the modification is received prior to the time established for receiving bids. Modifications shall be made in writing, executed, and submitted in the same form and manner as the original bid.

6. **WITHDRAWAL OF BIDS:** Within five days after the opening of bids, a bidder may withdraw his bid providing he can establish to the Owner's satisfaction that a mistake was made in preparing the bid. A bidder desiring to withdraw shall give written notice to the Owner, specifying, in detail, how the mistake occurred and how the mistake made the bid materially different than it was intended to be. Withdrawal

will not be permitted for mistakes resulting from errors in judgment or carelessness in inspecting the site of the work or in reading the project manual.

The arrangements specified on the drawings are based on a particular manufacturer's equipment. Where the Contractor selects a manufacturer whose equipment arrangement is different than specified, the total amount listed in the bid shall provide for a complete operating installation for each equipment item listed, including any and all changes and additions in structure, piping, electrical and control systems and accessories required to accommodate the listed manufacturer's equipment. The bid shall also include the preparation and submission of detailed drawings, calculations and manufacturer's data to allow evaluation of the proposed equipment and to show all modifications to the work as necessary to accommodate the proposed manufacturer's equipment.

In the event that the Owner, at its sole discretion, determines that the equipment of the manufacturer listed by the Contractor and submitted for review does not meet the requirements of the contract, the Contractor shall select and submit for review equipment of another manufacturer which does meet the contract, and no increase in the total amount of the contract shall be allowed.

B. TYPES OF BID:

1. **UNIT PRICE:** When the bid for the work is to be submitted on a unit price basis, unit price bids will be accepted on all items of work set forth in the bidding schedule, except those designated to be paid for as a lump sum. The estimate of quantities of work to be done is tabulated in the Bid proposal and, although stated with as much accuracy as possible, is approximate only as is assumed solely for the basis of calculation upon which the award of contract shall be made. Payment to the Contractor will be made on the measurement of the work actually performed by the Contractor as specified in the contract documents. The Owner reserves the right to increase or diminish the amount of any class of work as may be deemed necessary.

If the quantities of work as stated in the bidding schedule increase or decrease by 25 percent or less, payment for the actual quantities shall be made at the unit prices stated in the bidding schedule, and the Contractor shall not be entitled to any additional compensation by reason of this increase or decrease in quantities. If the actual quantity of work is less than 75 percent of the quantities stated in the bidding schedule, the Contractor may request, with appropriate documentation of costs, a renegotiation of the unit price for that item of work in accordance with the provisions in these contract documents. If the actual quantity of work is more than 125 percent of the quantities stated in the bidding schedule, the Owner may require a renegotiation of the unit price for that item of work.

2. **LUMP SUM:** When the bid for the work is to be submitted on a lump sum basis, a single lump sum price shall be submitted in the appropriate place. The total amount to be paid the Contractor shall be the amount of the lump sum bid as adjusted for additions or deletions resulting from changes in the work.

3. **LUMP SUM ALLOWANCE:** When specific lump sum allowance items have been entered on the bid form by the Owner, the total amount to be paid to the Contractor for work covered under the lump sum allowance items shall be determined in accordance with paragraph 00710-7.02 F.

C. BID GUARANTY:

The bid form shall be accompanied by a bid guaranty bond provided by a guaranty company authorized to carry on business in the State of Washington for payment to the Owner in the sum of at least five percent of the total amount of the bid price, or, alternatively, by a certified or cashier's check, payable to

the Owner in the sum of at least five percent of the total amount of the bid price. The bonds must be executed by a duly licensed surety company, which is listed in the latest Circular 570 of the United States Treasury Department, as being acceptable as surety on federal bonds. The bid guaranty bond shall be provided on the form included in Section 00410 of this project manual.

The amount payable to the Owner under the bid guaranty bond, or the certified or cashier's check and the amount thereof, as the case may be, shall be forfeited to the Owner as liquidated damages in case of a failure or neglect of the bidder to furnish, execute, and deliver to the Owner the required performance and payment bonds provided respectively in Sections 00610 and 00620; evidences of insurance; and to enter into, execute, and deliver to the Owner the agreement on the form provided in Section 00510, within ten (10) calendar days after receiving written notice from the Owner that the award has been made and the agreement is ready for execution.

D. LIST OF SUBCONTRACTORS:

Each bidder shall have listed, on the form provided in Section 00430, the name, address, and description of the work, of each subcontractor to whom the bidder proposes to sublet portions of the work in excess of five percent of the total amount of his bid. For the purpose of this paragraph, a subcontractor is defined as one who contracts with the Contractor to provide materials and labor, labor only, or who specially fabricates and installs a portion of the work or improvement according to drawings contained in the project manual. Failure to list subcontractors may render a bid non-responsive and may be grounds for rejection of the bid. The amount of work subcontracted is subject to the limits specified in paragraph 00710-1.07.

1.06 BIDDER'S CERTIFICATIONS

A. QUALIFICATION OF BIDDER:

Bidder shall certify, on the form provided in Section 00423, that he is, at the time of bidding, and shall be, throughout the period of the contract, licensed in the State of Washington to do the type of work contemplated in the project manual. Bidder shall further certify that he is skilled and regularly engaged in the general class and type of work called for in the project manual.

The bidder also certifies that he is knowledgeable of the unusual and peculiar hazards associated with the general class and type of work required to construct the specified project within the terms given in the project manual. Bidder shall be competent and skilled in the protective measures necessary for the safe performance of the construction work with respect to such unusual and peculiar hazards.

B. ADDENDA:

Each bid form shall include specific acknowledgment, in the space provided in Section 00305, Bid Form, of receipt of all addenda issued and mailed by the Owner during the bidding period. Failure to so acknowledge may result in the bid being rejected as not responsive.

C. NONCOLLUSION AFFIDAVIT:

The noncollusion affidavit shall be executed by the bidder in the form contained in Section 00360 and submitted with the bid.

D. SMALL, MINORITY AND WOMEN BUSINESS ENTERPRISE UTILIZATION, AND EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

(Not Used)

E. CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

(Not Used)

1.07 POSTPONEMENT OF OPENING

The Owner reserves the right to postpone the date and time for receiving and/or opening of bids at any time prior to the date and time established in the Advertisement for Bid. Postponement notices shall be mailed to bidders in the form of addenda.

1.08 REJECTION OF BIDS

A. IRREGULAR BIDS:

The Owner reserves the right to reject as non-responsive bids which are incomplete, obscure, or irregular; bids which omit a bid on any one or more items for which bids are required; bids which omit unit prices if unit prices are required; bids in which unit prices are unbalanced in the opinion of the Owner; bids accompanied by insufficient or irregular bid security; bids from bidders who have previously failed to perform properly or to complete on time contracts of any nature; any bid which fails to provide sufficient experience and ability information as required by paragraph 00100-1.06 A herein; any bid from a bidder who has no previous experience in the type or class of work to be performed under this contract; and any bid submitted by a bidder who is not registered or licensed as may be required by the laws of the State of Washington. The Owner further reserves the right to reject all bids.

B. COLLUSION:

If the Owner has reason to believe that collusion exists among bidders, the Owner will reject the bids of the known participants in such collusion and may, at its option, require that all bidders certify under penalty of perjury that no collusion has occurred or exists. The Owner also, at its option, may reject all bids received.

1.09 RETURN OF BID GUARANTIES

Within 15 calendar days after the bids are opened, the Owner will return the bid guaranties accompanying the bids which are not to be considered in making the award. All other bid guaranties will be held until the contract has been fully executed; after which, they will be returned to the respective bidders whose bids they accompanied.

1.10 AWARD OF CONTRACT

A. GENERAL:

Within forty-five (45) calendar days after the date of opening bids, the Owner will act either to accept a bid or to reject all bids, or take such other action as may be in its best interest. The Owner reserves the right to request extensions of the bid acceptance period. Acceptance of a bid will be evidenced by a notice of award of contract in writing, delivered in person, or by certified mail, to the bidder whose bid is accepted. No other act of the Owner shall constitute acceptance of a bid. The award of contract shall

obligate the bidder, whose bid is accepted, to furnish performance and payment bonds and evidences of insurance, and to execute the agreement set forth in the project manual.

Bids will be evaluated by the Owner to determine which bid is the lowest responsive bid, by a responsible bidder, and which bid, if any, should be accepted in the best interest of the Owner. The Owner, in its sole discretion, reserves the right, but without obligation, to waive informalities and irregularities.

B. RESPONSIVENESS:

The Owner will consider all materials submitted by the bidder to determine whether the bidder's offering is in compliance with the Contract Documents.

C. RESPONSIBILITY:

The Owner will consider all materials submitted by the bidder, and evidence it may obtain otherwise, to determine whether the bidder, its key personnel, and proposed subcontractors have the qualifications and experience to successfully complete contracts of this type. Such evaluation will include, but not be limited to, the following factors: 1) whether the bidder has adequate financial resources to complete the work; 2) whether the bidder has the necessary experience and organization to perform the work satisfactorily; 3) whether the bidder has a satisfactory record of performance, integrity, experience, and skills to perform and complete the work; 4) whether the bidder has a history of completing, failing to complete, defaulting on or otherwise not completing construction contracts; and 5) whether the bidder's proposed major subcontractors appear capable of and have histories of successfully completing construction contracts.

D. LOWEST BID:

For purposes of award, the bid presenting the least grand total for the base bid will be deemed the low bid for the project.

1.11 EXECUTION OF CONTRACT

The party to whom the contract is awarded will be required to execute the Agreement and obtain the contract bonds within five (5) business days after the date on the NOTICE OF AWARD. Failure to return the signed agreement within this timeframe will result in the OWNER awarding the contract to the next lowest bidder. The NOTICE OF AWARD will be accompanied by the necessary Agreement.

The OWNER, within five (5) business days of receipt of the Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by written notice withdraw the signed Agreement. Such notice or withdrawal shall be effective upon receipt of the notice by the OWNER.

1.12 LABOR REQUIREMENTS

A. WAGE DETERMINATION:

This Contract is subject to Chapters 39.12 and 49.28 RCW, and amendments thereto and regulations issued there under, relating to prevailing wages, benefits and other requirements. Bidders shall examine and be familiar with such requirements and paragraph 00710-1.04. No claim for additional

compensation will be allowed which is based on a lack of knowledge or a misunderstanding of any such requirements by the bidder/Contractor or failure to include in the bidders bid price adequate increases in such wages during the performance of the contract. A copy of the Minimum Washington State Department of Labor and Industries Wage Determination is included in Section 00581.

B. SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION:

The Contractor shall comply with all state and federal laws and county and local ordinances and regulations which in any manner affect those engaged or employed in the work.

1.13 SOIL INFORMATION

Bidders should note that no geotechnical information exists for this project. Except as noted on the drawings, observation of subsurface conditions encountered during construction of the Spring Street Water, Sewer and Storm Drain Replacement Project in 2015 showed fine clayey silt in the areas to be excavated for this project. During construction, most of these areas were overlaid with plus or minus 4" of 5/8" minus gravel base and 4" to 6" of HMA. Bidders are cautioned to assume excavations to be open trench through gravel and silt for purposes of their bids.

1.14 SHEETING, SHORING AND BRACING

Each bidder shall list, in the bid item indicated, the amount included in his bid for trench and excavation, adequate sheeting, shoring and bracing, or equivalent method for the protection of life and limb, work which shall conform to applicable State of Washington Construction Safety Orders. By listing this sum in his bid, the bidder warrants that his action does not convey tort liability to the Owner, the Owner's employees, or the Construction Manager.

1.15 INVESTMENT OF RETAINED PERCENTAGE

Monies reserved by the Owner as a retained percentage from progress payments due the Contractor, pursuant to RCW 60.28.010, will be either retained in a fund by the Owner, deposited in an interest-bearing account in a bank, mutual savings bank or savings and loan association, or placed by the Owner in escrow with a bank or trust company of the Owner's choice, in accordance with paragraph 00710-7.01 C.3, and under terms acceptable to the Owner.

The Contractor shall notify the Owner of its election to have monies deposited in an interest bearing account or placed in escrow; otherwise the monies will be retained by the Owner with no interest paid thereon to the Contractor. Such written notification shall be delivered to the Owner prior to the Contractor's first request for a progress payment.

****END OF SECTION****

CONTRACTOR'S DECLARATION OF OPTION FOR MANAGEMENT OF STATUTORY
RETAINAGE PERCENTAGE

A. I hereby elect to have the retained percentage of this contract held in a fund by the Owner until thirty (30) days following final acceptance of the work.

Date _____ Signed _____

B. I hereby elect to have the Owner deposit the retained percentage of this contract in an interest bearing account, not subject to withdrawal until after final acceptance of the work.

Date _____ Signed _____

C. I hereby elect to have the Owner invest the retained percentage of this contract from time to time as such retained percentage accrues and in accordance with RCW 60.28.010, and RCW 60.28.050.

Date _____ Signed _____

D. I hereby designate _____ as the repository for the escrow of said funds.

Date _____ Signed _____

E. I hereby further agree to be fully responsible for payment of all costs or fees incurred as a result of placing said retained percentage in escrow and investing it as authorized by statute. The Owner shall not be liable in any way for any costs or fees in connection therewith.

Date _____ Signed _____

SECTION 00200 – RESPONSIBILITY CRITERIA

The Town's intent is to award the contract to the low responsible responsive bidder. However, before the Town awards a public works contract, state law authorizes a municipality to use certain criteria to determine that responsible contractors and subcontractors perform the work. Bidder responsibility is determined by the bidder successfully demonstrating its ability to satisfy the mandatory responsibility criteria and any project specific criteria established by the Town as authorized by RCW Chapter 39.04, including RCW 39.04.350, and as further detailed herein.

To comply with the responsibility criteria for this bid, a bidder must provide sufficient information as required. If the bidder fails to provide the requested information within the time and manner specified in these bid documents, the Town reserves the option to determine responsibility upon any available information related to the supplemental criteria and/or may find the bidder not responsible. If the lowest bidder is found not responsible, the Town reserves the right to award to the next low bidder without re-advertising or rebidding the project.

MANADATORY RESPONSIBILITY CRITERIA

A. **Bidder/Contractor Responsibility Criteria.** Before award, the bidder shall meet the following bidder responsibility criteria to be considered a responsible bidder. The Town may require the bidder to submit documentation demonstrating compliance with the criteria. The bidder must demonstrate to the Town's satisfaction that they:

1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, show proof of: (a) Industrial Insurance (workers' compensation)

coverage for the bidder's employees working in Washington, as required in Title 51 RCW; (b) a Washington Employment Security Department number, as required in Title 50 RCW; and, (c) a Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;

4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).

5. For public works projects subject to the apprenticeship utilization requirements of RCW 3.0.04.320, not have been found out of compliance by the Washington state apprenticeship and training council for working apprentices out of ratio, without appropriate supervision, or outside their approved work processes as outlined in their standards of apprenticeship under chapter 49.04 RCW for the one-year period immediately preceding the first date of advertising for the project.

6. The Bidder shall not have a record of two claims filed against the retainage or payment bonds for public works projects during the previous three years, that demonstrate a lack of effective management by the Bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Owner. For the purpose of this criterion, "Bidder" shall include the registered construction company submitting the bid, as well as the owner(s) of the company and any other construction companies the owner(s) may currently or previously have owned.

7. The Bidder shall not have lawsuits with judgments entered against the Bidder within five years of the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Owner. For the purpose of this criterion, "Bidder" shall include the registered construction company submitting the bid, as well as the owner(s) of the company and any other construction companies the owner(s) may currently or previously have owned.

B. Subcontractor Responsibility Criteria. Before award, the bidder shall verify responsibility criteria for each first tier subcontractor the contractor hires and a subcontractor of

any tier subcontractor that hires other subcontractors must verify responsibility criteria for each of its subcontractors. Verification shall occur at the time of subcontract execution and shall include that each subcontractor meets the responsibility criteria listed in subsection A above and possesses an electrical contractor license (if required by RCW Chapter 19.28) or an elevator contractor license (if required by RCW Chapter 70.87). These verification requirements, as well as the responsibility criteria, shall be included in each of the Contractor's subcontracts of any tier. The Contractor shall certify that this verification is complete prior to contract close-out.

****END OF SECTION****

SECTION 00300 - BIDDER'S CHECKLIST

PART - 1GENERAL

NOTE: The purpose of this checklist is to serve as a reminder of major items to be addressed in submitting a bid and is not intended to be all-inclusive. It does not alleviate the Bidder from the responsibility of becoming familiar with all aspects of the Project Manual and proper completion and submission of the bid.

- 1. Contract Documents thoroughly read and understood. _____
- 2. Attend prebid conference. _____
- 3. All blank spaces in proposal filled in, preferably in black ink. _____
- 4. Receipt of addenda acknowledged. _____
- 5. Bid Form and other documents making up the proposal signed by authorized officer. _____
- 6. Prices computed and presented correctly. _____
- 7. Subcontractors are named as indicated in the Contract Documents. _____
- 8. The following documents completed, signed, and dated as applicable.
 - a. Bid Proposal--Section 00305. _____
 - b. Non-Collusion Affidavit Certificate-- Section 00360. _____
 - c. Surety Information _____
 - d. Cashiers Check or Bid Guaranty Bond--Section 00410. _____
 - e. Statements of Bidders Experience and Qualifications-Section 00423. _____
 - f. Proposed Subcontractors--Section 00430. _____
- 9. Bid Guaranty Bond includes power of attorney dated same date as bid bond. _____
- 10. Bid documents submitted in sealed envelope and properly labeled. _____

****END OF SECTION****

BID PROPOSAL (Page 1 of 4)

TO: FRIDAY HARBOR TOWN COUNCIL DATE: _____
 TOWN OF FRIDAY HARBOR
 FRIDAY HARBOR, WA 98250

The undersigned BIDDER, having personally examined the location and work as outlined in the plans and specifications for Town of Friday Harbor, SPRING STREET POCKET PARK PROJECT, Friday Harbor, Washington, and having read and thoroughly understanding the plans, specifications, and contract governing the work embraced in this improvement, hereby proposes and agrees to perform all of the work and furnish all the equipment required thereby and to supply any and all of the labor, materials, tools, expendable equipment and all utility and transportation services necessary to perform the contract and to complete, in a workmanlike manner, all work covered by said contract for the following price and amounts set forth. The total bid price shall include all contract work including incidental items which may be a construction activity or material which is neither measured nor paid for separately, but whose cost is built into an item or items appearing in the bid proposal.

NO	DESCRIPTION	LUMP SUM AMOUNT (in numbers)			
1	BASE PROJECT all work for construction of the Spring Street Pocket Park except the unit price items below.	\$			
	Lump Sum Bid Written In Words:				
UNIT PRICE ITEMS (See Section 01012-Bid Item Descriptions)		UNIT	QTY	UNIT PRICE (\$)	EXTENDED PRICE (\$)
2	CEMENT VERTICAL CURB & GUTTER	LF	105		
	Unit Price Bid Written In Words:				
3	SAWCUTTING	LF	212		
	Unit Price Bid Written In Words:				

4	REMOVE AND DISPOSE OF EXISTING HMA	SY	570		
	Unit Price Bid Written In Words:				
5	ROADWAY EXCAVATION INCLUDING HAUL	CY	55		
	Unit Price Bid Written In Words:				
6	CSTC	TN	110		
	Unit Price Bid Written In Words:				
7	HMA PAVING	TN	120		
	Unit Price Bid Written In Words:				
8	RAISE SEWER MANHOLE	EA	2		
9	RAISE WATER VALVE	EA	3		
	Unit Price Bid Written In Words:				
TOTAL OF UNIT PRICE AMOUNTS (In Figures)				\$	
TOTAL OF UNIT PRICE AMOUNTS (In words)					

Subtotal (Base Bid plus Total of Unit Price Items):	
Washington State Sales Tax on Subtotal at 8.3%:	
Total proposal amount in figures: (Base bid plus Unit Price Total plus tax)	\$
Total proposal amount written in words (Base bid plus Unit Price Total plus tax):	

The undersigned BIDDER agrees to complete all work awarded to him/her within One Hundred Eighty Two (182) calendar days.

Receipt of Addendum Nos. _____ through _____ is hereby acknowledged.

If written notice of the acceptance of this bid is mailed, telegraphed or delivered to the undersigned within forty five (45) days after the date of the bids, or at any time thereafter before this bid is withdrawn, the undersigned agrees that he/she/it will execute and deliver a contract, in the form attached hereto as required by the contract documents, in accordance with the bid as accepted, and that he/she/it will give performance bonds as specified with good and sufficient surety or sureties, all within five (5) days (unless a longer period is allowed) after the prescribed forms are presented to him/her for signature.

Enclosed is security as required consisting of:

Indicate which:
Circle one: Cashier's check, Certified Check or Bid/Proposal Bond

in the amount of:

Security amount written in words
\$
Security amount written in dollars and cents

which amount is not less than five percent (5%) of the total proposal.

It is understood that the above prices do not include Washington State Sales Tax and that the OWNER agrees to pay Washington State Sales Tax to the BIDDER as an additional and separate pay item not included in the above lump sum bid

for all improvements, such as utility improvements for which the OWNER is not exempt from Washington State Sales Tax.

The party by whom this BID is submitted, and by whom the contract will be entered into in event the award is made to him/her, is a

Indicate which:
Circle one: Corporation, Partnership, or Individual

doing business as and to which NOTICE OF ACCEPTANCE should be sent:

Legal Name of Company
Mailing Address

Contractor's Registration No.

Contractor's State Tax Registration No.

By:
Title:

NOTE: If the bidder is a co-partnership, so state, giving firm name under which business is transacted. If the bidder is a corporation, this bid must be executed by its duly authorized officials.

END OF SECTION

SURETY INFORMATION

(Page 1 of 1)

SURETY: If the BIDDER is awarded a construction Contract on this PROPOSAL, the Surety who provides the Performance and Payment Bonds will be:

Company Name: _____

Mailing Address: _____

City, State, Zip: _____

Telephone No.: _____

BIDDER INFORMATION: If the BIDDER is awarded a construction Contract on this PROPOSAL, the names of the principal officers of the corporation or partnership, submitting the PROPOSAL, or of all persons interested in this PROPOSAL as principals are to be listed along with the address to which all communications concerned with this PROPOSAL and with the Contract are to be sent:

Company Name: _____

Mailing Address: _____

City, State, Zip: _____

Telephone No.: _____

Interested Persons: _____

IF SOLE PROPRIETOR OR PARTNERSHIP: IN WITNESS HERETO, the undersigned has set his/her hand this _____ day of _____, 2010.

By: _____

Title: _____

IF CORPORATION: IN WITNESS WHEREOF, the undersigned Corporation has caused this instrument to be executed, and its seal affixed by its duly authorized officers this _____ day of _____, 2011.

Attest:

Secretary

Name of Corporation

BY:

Title:

Sworn before me this _____ day
of _____, 2011

KNOW ALL PEOPLE BY THESE PRESENTS:

That we, the undersigned, as PRINCIPAL and SURETY, are held and firmly bound unto the Town of Friday Harbor, as OBLIGEE, in the penal sum of:

Security amount written in words

\$

Security amount written in dollars and cents

for the payment of which the PRINCIPAL and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

The condition of this obligation is such that if the OBLIGEE shall make any award to the PRINCIPAL for the Spring Street Pocket Park Project according to the terms of the PROPOSAL or bid made by the PRINCIPAL therefore and the PRINCIPAL shall duly make and enter into a contract with the OBLIGEE in accordance with the terms of said PROPOSAL or bid and award and shall give bond for the faithful performance thereof with SURETY or SURETIES approved by the OBLIGEE; or, if the PRINCIPAL shall in case of failure to do so, pay and forfeit to the OBLIGEE the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the SURETY shall forthwith pay and forfeit to the OBLIGEE, as penalty and liquidated damages, the amount of this bond.

Signed and sealed this _____ day of _____, 2010.

By: _____
(Name of PRINCIPAL)

Title: _____

By: _____
(Name of SURETY)

Title: _____

STATEMENT OF BIDDER'S QUALIFICATIONS

(Page 1 of 1)

Each BIDDER submitting a PROPOSAL on work included in these specifications shall prepare and submit as part of his/her bid the data requested in the following schedule:

A. Name of Bidder: _____

B. Business Address: _____

C. Telephone: _____

D. State of WA Registration No. _____

E. Years contracting business under present name: _____

F. Gross amount of contracts now in hand: _____

G. General character of work performed: _____

H. List of recent projects constructed by said company, including approximate cost, dates and owner:

I. List of company's major equipment:

J. Bank references:

By: _____

Title: _____

SECTION 00430 - PROPOSED SUBCONTRACTORS

The following information gives the name, business address, and portion of work (description of work to be done) for each subcontractor that will be used in the work if the bidder is awarded the contract. No subcontractor doing work in excess of five percent of the total amount of the bid and who is not listed shall be used without the written approval of the Owner. (Additional supporting data may be attached to this page. Each page shall be sequentially numbered, e.g., 00430-2, and headed "Proposed Subcontractors" and shall be signed.)

<u>Name</u>	<u>Business Address</u>	<u>Description of Work</u>
-------------	-------------------------	----------------------------

Signature of Bidder

****END OF SECTION****

SECTION 00510 - AGREEMENT

THIS CONTRACT, made and entered into this _____ day of _____, 2017, by and between the TOWN OF FRIDAY HARBOR, a municipal corporation, hereinafter called the OWNER, and _____ hereinafter called the CONTRACTOR.

WITNESSETH

The CONTRACTOR, in consideration of the sum to be paid him/her by the Owner and of the covenants and agreements herein contained, hereby agrees, at his/her own proper cost and expense, to do all the work and furnish all the materials, tools, labor, and all appliances, machinery, and appurtenances for the installation of the Spring Street Pocket Park Project, and associated work to the extent of the Bid Proposal made by the contractor, dated the _____ day of _____, 2017, all in full compliance with the Contract Documents referred to herein.

For purposes of this agreement the Contract consists of all of the following documents, all of which are incorporated by reference as if set forth in full herein, and are component parts hereof:

- 00020 Request For Sealed Bids
- 00100 Instructions To Bidders
- 00300 Bidder's Checklist
- 00305 Bid Proposal
- 00360 Non-Collusion Affidavit Certificate
- 00405 Surety Information
- 00410 Bid Guaranty Bond
- 00423 Statements Of Bidder's Experience And Qualifications
- 00430 Subcontractor Listing
- 00510 Agreement
- 00581 Washington State Department Of Labor And Industries Prevailing Wage Rates
- 00610 Faithful Performance Bond
- 00620 Payment Bond
- 00710 General Conditions of the Construction Contract
- The project technical specifications
- The Contract Drawings
- All Addenda

In consideration of the performance of the work as set forth in these contract documents, the Owner agrees to pay to the CONTRACTOR the amount bid in the BID PROPOSAL as adjusted in accordance with the contract documents, or as otherwise herein provided, and to make such payments in the manner and at the times provided in the contract documents.

The Contractor agrees to complete the work within the time specified herein and to accept as full payment hereunder the amounts computed as determined by the contract documents and based on the said BID PROPOSAL.

The CONTRACTOR agrees to remedy all defects appearing in the work or developing in the materials furnished and the workmanship performed under this CONTRACT for a period of one

(1) year after the date of acceptance of the work by the Owner, and further agrees to indemnify and save the OWNER harmless from any costs encountered in remedying such defects.

It is agreed the time limit for completion of the CONTRACT, based upon the PROPOSAL shall be one hundred eighty two (182) calendar days for all items after date of OWNER's written notice to proceed.

In witness whereof, we the parties hereto, each herewith subscribe the same this _____ day of _____, 2017.

CONTRACTOR:

By:

Name

Title:

TOWN OF FRIDAY HARBOR:

By:

Carrie Lacher

Title: Mayor

SECTION 00581 - WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES PREVAILING WAGE RATES

(1) In accordance with paragraph 00100-1.12 A, minimum wage rates shall be the Washington State Department of Labor and Industries wage rates (Section 00581).

(2) Wage rates that apply to this contract will be the latest as published by the Washington State Department of Labor and Industries, available from:

Prevailing Wage Office

P. O. Box 44540

Olympia, Washington 98504-4540

(360) 902-5335

pw1@lni.wa.gov

Current wage rates may also be obtained on-line at the following web address:

<http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates/default.asp>

In the event that the wage determination decision of the Washington State Department of Labor and Industries, which is attached hereto and made a part hereof, has been superseded by any subsequent wage determination decision(s) published up to and including 10 days prior to bid opening, the most recent applicable wage decision shall be incorporated by reference, and the successful bidder agrees to be bound by it, regardless of what is contained in the specifications.

(3) Before any payment is made by the Local Government Body of any sums due under this contract, the Local Government Body must receive from the Contractor and any subcontractor a copy of the "Statement of Intent to Pay Prevailing Wages" approved by the Washington State Department of Labor and Industries. Also following the acceptance of the project, the Local Government Body must receive from the Contractor and each subcontractor a copy of the "Affidavit of Wages Paid" and in addition, from the prime Contractor, a copy of "Release for the Protection of Property Owners and General Contractor," all approved by the State Department of Labor and Industries. The Contractor and each subcontractor shall pay all fees associated with and make all applications directly to the Department of Labor and Industries. Forms may be obtained from the Department of Labor and Industries. These affidavits will be required before any funds retained, according to the provisions of RCW 60.28.010, are released to the Contractor. Payment by the Contractor or subcontractor of any fees shall be considered incidental to the construction and all costs shall be included in other pay items of the project.

SECTION 00610 - PERFORMANCE BOND

KNOW ALL PEOPLE BY THESE PRESENTS: That whereas the **TOWN OF FRIDAY HARBOR**, Washington has awarded to _____ (Contractor), hereinafter designated as the "Principal", a Contract for construction of the **SPRING STREET POCKET PARK PROJECT** which Contract consists of Specifications and Contract Documents, Plans, Accepted Proposal, and Agreement, all as attached hereto and made a part hereof, and whereas, said Principal is required under the terms of said contract to furnish a bond for faithful performance of said contract;

NOW, THEREFORE, we the Principal and _____, a corporation organized and existing under and by virtue of the laws of the State of _____, and duly authorized to do business in the State of Washington as surety, are held and firmly bound unto the **TOWN OF FRIDAY HARBOR**, for and in behalf of _____ in the sum of _____ Dollars (\$_____), lawful money of the United States, for 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 those presents. The performance bond shall be for 100 percent of the contract amount.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the above-noted Principal, his/her or its 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 agreements in the said contract, and shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, at the time and in the manner therein specified, and shall pay all laborers, mechanics, subcontractors and materialman, and all persons who shall supply such person or persons or subcontractors, with provisions and supplies for the carrying on of such work, on his/her or their part, and shall indemnify and save harmless the **TOWN OF FRIDAY HARBOR**, its officers and agents; and shall further save harmless and indemnify said **TOWN OF FRIDAY HARBOR** from any defect or defects, in any of the workmanship or materials entering into any part of the work or designated equipment covered by said Contract, which shall develop or be discovered within one (1) year after the final acceptance of such work, and this obligation then shall become null and void; otherwise it shall be and remain in full force and effect; provided that the liability hereunder for defects in materials and workmanship for a period of one (1) year after the acceptance of the work shall not exceed the sum of:

_____ Dollars
(\$_____). (Ten percent (10%) of contract sum)

PROVIDED FURTHER, that the said surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alterations or additions to the terms of the contract or the work or to the specifications. provided that said changes, extensions, alterations and additions, shall not increase the surety obligations under this bond by more than 10 percent (10%) of the contract price without written consent of the surety.

IN WITNESS WHEREOF, the said Principal and the said Surety have caused this bond and two (2) counterparts thereof to be signed and sealed by their duly authorized officers this _____ day of _____, 2011.

Corporate Seal

Principal
By: _____
Title _____

WITNESSES(Two):

ATTEST (If Corporation)

By _____

Surety

Title

By _____, Its _____

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is Partnership, all partners should execute Bond.

SECTION 00620 - PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT, WHEREAS, Town of Friday Harbor, hereinafter designated the "Owner," has, on _____, 2011, awarded to _____, hereinafter designated as the "Principal," a contract for the construction of the Town of Friday Harbor **SPRING STREET POCKET PARK PROJECT**, and

WHEREAS, said Principal is required to furnish a bond in connection and with said contract, providing that if said Principal, or any of his or its subcontractors, shall fail to pay for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, the Surety of this bond will pay the same to the extent hereinafter set forth:

NOW, THEREFORE, WE, the Principal, and _____, as Surety, are held and firmly bound unto the Owner 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, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal, his or its heirs, executors, administrators, successors, or assigns, shall fail to pay for any materials, provisions, or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind or for amount due under the Unemployment Insurance Act with respect to such work or labor, and provided that the persons, companies, or corporations so furnishing said materials, provisions, or other supplies, appliances, or power use, in, upon, for, or about the performance of the work contracted to be executed or performed, or any person who performs work or labor upon same, or any person who supplies both work and materials, thereto, then said surety will pay the same in or to an amount not exceeding the amount hereinabove set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fees to the Owner as shall be fixed by the court.

This bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under law, so as to give a right of action to them or their assigns in any suit brought upon this bond.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition of the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall, in any way, affect its obligations of this bond, and it does hereby waive notice of any change, extension of time, alteration, or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this ____ day of _____, 2011, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Principal
(Seal)

Signature for Principal Title

Surety
(Seal)

Signature for Surety Title

****END OF SECTION****

SECTION 00710 - GENERAL CONDITIONS

PART 1--GENERAL INFORMATION

1.01 DEFINITIONS OF WORDS AND TERMS

Where used in the project manual, the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular, plural, masculine and feminine of the words and terms.

Acceptance. Formal action of the Owner in determining that the Contractor's work has been completed in accordance with the contract and in notifying the Contractor in writing of the acceptability of the work.

Act of God. A cataclysmic phenomenon of nature, such as an earthquake, flood or cyclone. Rain, wind, high water, or other natural phenomenon which might reasonably have been anticipated from historical records of the general locality of the work shall not be construed as acts of God.

Addenda. Supplemental written specifications or drawings issued prior to execution of the contract which modify or interpret the project manual by addition, deletion, clarification, or corrections.

Bid. Offer of a bidder submitted on the prescribed form setting forth the price or prices of the work to be performed.

Bidder. Individual, partnership, corporation, or a combination thereof, including joint venturers, offering a bid to perform the work.

Construction Manager. The person designated, in writing, by the Owner to act as its representative and to perform administrative functions relating to this contract. Initial contact by the Contractor with the Owner shall be through the Construction Manager.

Contract. The writings and drawings embodying the legally binding obligations between the Owner and the Contractor for completion of the work. Also called the Project Manual or Procurement Document. The contract comprises the following documents:

- Project Manual
 - Part A: Advertisement for Bids
 - Information for Bidders
 - Bid Form
 - General Conditions
 - Supplementary Conditions
 - Part B: Specifications
 - Part C: Contract Drawings
 - Part D: Addenda
- Bonds
- Agreement

Notice of Award
Notice to Proceed
Change Orders

Contract Drawings. The drawings included in the project manual plus those prepared by the Owner and the Contractor pursuant to the terms of the contract. They include:

1. Drawings in Part C of the project manual.
2. Modifying drawings issued by addenda.
3. Drawings submitted by the Contractor during the progress of the work and accepted by the Owner either as attachments to change orders or as non-modifying supplements to drawings in Part C and drawings issued by addenda.
4. Drawings submitted by the Owner to the Contractor during the progress of the work either as attachments to the change orders or as explanatory supplements to drawings in Part C and drawings issued by addenda.

Under this contract "Contract Drawings" and "Drawings" are used interchangeably.

Contract Price. Amount payable to the Contractor under the terms and conditions of the contract. Based on the price given on the bidding schedule, with adjustments made in accordance with the contract. The base amount given in the bidding schedule shall be either a lump sum bid or the summation of the unit price bids multiplied by the estimated quantities set forth in the bid form.

Contract Time. Number of calendar days stated in the contract for the completion of the work or portions thereof.

Contractor. The individual, partnership, corporation, or combination thereof, including joint venturers who enter into the contract with the Owner for the performance of the work. The term covers subcontractors, equipment and material suppliers, and their employees.

Contractor's Plant and Equipment. Equipment, material, supplies, and all other items, except labor, brought onto the site by the Contractor to carry out the work, but not to be incorporated in the work.

Day. Calendar day.

Design Engineer. Brown and Caldwell, Inc.

Direct. Action of the Owner or Construction Manager by which the Contractor is ordered to perform or refrain from performing work under the contract.

Directive. Written documentation of the actions of the Owner or Construction Manager in directing the Contractor.

Equipment. Mechanical, electrical, instrumentation, or other device with one or more moving parts, or devices requiring an electrical, pneumatic, electronic, or hydraulic connection.

Furnish. To deliver to the job site or other specified location any item, equipment or material.

Herein. Refers to information presented in the project manual.

Holidays. Legal holidays designated by the state or specifically identified in the supplementary conditions.

Install. Placing, erecting, or constructing complete in place any item, equipment, or material.

May. Refers to permissive actions.

Owner. A public or quasi-public agency or authority, corporation, association, partnership, or individual for whom the work is to be performed. Under this contract, the Owner is identified by name in the agreement.

Owner's Representative. The person designated in writing by the Owner to act as its agent on specified matters relating to this contract.

Paragraph. For reference or citation purposes, paragraph shall refer to the paragraph, or paragraphs, called out by section number and alphanumeric designator. For example, this definition is found in paragraph 00710-1.01; permits and licenses are discussed in paragraph 00710-1.05 B.

Person. The term, person, includes firms, companies, corporations, partnerships, and joint ventures, as well as persons.

Project. The undertaking to be performed under the provisions of the contract.

Project Manual. Those contract documents prepared for bidding and as amended by addenda. See Contract.

Provide. Furnish and install, complete in place.

Punch List. List of incomplete items of work and of items of work which are not in conformance with the contract. The list will be prepared by the Construction Manager when the Contractor (1) notifies the Construction Manager in writing that the work has been completed in accordance with the contract and (2) requests in writing that the Owner accept the work.

RCW. Abbreviation for the Revised Code of Washington.

Shall. Refers to actions by either the Contractor or the Owner and means the Contractor or Owner has entered into a covenant with the other party to do or perform the action.

Shown. Refers to information presented on the drawings, with or without reference to the drawings.

Specifications. That part of the contract documents consisting of written descriptions of the technical features of materials, equipment, construction systems, standards, and workmanship.

Specify. Refers to information described, shown, noted or presented in any manner in any part of the contract.

Submittals. The information which is specified for submission to the Construction Manager in accordance with Division 1 of the project manual.

Substantial Completion. Sufficient completion of the project or the portion thereof to permit utilization of the project, or portion thereof for its intended purpose. Substantial completion requires not only that the work be sufficiently completed to permit utilization, but that the Owner can effectively utilize the substantially completed work. Determination of substantial completion is solely at the discretion of the Owner. Substantial completion does not mean complete in accordance with the contract nor shall substantial completion of all or any part of the project entitle the Contractor to acceptance under the contract.

Substantial Completion Date. Date when the Owner puts into service the project, or that portion of the project that has been determined to be substantially complete.

Will. Refers to actions entered into by the Contractor or the Owner as a covenant with the other party to do or to perform the action.

Work. The labor, materials, equipment, supplies, services, and other items necessary for the execution, completion and fulfillment of the contract.

1.02 JOINT VENTURE CONTRACTOR

In the event the Contractor is a joint venture of two or more contractors, the grants, covenants, provisos and claims, rights, power, privileges and liabilities of the contract shall be construed and held to be several as well as joint. Any notice, order, direct request or any communication required to be or that may be given by the Owner or the Construction Manager to the Contractor under this contract, shall be well and sufficiently given to all persons being the Contractor if given to any one or more of such persons. Any notice, request or other communication given by any one of such persons to the Owner or the Construction Manager under this contract shall be deemed to have been given by and shall bind all persons being the Contractor.

1.03 CONTRACT REQUIREMENTS

A. SUCCESSORS' OBLIGATIONS:

The grants, covenants, provisos and claims, rights, powers, privileges and liabilities obtained in the contract documents shall be read and held as made by and with, and granted to and imposed upon, the Contractor and the Owner and their respective heirs, executors, administrators, successors and assigns.

B. ASSIGNMENT OF CONTRACT:

The contract shall not be assigned in whole or in part without the written consent of the Owner. Involuntary assignment of the contract as caused by the Contractor being adjudged bankrupt, assignment of the contract for the benefit of Contractor's creditors or appointment of a receiver on account of Contractor's insolvency shall be considered as failure to comply with the provisions of the contract and subject to the termination provisions contained herein.

C. WAIVER OF RIGHTS:

Except as herein provided, no action or want of action on the part of the Contractor, Owner, or Construction Manager at any time with respect to the exercise of any right or remedies conferred upon them under this contract shall be deemed to be a waiver on the part of the Contractor and Owner of any of their rights or remedies. No waiver shall be effective except in writing by the party to be charged. No waiver of one right or remedy shall act as a waiver of any other right or remedy or as a subsequent waiver of the same right or remedy.

D. OFFER OF ASSIGNMENT OF ANTITRUST ACTIONS:

In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

E. AMENDMENT OF GENERAL CONDITIONS:

These general conditions may be amended only by mutual consent of the Owner and the Contractor in writing.

1.04 LABOR STANDARDS

A. WAGES OF EMPLOYEES:

1. GENERAL: Pursuant to the requirements of Chapter 39.12 RCW, the Contractor and each subcontractor or other person doing the whole or any part of the work to be performed under this contract in the State of Washington shall pay each employee working in the State of Washington an amount not less than the general prevailing rate of wage, as specified by the Industrial Statistician of the Department of Labor and Industries of Washington State, paid in the vicinity of the work to be performed under this contract for the particular grade or occupation of each employee. Any employee whose type of work is not covered by any of the classified wage rates specified by the Industrial Statistician shall be paid not less than the rate of wage listed for the classification which most nearly corresponds to the type of work performed.

In case any dispute arises as to what are the prevailing rates of wages for work of a similar nature which cannot be adjusted by the parties of interest, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries of the State of Washington, and his decision therein shall be final and conclusive and binding on all parties involved in the dispute. The schedule of prevailing wage rates as determined by the Industrial Statistician for the locality or localities where this contract will be performed are by this reference made a part of this contract as though fully set forth herein. The Contractor shall be held responsible for notifying his subcontractors of these wage requirements. Failure by either the Contractor or any subcontractor to comply with the requirements of Chapter 39.12 RCW will result in delay of payment to the Contractor and/or imposition of any other sanctions as may be available under the law and this contract.

2. CONTRACTOR'S RESPONSIBILITY: The Contractor will be held responsible for paying not less than the prevailing wages, including increases in such wages, over the term of this agreement. It is, therefore, imperative that the Contractor and his subcontractors familiarize themselves with the wage rates before submitting bids based upon these specifications.

B. PAYMENT CERTIFICATES:

The Contractor and each subcontractor on or before the date of commencement of the work shall file a statement under oath with the Owner and with the Washington State Department of Labor and Industries certifying the rate of hourly wage including the usual benefits paid and to be paid each classification of laborers, workmen, or mechanics employed upon the work by the Contractor or subcontractor which shall not be less than the prevailing rate of wage. No payment will be made to the Contractor prior to the submission of such statements and the issuance by the Industrial Statistician of said Department of an acknowledgement of approval. Such statement and any supplemental statements which may be necessary shall be filed in accordance with the practices and procedures required by the Department of Labor and Industries. Upon the completion of the work, the Contractor and all of his subcontractors shall submit affidavits of wages paid to the Department of Labor and Industries in such form as may be required by said Department. Payment of the retained percentage will not be made until certification is received from the Department of Labor and Industries that the prevailing wage requirements of state law have been satisfied. Any fees charged by the Department of Labor and Industries for filing such statements or submitting such affidavits shall be the responsibility of the Contractor, and each subcontractor; if, for any reason, the Owner pays such fees, then the Contractor shall be charged the amounts thereof.

C. HOURS OF LABOR:

Pursuant to RCW 49.28.010 to 49.28.030, eight hours of labor shall constitute a legal day's work. The Contractor or any subcontractor shall not require more than eight hours of labor in a day from any person employed in the performance of the work under this contract. Failure of the Contractor to perform the work in accordance with this policy of the State of Washington shall be deemed a failure on his part to comply with the provisions of this contract within the meaning of paragraph 00710-6.04 A.

D. OVERTIME WORK:

Overtime and shift work may be established as a regular procedure by the Contractor with reasonable notice and written permission of the Owner. No work other than overtime and shift work established as a regular procedure shall be performed between the hours of 7:00 p.m. and 7:00 a.m. nor on Saturdays, Sundays or holidays except such work as is necessary for the proper care and protection of the work already performed or in case of an emergency.

Contractor agrees to pay the costs of overtime inspection except those occurring as a result of overtime and shift work established as a regular procedure. Overtime inspection shall include inspection required during holidays, Saturdays, Sundays and weekdays between the hours of 7:00 p.m. and 7:00 a.m. Costs of overtime inspection will cover engineering, inspection, general supervision and overhead expenses which are directly chargeable to the overtime work. Contractor agrees that Owner shall deduct such charges from payments due the Contractor.

1.05 LAWS, REGULATIONS AND PERMITS

A. GENERAL:

The Contractor shall give the notices required by law and comply with all laws, ordinances, rules and regulations pertaining to the conduct of the work. The Contractor shall be liable for violations of the law in connection with work provided by the Contractor. If the Contractor observes that the drawings, specifications or other portions of the project manual are at variance with any laws, ordinances, rules or regulations, he shall promptly notify the Construction Manager in writing of such variance. The Owner shall promptly review the matter and, if necessary, shall issue a change order or take any other action necessary to bring about compliance with the law, ordinance, rule or regulation in question. Contractor agrees not to perform work known to be contrary to any laws, ordinances, rules or regulations.

B. PERMITS AND LICENSES:

Unless otherwise specified herein, permits and licenses from governmental agencies which are necessary only for and during the prosecution of the work and the subsequent guarantee period shall be secured and paid for by the Contractor. Permits and licenses of regulatory agencies which are necessary to be maintained after completion of the guarantee period shall be secured and paid for by the Owner. The Contractor shall obtain and pay for a Town Business License (\$42.00).

C. PATENTS AND ROYALTIES:

The costs involved in fees, royalties or claims for any patented invention, article, process or method that may be used upon or in a manner connected with the work under this contract or with the use of completed work by the Owner, shall be paid by the Contractor. The Contractor and his sureties shall protect and hold the Owner, the design engineer, and the Construction Manager, together with their officers, agents and employees, harmless from any and all loss, defense cost, and expenses and against any and all demands made for such fees or claims brought or made by the holder of any invention or patent. Before final payment is made on the account of this contract, the Contractor shall, if requested by the Owner, furnish acceptable proof of a proper release from all such fees or claims.

Should the Contractor, his agent, employee or any of them be enjoined from furnishing or using any invention, article, material or plans supplied or required to be supplied or used under this contract, the Contractor shall promptly pay such royalties and secure the requisite licenses; or, subject to acceptance by the Owner, substitute other articles, materials or appliances in lieu thereof which are of equal efficiency, quality, finish, suitability and market value to those planned or required under the contract. Descriptive information of these substitutions shall be submitted to the Construction Manager for determination of general conformance to the design concept and the construction contract. Should the Owner elect to refuse the substitution, the Contractor agrees to pay such royalties and secure such valid licenses as may be requisite for the Owner, his officers, agents and employees or any of them, to use such invention, article, material or appliance without being disturbed or in any way interfered with by any proceeding in law or equity on account thereof.

1.06 HEADINGS

Headings to parts, divisions, sections, paragraphs, subparagraphs and forms are inserted for convenience of reference only and shall not affect the interpretation of the contract documents.

1.07 SUBCONTRACTS

The Contractor shall perform with his own organization not less than one-half of all required work. The Contractor shall not sublet to one subcontractor more than one-third of the work without the previous written consent of the Owner.

1.08 DISRUPTIONS CAUSED BY LABOR OR OTHER DISPUTES

The Contractor shall take all reasonable steps to prevent all disputes arising from the presence of or the performance of work by the Contractor and any of its subcontractors or suppliers from: (1) disrupting the work under this Contract; (2) interfering with access to the Owner's property by the Owner, including its agents, representatives, employees and officials; (3) interfering with access and work by any other contractors engaged in construction activities; and, (4) interfering with access to property by members of the public.

If such a dispute disrupts the work under this Contract or interferes in any way with access to the Owner's property or to the site of the work by any persons, the Contractor shall promptly and expeditiously take all reasonable actions to eliminate or minimize such disruption or interference, including but not limited to: (1) utilizing all reasonable means to prevent all unlawful conduct or picketing, and restricting all lawful picketing or other activities to a single entrance to the property or site of the work; (2) posting notices or signs which advise interested persons and labor organizations that a particular entrance to the property or site of the work is for the employees of "primary" or, as the case may be, "neutral" employers; (3) policing entrances to ensure that only authorized personnel use the entrances; (4) notifying all interested labor organizations of the "primary" or "neutral" status of particular entrances; (5) upon request of the Owner, altering or rerouting the access to the site; and (6) in the event of any such picketing or activity is unlawful or has a secondary impact upon the employees of neutral employers, promptly and expeditiously taking appropriate action to seek recourse through the appropriate governmental agency or state or federal courts to limit the location of such picketing or activity so as to reduce the impact thereof upon neutral employers.

The Owner will cooperate with the Contractor to accomplish the foregoing actions and will render assistance as may be in the best interests of the Owner. However, the Owner shall have the right, without providing additional compensation to the Contractor, to direct the Contractor to modify any of the foregoing actions the Contractor has taken or plans to take or to overrule such actions, to designate the entrances to be used as "primary" or "neutral" entrances, and to take appropriate legal action in order to protect the Owner's property and interests. Neither the failure of the Owner to request that the Contractor take a specific action nor the exercise by the Owner of its rights hereunder shall modify or constitute a defense to or waiver of the obligations imposed upon the Contractor in this paragraph. Failure by the Contractor to take the actions described above or to comply with the directives of the Owner shall be considered a material breach of this Contract and the Owner shall have all rights provided by law and in this Contract for such breach.

In any event, to the maximum extent permitted by law, the Contractor shall be liable for and shall defend, indemnify, save and hold harmless the Owner and its agents, representatives, employees and officials from: (1) all claims, suits, or actions brought against the Owner by any third party (including, but not limited to, contractors, licensees and invitees of the Owner), including the costs of the same and attorney's and consultant's fees, which claims, suits, actions, damages or costs are caused in whole or in part by any dispute which disrupts the work hereunder or otherwise interferes with access to the Owner's property; (2) all damages sustained by the Owner, including but not limited to the costs incurred by the Owner in relocating or rerouting access to the Owner's property and for taking other actions required to maintain the uninterrupted progress of work under this Contract or other contracts and the uninterrupted operations of the Owner's facilities; and (3) all extra costs incurred by the Owner in administering this Contract, including attorney's and consultant's fees, arising from such disruptions or interference.

The term "dispute" as used in this paragraph 00710-1.08 includes labor-related and non labor-related disputes, whether or not the person or other entities involved in the dispute have an employment relationship with either the Contractor or the Owner. Examples of such disputes include, but are not limited to, informational or other picketing, and all other forms of concerted or nonconcerted activity.

The Owner shall be entitled to recover from the Contractor all of the attorney's fees and costs incurred by the Owner in establishing or enforcing the Owner's right to indemnity under this paragraph 00710-1.08.

PART 2--OWNER-CONTRACTOR RELATIONS

2.01 AUTHORITY OF THE OWNER

A. GENERAL:

The Owner, acting through the Owner's Representative and the Construction Manager, shall be the sole judge of the work and materials with respect to both quantity and quality as set forth in the Contract. It is expressly stipulated that the Drawings, Specifications and other Contract Documents set forth the requirements as to the nature of the completed work and do not purport to control the means or method of performing work except in those instances where the nature of the completed work is dependent on the method of performance. The Owner's Representative will designate the Construction Manager and notify the Contractor in writing.

B. AUTHORITY OF OWNER'S REPRESENTATIVE

1. GENERAL. The Owner's Representative or the Owner's Representative's designee shall act on behalf of the Owner on change orders, extensions in time, progress payments, contract interpretation and administrative decisions, acceptability of the Contractor's work, early possession, assessment of damages and all other matters related to administration of this Contract.

2. CHANGE ORDERS. The Owner's Representative or the Owner's Representative's designee shall accept or reject change orders.

3. PROGRESS PAYMENTS. The Owner's Representative or the Owner's Representative's designee shall accept or reject requests for progress payments which have been submitted by the Contractor and recommended by the Construction Manager.

4. CONTRACT DECISIONS. Should the Contractor disagree with the Construction Manager's decision with respect to the Contract, the Contractor may request that the Owner's Representative or the Owner's Representative's designee review the Construction Manager's decision and make a determination on behalf of the Owner in the manner provided under paragraph 00710-2.04 G.2.

5. ACCEPTABILITY OF WORK. The Owner's Representative or the Owner's Representative's designee shall make determinations of the acceptability of the work. The Owner's Representative or the Owner's Representative's designee also shall accept or reject the Construction Manager's recommendations regarding retention of defective work as provided in paragraph 00710-4.09.

6. EARLY POSSESSION. The Owner's Representative or the Owner's Representative's designee shall determine whether to take early possession in accordance with paragraph 00710-6.05.

7. ASSESSMENT OF DAMAGES. The Owner's Representative or the Owner's Representative's designee shall determine amounts to be assessed as damages hereunder.

C. AUTHORITY OF CONSTRUCTION MANAGER

1. GENERAL. The Construction Manager is the construction site representative of the Owner. The Owner's Representative has delegated the authority to the Construction Manager to make decisions regarding questions which may arise as to the quality or acceptability of materials and work furnished, the manner of performance and the rate of progress of the work under the Contract. The Construction Manager interprets the intent and meaning of the Contract and makes decisions with respect to the Contractor's entitlement to compensation. The Contractor shall look initially to the Construction Manager in matters relating to compliance with Contract requirements. The Construction Manager's decisions are subject to review by the Owner's Representative in accordance with paragraph 00710-2.04 G.2.

2. INSPECTION OF CONSTRUCTION. The Construction Manager and its designated representative(s) shall have access to the work and to the site of the work and to the places where work is being prepared or where materials, supplies, equipment, machinery and other items are being obtained for the work. If requested by the Construction Manager, the Contractor shall provide the assistance necessary for obtaining such access, and shall provide information related to the inspection of construction. Absence of such access or information, as and when needed, will result in the non-acceptance of the work.

3. CHANGE ORDERS. The Construction Manager has the authority to initiate and recommend approval of change orders, subject to review by the Owner's Representative or the Owner's Representative's designee.

4. PROGRESS PAYMENTS. The Construction Manager has the authority to process payment requests submitted by the Contractor and recommend payment in accordance with paragraph 00710-7.01.

5. POSSESSION. The Construction Manager has the authority to recommend the taking possession by the Owner of completed portions of the work, in accordance with paragraph 00710-6.05.

D. USE OF CONTRACTOR'S PLANT AND EQUIPMENT

The Owner's Representative shall have the right to make use of the Contractor's plant and equipment for the performance of work at the site. The Owner agrees that such use of plant and equipment will be considered as extra work and paid for accordingly, unless such use is necessary to protect or preserve the work from damage threatened or caused by acts of Nature or Contractor breach of contract.

2.02 AUTHORITY OF CONTRACTOR

A. CONTRACTOR'S REPRESENTATIVE

The Contractor shall in writing notify the Construction Manager of the name of the Contractor's Representative. The Contractor's Representative shall supervise the work to ensure that the Contractor carries out the provisions of the Contract and provides all necessary supplies, services, materials, equipment, tools and labor without delay. The Contractor's Representative shall have the authority to act for the Contractor in all matters relating to this Contract unless the Owner is advised in writing of limitations on said authority. The Contractor shall provide full-time supervision whenever its employees, subcontractors or suppliers are performing work under this Contract.

B. CONSTRUCTION PROCEDURES

The Contractor shall actively supervise and direct the work at all times. The Contractor shall determine the means, methods, techniques, sequences and procedures of construction, except in those instances where the Contract Documents, to define the quality or sequencing of an item of work, specify a means, method, technique, sequence or procedure for construction of that item of work.

2.03 RESPONSIBILITIES OF CONTRACTOR

A. SUBCONTRACTORS, MANUFACTURERS AND SUPPLIERS

The Contractor shall be responsible for the adequacy, timeliness, efficiency and sufficiency of its subcontractors, manufacturers, suppliers and their employees. References in the Contract, if any, to actions required of subcontractors, manufacturers, suppliers, or any person other than the Contractor, the Owner or the Construction Manager shall be interpreted as requiring that the Contractor shall require such subcontractor, manufacturer, supplier or person to perform the specified action.

B. CONTRACTOR'S EMPLOYEES

The Contractor shall be responsible for the adequacy, timeliness, efficiency and sufficiency of its employees. Workers shall have sufficient knowledge, skill and experience to perform properly the work assigned to them. The Contractor's and its subcontractor's employees shall be properly licensed, registered or certified, as applicable, to perform their assigned work. Upon request of the Construction Manager, the Contractor shall provide copies of licenses, registrations or certifications held by its employees. In addition, any such employee determined by the Construction Manager in writing not to be sufficiently qualified to perform assigned work or not to be appropriately cooperative with the Construction Manager shall be removed by the Contractor from all work under this Contract.

C. PAYMENT FOR LABOR AND MATERIALS

The Contractor shall pay and require its subcontractors to pay any and all accounts for labor including workers compensation premiums, state unemployment and federal social security payments and other wage and salary deductions required by law. The Contractor also shall pay and cause its subcontractors to pay any and all accounts for services, equipment, and materials used by it and its subcontractors during the performance of work under this Contract. Such accounts shall be paid by the Contractor as they become due and payable. If requested by the Construction Manager, the Contractor shall promptly furnish proof of payment of such accounts.

D. ATTENTION TO WORK

The Contractor, acting through its Representative, shall give personal attention to and shall manage the work so that it shall be prosecuted faithfully and completed in accordance with all requirements of the Contract. When the Contractor's Representative is not personally present at the site, its designated alternate shall be available and shall have the authority to act in matters relating to this Contract.

E. EMPLOYEE OR OPERATOR SAFETY

The Contractor shall be solely and completely responsible for conditions of the work site, including safety of all persons and property, during performance of the work. The Contractor shall maintain the work site and perform the work in a manner which meets statutory and common law requirements for the provision of a safe place to work and which does not pose any safety risks to operators of the plant or other employees of the Owner. This obligation shall apply continuously and not be limited to normal working hours. That the Construction Manager conducts construction

review of the Contractor's performance does not and shall not be intended to include review of the adequacy of the Contractor's safety measures in, on or near the site of the work. The Contractor shall comply with the safety standards and provisions of applicable laws, building and construction codes, and the safety regulations set forth in "Safety Standards for Construction" and "General Safety Standards" published by the Washington State Department of Labor and Industries.

The Contractor shall maintain at the work site office or other well known place at the work site all materials (e.g., a first aid kit) necessary for giving first aid to the injured, and shall establish, publish and make known to all employees procedures for ensuring immediate removal to a hospital or a doctor's care, persons, including employees, who may have been injured on the site. Employees shall not be permitted to work on the site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care. If the Contractor's and/or any subcontractors work crew consists of five or more employees, the Contractor shall ensure that at least one of such employees has a valid, effective first aid card.

In order to protect the lives and health of employees performing work under this Contract, the Contractor shall comply with the Federal Occupational Safety and Health Act of 1970 (OSHA), including all revisions, amendments and regulations issued thereunder, and the provisions of the Washington Industrial Safety Act of 1973 (WISHA), including all revisions, amendments and regulations issued thereunder by the Washington State Department of Labor and Industries. The WISHA regulations shall apply (without limitation) to all excavation, trenching and ditching operations. In case of conflict between any such requirements, the more stringent regulation or requirement shall apply.

The Contractor shall prepare a written "Safety Program" demonstrating the methods by which all applicable safety requirements of this Contract will be met. The Contractor shall ensure its subcontractors have a written "Safety Program" or formally adopt the Contractor's "Safety Program". The Contractor shall designate a Safety Officer who shall be responsible for proper implementation of the "Safety Program". The Contractor shall submit a copy of its "Safety Program" to the Construction Manager as required in the Specifications. The Construction Manager's review of such Program shall not be deemed to constitute approval or acceptance thereof.

The Contractor shall conduct a monthly safety meeting with all subcontractors and others on the site performing work hereunder to discuss general and specific safety matters. The Contractor shall provide written notice of each meeting to the Construction Manager. The Contractor shall provide the Construction Manager with a record of each meeting, including a sheet on which each attendee signed in and a list of the matters discussed.

The Contractor shall conduct weekly safety meetings with employees of the Contractor and subcontractors. The Contractor shall provide written notice of each meeting to the Construction Manager. The Contractor shall provide the Construction Manager with a copy of the sheet on which each attendee signed in and a description of the safety topics discussed at the meeting.

There is no acceptable deviation from these safety requirements, regardless of practice in the construction industry. Any violation of OSHA, WISHA or other safety requirements applicable to the work shall be considered a breach of this Contract.

F. PUBLIC SAFETY AND CONVENIENCE

The Contractor shall conduct its work so as to ensure the least possible obstruction to vehicular traffic and inconvenience to the general public and the residents in the vicinity of the work and to ensure the protection of persons, property and natural resources. No road or street shall be closed to the public except with the permission of the Construction Manager and the proper governmental authority. Fire hydrants on or adjacent to the work shall be accessible to fire fighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the safe use of sidewalks, private and public driveways and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses, if any, on the work site.

G. SANITATION

The Contractor shall comply with WAC 296-155-140 establishing sanitation standards in the construction industry.

H. HAZARDOUS WASTE AND MATERIALS

The contractor shall comply with all pertinent federal hazardous waste laws and Washington State Dangerous Waste regulations governing hazardous waste generation, storage, transportation, treatment and disposal.

The Contractor shall conduct its work to meet the requirements set forth in the Specifications and any applicable laws or regulations related to hazardous materials encountered during performance of the work. Hazardous materials include asbestos, PCBs, radioactive materials, explosives and other materials deemed as such by regulatory agencies. If the material proves positive as containing asbestos, such material shall be handled in compliance with WAC 296-62-077 through 296-62-07753. The Contractor shall give immediate oral notice, and written notice within three days, to the Construction Manager upon the discovery of any such hazardous materials and proceed thereafter only as directed by the Construction Manager or as set forth in the Specifications. In case of any conflict between any such requirements, the more stringent requirement shall apply.

2.04 OWNER-CONTRACTOR COORDINATION

A. SERVICE OF NOTICE:

Any notice, order, direction, request or other communication given by the Construction Manager or Owner's Representative to the Contractor will be deemed to be well and sufficiently given to the Contractor if left at any office used by the Contractor or delivered to any of its officers, clerks or employees or posted at the site of the work or mailed to any post office addressed to the Contractor at the address given in the Contract or mailed to the Contractor's last known place of business. If mailed, any form of communication will be deemed to have given to and received by the Contractor a day after the day of mailing as evidenced by the postmark date.

B. SUGGESTIONS TO CONTRACTOR:

Any plan or method of work suggested by any representative of the Owner to the Contractor but not specified or required by the Contract Documents, if adopted or followed by the Contractor in whole or in part, shall be used at the risk and responsibility of the Contractor. The

Owner's Representative and the Construction Manager assume no responsibility therefor and in no way will be held liable for any defects in the work which may result from or be caused by use of such plan or method of work.

C. COOPERATION WITH CONSTRUCTION MANAGER:

The Contractor, when requested, shall assist the Construction Manager in obtaining access to work which is to be inspected. The Contractor shall provide the Construction Manager with information requested in connection with the inspection of the work and administration of this Contract.

D. COOPERATION OF OTHERS:

The Contractor agrees to permit entry to the site of the work by the Owner's Representative, the Construction Manager, other employees of the Owner, representatives of federal, state or local agencies, or other contractors performing work on behalf of the Owner. The Contractor shall cooperate with the Owner, other contractors and their employees and shall arrange its work and dispose of its materials in such a manner as not to interfere with the activities of the Owner or of others upon the site of the work. The Contractor shall promptly make good any Contractor-caused injury or damage that may be sustained by other contractors or employees of the Owner and other agencies. The Contractor shall coordinate its work with that of others and perform its work in proper sequence in relation to that of others.

If requested by the Contractor, the Construction Manager will arrange meetings with other contractors performing work on behalf of the Owner to plan coordination of construction activities and to keep the Contractor informed of the planned activities of other contractors. The Contractor shall attend such meetings if directed by the Construction Manager.

E. DEVIATION FROM CONTRACT:

The Contractor shall not make an alteration or variation in, addition to, or deviation or omission from the requirements of this Contract without the written consent of the Owner's Representative or the Owner's Representative's designee. Unless such written consent expressly so provides, any such alteration, variation, addition, deviation or omission by the Contractor shall not result in any extra compensation or extension of time. The Owner's Representative shall have the right to treat a deviation as a breach or default, if the Owner's Representative determines the deviation to jeopardize the integrity or quality of the work.

F. DIFFERING SITE CONDITIONS:

Reference is made to the Specifications for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by the Owner in preparation of the Contract Documents. The Contractor may rely upon the accuracy of the technical data at the specific times and specific locations of the investigations, but may not rely upon nontechnical data, interpretations or opinions contained therein or for the completeness thereof for the Contractor's purposes. Except as indicated in this Paragraph 00710-2.04F, the Contractor shall have full responsibility with respect to surface and subsurface conditions at the site.

If the Contractor believes that (1) any technical data on which the Contractor relied as provided in this paragraph 00710-2.04 F is inaccurate, or (2) any physical condition uncovered or revealed at the site differs materially from that indicated in the Contract Documents, then the Contractor shall, promptly after becoming aware thereof and before performing any work in connection therewith, notify the Construction Manager in writing about the inaccuracy or difference. THIS NOTICE SHALL BE MADE WITHIN TEN DAYS OF DISCOVERY OF SUCH CONDITION. NO CLAIMS OF THE CONTRACTOR UNDER THIS PARAGRAPH 00710-2.04 F WILL BE ALLOWED UNLESS THE CONTRACTOR HAS PROVIDED THE REQUIRED NOTICE.

If the Construction Manager concurs that an inaccuracy or material difference exists and that such inaccuracy or material difference will cause an increase or decrease in the Contractor's cost of or time required for performance of the work, a change order incorporating the necessary revisions shall be prepared in accordance with paragraph 00710-7.02 and submitted to the Owner's Representative or the Owner's Representative's designee for approval. If the Construction Manager finds there is no such inaccuracy or material difference, or if no decision is made in writing within 10 days of the written notice by the Contractor (which 10th day shall be deemed the date on which the Construction Manager denied the claim), the Contractor must submit a claim to the Construction Manager in accordance with paragraph 00710-2.04 G.

G. CLAIMS

1. DETERMINATION BY CONSTRUCTION MANAGER. Questions or claims regarding the meaning and intent of the Contract or arising from this Contract shall be referred by the Contractor in writing to the Construction Manager for decision within five days of the date in which the Contractor knows or should know of the question or claim. The Construction Manager will ordinarily respond to the Contractor in writing with its decision, but absent such written response the question or claim shall be deemed denied upon the tenth day following receipt by the Construction Manager. If the Contractor disagrees with the Construction Manager's decision or is of the opinion that the decision requires extra work, the Contractor shall, within five days thereafter, notify the Construction Manager in writing of the disagreement or of the claimed extra work involved and of the cost of said work. Failure of the Contractor to timely file a claim will operate as a complete waiver of the Contractor's right thereafter to pursue that claim in any forum.

2. APPEALS TO THE OWNER'S REPRESENTATIVE. In the event the Contractor disagrees with any determination or decision of the Construction Manager, the Contractor shall, within 15 days of the date of such determination or decision, appeal the determination or decision in writing to the Owner's Representative. Such written notice of appeal shall include all documents and other information necessary to substantiate the appeal. The Owner's Representative will review the appeal and will transmit a decision in writing to the Contractor within 30 days from the date of receipt of the appeal, or the appeal will be deemed denied on the 30th day. Failure of the Contractor to appeal the decision or determination of the Construction Manager within said 15-day period will constitute a waiver of the Contractor's right to thereafter assert any claim resulting from such determination or decision. Appeal to the Owner's Representative shall be a condition precedent to litigation under paragraph 00710-2.04 G.3.

3. STIPULATION OF VENUE. All claims, counterclaims, disputes and other matters in question between the Owner and the Contractor that are not resolved between the Owner's Representative and the Contractor will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State of Washington. This Contract shall

be interpreted and construed in accordance with the laws of the state of Washington It is agreed by the Contractor that the venue for any lawsuit arising out of this Contract shall be the county wherein the primary construction site for this Project is located. Contractors shall include a stipulation of venue for said county in all subcontracts hereunder.

4. LITIGATION COSTS. As a condition precedent to any litigation under paragraph 00710-2.04 G.3, for all claims arising under this Contract or arising out of the work under this Contract, the party asserting a claim against the other must in a written notice state the following:

- a. the dollar amount of the claim; and
- b. the specific legal bases and/or contract sections upon which the claim is made.

If in any subsequent legal action the claiming party recovers less than ninety percent (90%) of the amount claimed, the claiming party shall pay to the other that other party's attorneys' fees, expert witness and consultant fees and all other litigation costs, in such proportion as the difference between the amount claimed and the principal amount recovered bears to the amount claimed. If the claiming party recovers 90% or more of the amount claimed, the other party shall pay to the claiming party the claiming party's attorneys' fees, expert witness and consultant fees and all other litigation costs. This paragraph shall not apply to claims relating to defective work (paragraph 00710-4.09) or guarantees (paragraph 00710-4.11).

5. NO CONSEQUENTIAL DAMAGES. No claim for equitable adjustment, extra work or any other claim arising from this Contract will be made by the Contractor or allowed by the Owner for the recovery of consequential damages, including (without limitation), lost profits, lost opportunities or the like.

Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract and in accordance with the direction of the Owner's Representative. Failure to comply precisely with the time deadlines under this paragraph 00710-2.04 G as to any claim shall operate as a waiver and release of that claim and an acknowledgment of prejudice to the Owner.

6. RESOLUTION OF DISPUTES. The Contractor shall expeditiously carry on the Work, adhere to the schedule and comply with all directives of the Owner or Construction Manager regardless of any dispute which may exist between the Owner and the Contractor. No Work shall be delayed or postponed pending resolution of any dispute. Failure or refusal of the Contractor to comply with the directives of the Owner or Construction Manager shall immediately constitute grounds for withholding of payment, suspension of work or termination of the construction under the Contract Documents. Either party may notify the other, by certified mail, of the existence of a claim or dispute. The time and manner of such notification of such disputes shall be subject to the other provisions of the Contract Documents.

PART 3--SPECIFICATIONS AND DRAWINGS

3.01 INTERPRETATION OF SPECIFICATIONS AND DRAWINGS

A. GENERAL:

The specifications and drawings are intended to be explanatory of each other. Work specified on the drawings and not in the specifications, or vice versa, shall be executed as if specified in both.

B. REQUEST FOR CLARIFICATION:

In the event the work to be done or matters relative thereto are not sufficiently detailed or explained in the contract documents, the Contractor shall apply to the Construction Manager for further explanations as may be necessary and shall conform thereto so far as may be consistent with the terms of the contract. In the event of doubt or question arising respecting the true meaning of the specifications or drawings, reference shall be made to the Construction Manager for his decision. Should the Contractor disagree with the Construction Manager's decision, he may appeal to the Owner's Representative in accordance with paragraph 00710-2.04 G.2.

3.02 DIVISION OF SPECIFICATIONS AND DRAWINGS

Specifications and drawings are divided into groups for convenience. These divisions are not for the purpose of apportioning work or responsibility for work among subcontractors, suppliers and manufacturers. The Contractor is responsible for all work shown or described, regardless of location(s) in the Contract.

3.03 DISCREPANCIES IN SPECIFICATIONS AND DRAWINGS

A. ERRORS AND OMISSIONS:

If the Contractor, in the course of the work, becomes aware of any claimed errors or omissions in the contract documents or in the Owner's fieldwork, he shall immediately inform the Construction Manager in writing. The Construction Manager shall promptly review the matter and if he finds an error or omission has been made, he shall determine the corrective actions and advise the Contractor accordingly. If the corrective work associated with an error or omission increases or decreases the amount of work called for in the contract, the Owner shall issue an appropriate change order. After discovery of an error or omission by the Contractor, related work performed by the Contractor shall be done at his risk unless authorized by the Construction Manager. In the event the Contractor disagrees with the determination of the Construction Manager under this provision, he may appeal to the Owner's Representative in accordance with paragraph 00710-2.04 G.2.

B. CONFLICTING PROVISIONS:

In cases of conflict between the specifications and drawings, the specifications shall govern. Figure dimensions on drawings shall govern over scale dimensions and detail drawings shall govern over general drawings. In the event an item of work is described differently in two or more locations on the drawings and in the specifications, the Contractor shall, upon request of the Construction Manager, submit in writing to the Construction Manager the description upon which the Contractor relied in preparing his bid or laying out the work. If the Construction Manager directs the Contractor to perform work in a manner other than that contemplated by the Contractor in

preparing his bid or laying out the work, the Construction Manager will initiate a change order. In this event, the Contractor shall submit to the Construction Manager such supporting information, including bidding or layout documents, as may reasonably be necessary for the Construction Manager to determine whether the contract price is increased, decreased or unchanged by the change order.

C. UTILITIES:

The Owner has endeavored to determine the existence of utilities at the site of the work from the records of the owners of known utilities in the vicinity of the work. The positions of these utilities as derived from such records are shown on the drawings. No excavations were made to verify the locations shown for underground utilities. The service connections to these utilities are not shown on the drawings. It shall be the responsibility of the Contractor to determine the exact location of utilities and service connections thereto. The Contractor shall make his own investigations, including exploratory excavations, to determine the locations and type of existing utilities, including service connections, prior to commencing work which could result in damage to such utilities. The Contractor shall immediately notify the Construction Manager as to any utility discovered by him in a different position than shown on the drawings or which is not shown on the drawings.

Work on utilities shall be performed and paid for as follows:

1. Known utilities. The Contractor shall provide all labor, equipment, materials and services necessary to remove, relocate, or maintain utilities specified on the drawings. The work on each utility shall be performed in a manner satisfactory to the utility owner. The utility owner has the option of doing such work with his own forces at the Contractor's expense, or permitting the work to be performed by the Contractor.
2. Service connections. Locations of service connections are not specified on the drawings. The Contractor shall provide all labor, equipment and material to remove, relocate or maintain service connections. The work on service connections shall be performed in a manner satisfactory to the service connection owner. The service connection owner has the option of doing such work with his own force at the Contractor's expense, or permitting the work to be performed by the Contractor.
3. Unknown utilities. When a utility is not specified on the drawings, or it is located in a position different from that specified on the drawings, and interferes with the work, a change order based on changed site conditions will be issued in accordance with paragraph 00710-7.02. Interference with the work is defined as a utility that crosses or projects into the plane of the work at an elevation between the top and bottom of the work. If it is necessary to remove, relocate, or temporarily maintain the utility, that work shall be included in the change order. The utility owner has the option of doing such work at the Contractor's expense, or permitting the work to be performed by the Contractor. In either case, the cost of the work will be included in the change order.

No representations are made that the obligations to move or temporarily maintain the utility and to pay the cost thereof is or is not required to be borne by the owner of such utility, and it shall be the responsibility of the Contractor to investigate to find out whether or not said cost is required to be borne by the owner of the utility.

The right is reserved to governmental agencies and to owners of utilities to enter upon streets, alleys, rights-of-way, or easements for the purpose of making changes in their property made necessary by the work and for the purpose of maintaining and making repairs to their property.

3.04 SUBMITTALS

Where required by the specifications, the Contractor shall submit specified information which will enable the Construction Manager to advise the Owner whether the Contractor's proposed materials, equipment or methods of work are in general conformance to the design concept and in compliance with the drawings and specifications. The requirements for submittals are specified in Part B.

3.05 CONTRACTOR'S COPIES OF PROJECT MANUALS

The Owner will furnish the Contractor within seven days after notice to proceed the following: four sets of project manuals including half-size drawings, and two sets of full-size drawings. The Contractor is advised that revisions incorporating changes by addenda will not be incorporated into the reduced or full-size drawings furnished under the provisions of this paragraph. Additional copies of the project manual, if required by the Contractor, will be furnished by the Owner at cost. The Contractor shall keep at the construction site at least one set of the project manual and one set of full-size drawings.

PART 4--MATERIAL, EQUIPMENT AND WORKMANSHIP

4.01 GENERAL

Unless otherwise specifically stated in the contract documents, the Contractor shall provide and pay for materials, labor, tools, equipment, water, light, power, transportation, supervision, and temporary construction of any nature, and other services and facilities of any nature, whatsoever necessary, to execute, complete and deliver the work within the specified time. Material and equipment shall be new and of a quality equal to that specified. Equipment offered shall be current modifications which have been in successful regular operation under comparable conditions. This requirement does not apply to minor details, nor to thoroughly demonstrated improvements in design or in materials of construction. Construction work shall be executed in conformity with the standard practice of the trade.

4.02 PRODUCT DATA

Where required by the specifications, the Contractor shall provide product data which is a submittal furnished for information only. The information and data furnished is required by the Owner for inspecting, testing, operating and maintaining parts of the work. The requirements for product data are specified in Part B.

4.03 QUALITY

Where the contract requires that materials or equipment be provided or that construction work be performed, and detailed specifications of such materials, equipment or construction work are not set forth, the Contractor shall perform the work using materials and equipment of the best grade in quality and workmanship obtainable in the market, from firms of established good reputations, and shall follow standard practices in the performance of construction work. The work performed shall be in conformity and harmony with the intent to secure the standard of construction and equipment of work as a whole and in part.

4.04 MATERIAL AND EQUIPMENT SPECIFIED BY NAME

A. GENERAL:

When material or equipment is specified by reference to two or more patents, brand names, or catalog numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements, and that other materials or equipment, of equal capacities, quality and function shall be considered by the Owner upon the Contractor's request for substitution. Requests for substitution shall be made in accordance with paragraph 00710-4.05.

B. SINGLE SOURCE PRODUCTS:

If material or equipment is specified by only one patent or proprietary name, or by the name of only one manufacturer, it is for the purpose of standardization, or because the Owner knows of no equal. If standardization is the reason for using one name to specify any material or equipment, the specifications will so state, and substitutions will not be considered. In other cases, the Contractor may offer substitutions of products considered to be equal to that specified. Such substitutions shall be requested in accordance with paragraph 00710-4.05.

4.05 REQUESTS FOR SUBSTITUTION

The Contractor may offer material or equipment of equal or better quality and performance in substitution for those specified. The Owner will consider offers for substitution only from the Contractor and will not acknowledge or consider such offers from suppliers, distributors, manufacturers, or subcontractors. The Contractor's offers of substitution shall be made in writing to the Construction Manager and shall include sufficient data to enable the Construction Manager to assess the acceptability of the material or equipment for the particular application and requirements.

If the offered substitution necessitates changes to or coordination with other portions of the work, the data submitted shall include drawings and details showing such changes. Contractor agrees to perform these changes as part of the substitution of material or equipment at no additional cost to the Owner. Within 30 calendar days after receipt of the offer of substitution, the Construction Manager will review the material submitted by the Contractor and advise the Contractor of objections, if any, to the proposed substitution or if further information is required. Upon notification by the Construction Manager, the Contractor shall either provide material or equipment which complies with project specifications or furnish requested additional information.

While the Construction Manager might not take any objections to the proposed substitution, such action shall not relieve the Contractor from responsibility for the efficiency, sufficiency, quality and performance of the substitute material or equipment, in the same manner and degree as the material and equipment specified by name. Any proposed cost differential associated with a substitution shall be reflected in the offer and, if the substitution is accepted, the contract documents shall be modified by a change order.

4.06 DEMONSTRATION OF COMPLIANCE WITH CONTRACT REQUIREMENTS

A. INSPECTION:

To demonstrate his compliance with the contract requirements, the Contractor shall assist the Construction Manager in his performance of inspection work. The Contractor shall grant the Construction Manager access to the work and to the site of the work, and to the places where work is being prepared, or whence materials, equipment or machinery are being obtained for the work. The Contractor shall provide information requested by the Construction Manager in connection with inspection work.

If the contract documents, laws, ordinances, or any public regulatory authority require parts of the work to be specially inspected, tested or approved, the Contractor shall give the Construction Manager adequate prior written notice of the availability of the subject work for examination.

If parts of the work are covered in contravention of the Construction Manager's directive, the cost of exposing the work for inspection and closing shall be borne by the Contractor regardless of whether or not the work is found to be in compliance with the contract.

If any work is covered in the absence of the Construction Manager's directive to the contrary, the Contractor shall, if directed by the Construction Manager, uncover, expose or otherwise make available for inspection, portions of covered work. If it is found that such work is defective, the Contractor shall bear the expense of uncovering and reconstructing. If the work is found to be in compliance with the contract, the Contractor will be allowed an increase in the contract price, or an extension in the contract time, or both. A change order shall be issued.

B. SAMPLES OF MATERIALS:

In cases where compliance with contract requirements for materials to be incorporated in the work requires laboratory examination or special testing, the Contractor shall provide samples or specimens as requested by the Construction Manager. Such samples or specimens shall be provided in ample time to permit making proper test analysis and examinations before the time at which it is desired to incorporate the material into the work. Tests of material will be conducted in accordance with the technical specifications. In the absence of a specific test requirement, the Construction Manager will determine the appropriate standard test to be used.

C. CERTIFICATION:

In cases where compliance of materials or equipment to contract requirements is not readily determinable through inspection and tests, the Construction Manager shall request that the

Contractor provide properly authenticated documents, certificates or other satisfactory proof of compliance. These documents, certifications and proofs shall include performance characteristics, materials of construction and the physical or chemical characteristics of materials. All costs associated with such certification shall be paid by the Contractor.

D. INSPECTION AT POINT OF MANUFACTURING:

If inspection and testing of materials or equipment in the vicinity of the work by the Owner is not practicable, the specifications may require that such inspection and testing or witnessing of tests take place at the point of manufacture. In this case and in the event the remote inspection and testing is not specified and is requested by the Owner, the required travel, subsistence, and labor expenses shall be paid by the Owner. If the Contractor requests the Owner to inspect and test material or equipment at the point of manufacture, then the additional cost to the Owner for travel, subsistence, and labor expenses shall be paid by the Contractor.

4.07 STORAGE OF MATERIALS AND EQUIPMENT

Materials and equipment shall be stored so as to insure the preservation of their quality and fitness for the work. Stored equipment and materials shall be located so as to facilitate inspection. The Contractor shall be responsible for damages that occur in connection with the care and protection of materials and equipment until final acceptance of the work.

4.08 MANUFACTURER'S DIRECTIONS

Manufactured articles, material and equipment shall be transported, applied, installed, connected, erected, adjusted, tested, operated and maintained as recommended by the manufacturer, unless otherwise specified. Manufacturer's installation instructions and procedures shall be provided prior to installation of the manufactured articles, material and equipment.

4.09 DEFECTIVE WORK

A. CORRECTION OF DEFECTIVE WORK:

When, and as often as the Construction Manager determines through his inspection procedures, material, equipment or workmanship incorporated in the project do not meet the requirements of the contract, the Construction Manager shall give written notice of the noncompliance to the Contractor. Within five days from the receipt of such notice, the Contractor shall undertake the work necessary to correct the deficiencies, and to comply with the contract. If the Contractor disagrees with the Construction Manager's determination and believes that the corrective work should be covered by a change order, he shall immediately notify the Owner's Representative, in writing, setting forth his position. Within five days after receipt of the Contractor's notification, the Owner's Representative will review the matter and notify the Contractor, in writing, of his determination. If the Owner's Representative determines that the corrective work is required to comply with the contract, the Contractor shall proceed with such work. As a condition precedent to the Contractor's request for either additional compensation or time extension, or both, resulting from the performance of such corrective work, the Contractor shall, within 15 calendar days after receipt of the Owner's Representative's determination, notify the Owner's Representative in writing of his intent to claim additional compensation, time or both. The Contractor shall document the cost information associated with the corrective work with daily records in accordance with

paragraph 00710-7.02 F and shall provide such information to the Construction Manager monthly. Receipt of the cost data by the Construction Manager shall not be construed to be an acceptance of the corrective work, or an authorization for a change order to cover the corrective work.

B. RETENTION OF DEFECTIVE WORK:

Prior to acceptance of the project, the Owner may, at his option, retain work which is not in compliance with the contract if the Owner determines that such defective work is not of sufficient magnitude or importance to make the work dangerous or undesirable. The Owner also may retain defective work, if, in the opinion of the Construction Manager, and with concurrence of the Owner's Representative, removal of such work is impractical or will create conditions which are dangerous or undesirable. Just and reasonable value for such defective work shall be judged by the Owner and appropriate deductions shall be made in the payments due, or to become due to the Contractor. Final acceptance shall not act as a waiver of the Owner's right to recover from the Contractor an amount representing the deduction for retention of defective work.

4.10 MATERIALS AND EQUIPMENT FURNISHED BY OWNER

Materials and equipment specified to be furnished by the Owner shall be installed by the Contractor. Furnishing of material and equipment by the Owner will be considered conclusive evidence of their acceptability for the purpose intended. If the Contractor discovers defects in material or equipment furnished by the Owner, he shall notify the Construction Manager. After such discovery, the Contractor shall not proceed with work involving Owner-furnished materials and equipment unless authorized by the Construction Manager. Unless otherwise noted or specifically stated, materials and equipment furnished by the Owner, which are not of local occurrence, are considered to be "FOB" railroad or truck terminal nearest to the site of the work. The Contractor shall unload, transport, store, and protect such material and equipment from damage. The Contractor shall inspect such Owner-furnished material and equipment on receipt and provide the Owner with written acceptance for the incorporation of said material and equipment into the work. After receipt by the Contractor, at the point of delivery, Owner-furnished material and equipment shall form part of the work, for purposes of the contract, including risk of loss, as if it had been supplied and stored by the Contractor himself.

4.11 GUARANTEE AND WARRANTY

For a period of 365 days commencing on the date of substantial completion of the work under paragraph 00710-7.05 or on the date of possession and use under paragraph 00710-6.05 by the Owner (but commencing only as to such portions of the work so possessed or used), whichever comes earlier, the Contractor shall, upon the receipt of notice in writing from the Owner, promptly correct any defective work. If the defective work cannot be corrected, or if the corrected work has been rejected by the Owner, the Contractor shall promptly remove it from the site and replace it with non-defective work, all at no cost to the Owner. The Owner is hereby authorized to make such corrections if, ten days after giving of such notice to the Contractor, the Contractor has failed to make or undertake the corrections or removal/replacement with due diligence. In case of an emergency where, in the opinion of the Owner's Representative, delay could cause serious loss or damage, corrections or replacement may be made prior to or concurrent with notice being sent to the Contractor. All expenses in connection with such corrections or replacement, including costs for professional services, will be charged to the Contractor. For defective work either corrected or

replaced, this guarantee shall be extended for a period equal to the time of correction or replacement.

For the purpose of this section, acceptance of the work shall not extinguish any covenant or agreement on the part of the Contractor to be performed or fulfilled under this Contract which has not, in fact, been performed or fulfilled at the time of such acceptance. All covenants and agreements shall continue to be binding on the Contractor until they have been fulfilled.

The guarantee provided in this section shall be in addition to those specific guarantee or warranty requirements for particular equipment and/or work items indicated in the Specifications, and in addition to any other rights or remedies available to the Owner under this Contract or at law.

4.12 WARRANTEE OF TITLE

No material, supplies, equipment or items for the work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, equipment and items installed or incorporated in the work, and upon completion of all the work shall deliver the same together with all improvements and appurtenances constructed or placed thereon by the Contractor to the Construction Manager free from any claims, liens, or charges. Neither the Contractor nor any person, firm, or corporation furnishing any material or labor for any work covered by this Contract shall have any right to lien upon any improvement or appurtenance thereon. Nothing contained in this paragraph 00710-4.12, however, shall defeat or impair the right of the persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph 00710-4.12 shall be inserted or referenced in or otherwise made a part of all subcontracts and material contracts, and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

PART 5--LIABILITY AND INSURANCE

5.01 LIABILITY OF CONTRACTOR

The Contractor shall be liable for any and all losses or damages from whatever cause which, prior to final acceptance, may occur on or to any part of the work. The Contractor shall not be liable for losses or damages caused solely by the act of the Owner. The Contractor shall be liable for damages and injury which shall be caused to persons owning property, on or in the vicinity of the work, or which shall occur to a person, or persons, or property whatsoever, arising out of the Contractor's performance of this contract. The Contractor's liability shall not be dependent upon whether or not such damage or injury be caused by the negligence of the Contractor, and whether or not such damage or injury be caused by the inherent nature of the work as specified.

The Contractor shall indemnify and hold the Owner, the Construction Manager, the design engineer, and their officers, principals, agents, subcontractors, and employees, harmless from any and all loss, defense cost, expense, claims, demand or liability whatsoever, arising from allegations of injuries to persons or damage to property related to the performance of this contract, regardless

of concurrent negligence on the part of such indemnities. The indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers compensation acts, disability benefit acts, or other employee benefit act.

In case suit or legal proceeding shall be brought against the Owner, the Construction Manager, the design engineer, or their officers, principals, agents, subcontractors, or employees, on account of loss or damage sustained by person, or persons, or property, as a result of the performance of the work covered by this contract, the Contractor agrees to assume the defense thereof, and to pay the expenses connected therewith, and the judgments that may be obtained against the Owner, the Construction Manager, the design engineer, or their officers, principals, agents, subcontractors, or employees, in such suits. In the event that a lien is placed against the property of the Owner, the Construction Manager, the design engineer, or their officers, principals, agents, subcontractors, or employees, as a result of such suits, the Contractor agrees to at once cause the same to be dissolved and discharged by giving bond or otherwise. The Contractor's agreement to defend and to pay the related expenses shall exist whether or not such injuries or damage be due to the negligence of the Contractor, and whether or not such injuries or damage be caused by the inherent nature of the work, as specified.

The mention of specific duties or liabilities imposed on the Contractor shall not be construed as a limitation or restriction of general duties or liabilities imposed upon the Contractor by the contract. Reference to specific duties or liabilities is made herein, merely for the purpose of explanation.

5.02 BONDS

The Contractor shall provide two bonds, each in the amount of 100 percent of the contract price. One shall serve as security for the faithful performance of the work and the other as security for the faithful payment and satisfaction of the persons furnishing materials and performing labor on the work. The bonds shall be issued by a corporation duly and legally licensed to transact surety business in the State of Washington. Such bonds shall remain in force throughout the period required to complete the work, and thereafter for a period of 365 calendar days after final acceptance of the work. The bonds must be executed by a duly licensed surety company, which is listed in the latest Circular 570 of the United States Treasury Department, as being acceptable as surety on federal bonds. No surety's liability on the bonds shall exceed the underwriting limitations for the respective surety specified in Circular 570. The scope of the bonds or the forms thereof prescribed in these contract documents in Sections 00610 and 00620 shall in no way affect or alter the liabilities of the Contractor to the Owner as set forth herein.

5.03 INSURANCE

A. GENERAL:

1. EVIDENCE OF INSURANCE: Prior to execution of the contract, the Contractor shall file, with the Owner, evidences of insurance from the insurer, certifying to the coverage of the insurance required herein. The evidences of insurance shall be certified by a properly authorized officer, agent, general agent or qualified representative of the insurer, and shall certify the names of the insured, the type and amount of insurance, the location and operations to which the insurance applies, and the expiration date. The evidences shall include the agreement

of the insurer to give, by registered mail, notice to the Owner at least 30 calendar days prior to the effective date of cancellation, lapse, or material change in the policy.

This Certificate of Insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of the contract with respect to which this certificate is issued, the insurance afforded by the policies described herein is subject to the terms, exclusions and conditions of such policies.

2. CANCELLATION OF INSURANCE: The Contractor shall deliver to the Owner policies of insurance and the receipts for payment of premiums thereon. Should the Contractor neglect to obtain and maintain in force such insurance, and deliver such policy or policies and receipts to the Owner, then it shall be lawful for the Owner to obtain and maintain such insurance. The Contractor hereby appoints the Owner his true and lawful attorney, to do the things necessary for this purpose. Money expended by the Owner under the provisions of this paragraph for insurance premiums shall be charged to the Contractor. Failure of the Owner to obtain such insurance shall in no way relieve the Contractor of his responsibilities under this contract.

B. PUBLIC LIABILITY:

The Contractor shall provide public liability insurance covering bodily injury, in an amount of not less than a combined single limit of four million dollars (\$4,000,000) for one or more persons injured in each occurrence. This insurance shall cover bodily injuries or death suffered, or alleged to have been suffered by any person or persons by reason of or in the course of operations, under this contract, whether occurring by reason of acts or omissions of the Contractor, or any subcontractor, or both. Such insurance shall be maintained until final acceptance of the work and shall include completed operations and products liability insurance, with aggregate limit in the amount specified above, which shall continue for a period of 365 calendar days after final acceptance of the work.

The Contractor shall provide property damage insurance in an amount of not less than a combined single limit of one million dollars (\$1,000,000) for property damaged in each occurrence and one million dollars (\$1,000,000) aggregate. The insurance shall cover damages to property suffered or alleged to have been suffered, by person, or persons, by reason of, or in the course of, the operations under the contract, whether occurring by reason of acts or omissions of the Contractor, or any subcontractor, or both. Such insurance shall be maintained until final acceptance of the work, and shall include completed operations and products liability insurance, which shall continue for a period of 365 calendar days after the final acceptance of the work.

Liability insurance shall indemnify the Contractor and his subcontractors against loss from liability, imposed by law, upon or assumed under contract by the Contractor or his subcontractors, for damages on account of such bodily injury and property damage. The insurance shall also indemnify the Contractor and his subcontractors against losses related to completed operations and products. The insurance shall be provided by a comprehensive, broad form occurrence property damage liability policy written by licensed underwriters. The policies shall cover operations, owned and nonowned vehicles and equipment, contractors protective coverage blanket, contractual liability, and completed operations liability. The liability insurance shall not exclude explosion, collapse, underground excavation, or removal of lateral support and shall include cross liability. The Owner, the Construction Manager, the design engineer, and their

officers, principals, agents, subcontractors, and employees shall be named as insured on the liability policies.

C. WORKERS COMPENSATION INSURANCE:

The Contractor and the subcontractors shall cover or insure under applicable laws relating to workers compensation or employers liability insurance, their employees, working on or about the construction site, regardless of whether such coverage or insurance is mandatory or merely elective under the law. The Contractor shall defend, protect, save harmless the Owner from and against claims, suits and actions arising from failure of the Contractor or the subcontractors to maintain such insurance.

D. BUILDERS RISK:

Contractor shall secure all-risk type of builders risk insurance covering work performed under the contract and materials, equipment or other items to be incorporated therein, while the same are located at the construction site, stored off site, or at the place of manufacture. The policy shall cover not less than losses due to fire, flood, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke until the date of final acceptance of the work. The policy may exclude loss or damage caused by or resulting from errors in design or from the use of substandard materials or supplies used knowingly by or at the direction of the insured, but not excluding results, physical loss, or damage to other property covered hereunder. Neither exclusion shall apply in the event of fire, explosion, or acts of God. The maximum deductible allowable under this policy shall be \$50,000. The policies providing this insurance shall name the Owner, the Construction Manager, the design engineer, and their subconsultants as additional insureds as their respective interests shall appear. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for the Owner or being construed as relieving the Contractor or his subcontractors of responsibility for loss or direct physical loss, damage or destruction occurring prior to final acceptance.

5.04 LITIGATION EXPENSES

In any legal action arising from the Contractor's obligations under paragraph 00710-5.01 or asserting claims that the Contractor has not met the requirements of the Contract Documents, the prevailing party shall recover its reasonable attorneys' fees and litigation costs; provided, however that this paragraph shall not apply to any legal action (or portion thereof) by the Contractor seeking compensation from the Owner including (without limitation) actions for delay or extra work.

PART 6--PROGRESS AND COMPLETION

6.01 NOTICE TO PROCEED

After execution of the contract by the Owner, written notice to proceed will be given by the Owner to Contractor. Notwithstanding other provisions of the contract, the Contractor shall not be obligated to perform work, and the Owner shall not be obligated to accept or pay for work performed by the Contractor, prior to date of the notice to proceed. The Owner's knowledge of work being performed prior to date of the notice to proceed shall not obligate the Owner to accept or pay for such work.

6.02 CONTRACT TIME

A. GENERAL:

Time shall be of the essence of the contract. The Contractor shall promptly start the work after the date of the Notice to Proceed and shall prosecute the work so that portions of the project shall be complete within the times specified in Section 01014. During periods when weather or other conditions are unfavorable for construction, the Contractor shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work where acceptable quality or efficiency will be affected by unfavorable conditions shall be constructed while those conditions exist. It is expressly understood and agreed by and between the Contractor and the Owner that the contract time for completion of the work described herein is a reasonable time taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.

B. CONSTRUCTION SCHEDULE:

The Contractor shall provide a construction schedule and reports as specified in Section 01310 for scheduling and coordinating the work within the contract time. Contract time extensions shall be incorporated into updated schedules, reflecting their effect at the time of occurrence. Failure of the Contractor to comply with these requirements for submittal of the construction schedule and reports shall be cause for delay in review of progress payments by the Construction Manager.

C. CONSTRUCTION PROGRESS:

The Contractor shall furnish such manpower, materials, facilities and equipment as may be necessary to insure the prosecution and completion of the work in accordance with the accepted schedule. If work falls 14 days or more behind the accepted construction schedule, the Contractor agrees that he will take some or all of the following actions to return the project to the accepted schedule. These actions may include the following:

1. Increase manpower in quantities and crafts.
2. Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of equipment, or any combination of the foregoing.
3. Reschedule activities.

If requested by the Construction Manager, the Contractor shall prepare a proposed schedule revision demonstrating a plan to make up the lag in progress and insure completion of the work within the contract time. The proposed revision shall be submitted to the Construction Manager in accordance with Section 01300. Upon receipt of an acceptable proposed schedule, the revision to the construction schedule shall be made in accordance with Section 01310. All actions to return the project to the accepted schedule are at the Contractor's expense.

The Contractor shall pay all costs incurred by the Owner which result from the Contractor's action to return the project to its accepted schedule. Contractor agrees that Owner shall deduct such charges from payments due the Contractor. It is further understood and agreed that none of the services performed by the Construction Manager in monitoring, reviewing and reporting project status and progress shall relieve the Contractor of responsibility for planning and managing construction work in conformance with the construction schedule.

D. DELAYS:

1. **NOTICE OF DELAYS:** When the Contractor foresees a delay in the prosecution of the work and, in any event, immediately upon the occurrence of a delay which the Contractor regards as unavoidable, he shall notify the Construction Manager in writing of the probability of the occurrence of such delay, the extent of the delay, and its possible cause. The Contractor shall take immediate steps to prevent, if possible, the occurrence or continuance of the delay. If this cannot be done, the Construction Manager shall determine how long the delay shall continue and to what extent the prosecution and completion of the work are being delayed thereby. He shall also determine whether the delay is to be considered avoidable or unavoidable and shall notify the Contractor of his determination. The Contractor agrees that no claim shall be made for delays which are not called to the attention of the Construction Manager at the time of their occurrence.

2. **AVOIDABLE DELAYS:** Avoidable delays in the prosecution of the work shall include delays which could have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or his subcontractors. Avoidable delays include:

- a. Delays which may in themselves be unavoidable but which affect only a portion of the work and do not necessarily prevent or delay the prosecution of other parts of the work nor the completion of the whole work within the contract time.
- b. Time associated with the reasonable interference of other contractors employed by the Owner which do not necessarily prevent the completion of the whole work within the contract time.

3. **UNAVOIDABLE DELAYS:** Unavoidable delays in the prosecution or completion of the work shall include delays which result from causes beyond the control of the Contractor and which could not have been avoided by the exercise of care, prudence, foresight and diligence on the part of the Contractor or his subcontractors. Delays in completion of the work of other contractors employed by the Owner will be considered unavoidable delays insofar as they interfere with the Contractor's completion of the work. Delays due to normal weather conditions shall not be regarded as unavoidable as the Contractor agrees to plan his work with prudent allowances for interference by normal weather conditions as defined in paragraph 00710-8.02. Delays caused by acts of God, fire, unusual storms, floods, tidal waves, earthquakes, strikes, labor disputes, freight embargoes and shortages of materials shall be considered as unavoidable delays insofar as they prevent the Contractor from proceeding with at least seventy-five percent (75%) of the normal labor and equipment force for at least five hours per day toward completion of the current controlling item on the accepted critical path schedule.

Should abnormal conditions prevent the work from beginning at the usual starting time, or prevent the Contractor from proceeding with seventy-five percent (75%) of the normal labor and equipment force for a period of at least five hours per day, and the crew is dismissed as a result thereof, he will not be charged for a working day whether or not conditions change so that the major portion of the day could be considered to be suitable for work on the controlling item.

E. EXTENSION OF TIME:

1. AVOIDABLE DELAYS: In case the work is not completed in the time specified, including extension of time as may have been granted for unavoidable delays, the Contractor will be assessed damages for those costs incurred by the Owner which are attributable to the fact that the work was not completed on schedule.

The Owner may grant an extension of time for avoidable delay if he deems it in his best interest. If the Owner grants an extension of time for avoidable delay, the Contractor agrees to pay actual costs, including charges for engineering, inspection and administration, as specified in paragraph 00710-7.04, incurred during the extension.

2. UNAVOIDABLE DELAYS: For delays which the Contractor considers to be unavoidable, he shall submit to the Construction Manager complete information demonstrating the effect of the delay on the controlling operation in his construction schedule. The submission shall be made within 30 calendar days of the occurrence which is claimed to be responsible for the unavoidable delay. The Construction Manager shall review the Contractor's submission and determine the number of days of unavoidable delay and the effect of such unavoidable delay on controlling operations of the work. The Owner agrees to grant an extension of time to the extent that unavoidable delays affect controlling operations in the construction schedule. During such extension of time, neither extra compensation or engineering inspection and administration nor damages for delay will be charged to the Contractor. It is understood and agreed by the Contractor and Owner that time extensions due to unavoidable delays will be granted only if such unavoidable delays involve controlling operations which would prevent completion of the whole work within the specified contract time.

3. DAMAGES FOR DELAYS: For each and every day that any portion of the work remains incomplete after the Contract Time, including intermediate or final completion dates, specified in the Specifications, as modified by any extension of time granted hereunder, damage will be sustained by the Owner. Because of the difficulty in computing the actual material loss and disadvantages to the Owner, it is determined in advance and agreed by the parties hereto that the Contractor will pay the Owner the amount set forth in Part 8 of Section 00710 for each day of delay as representing a reasonable forecast of the actual damages which the Owner will suffer by the failure of the Contractor to complete such work or portion thereof within said time(s). The execution of this Contract shall constitute acknowledgment by the Contractor that it has ascertained and agrees that the Owner will actually suffer damages in the amount herein fixed for each and every day during which the completion of the work or portions thereof is avoidably delayed beyond the specified time(s).

This paragraph shall provide the Contractor's sole remedy for any and all damages it may suffer for delay. For unavoidable delays which are also unreasonable delays under paragraph 00710-6.02 D.3, the Contractor must make a complete and timely claim for damages referring to this paragraph. Because of the difficulty in computing the actual losses to the Contractor, it is

determined in advance and agreed by the parties hereto that the Owner will pay the Contractor the amount set forth in Part 8 of Section 00710 for each day of unavoidable, unreasonable delay as representing a reasonable forecast of the actual damages; provided, however, that such liquidated damages will be paid only if any extension of time granted the Contractor does not fairly compensate the Contractor for such unavoidable, unreasonable delay.

6.03 SUSPENSION PROCEDURES

The Owner may, at his convenience and at any time and without cause, suspend all or any part of the work by notice in writing to the Contractor. The work shall be resumed by the Contractor within five days after receiving written notice from the Owner to do so. The Contractor will be allowed an increase in the contract price or an extension of contract time, or both, directly attributable to any suspension if he makes a claim therefor as provided in the paragraphs related to change of contract price and change of contract time; provided, the Contractor shall not be entitled to any increase if the cause of the suspension is based on or due to fault on the part of the Contractor. If the Owner does not give notice in writing to the Contractor to resume work at a date within 90 days of the date of the notice to suspend, then the contract shall be assumed to be terminated and the Contractor shall be entitled to such compensation as indicated in paragraph 00710-6.04 B.

6.04 TERMINATION PROCEDURES

A. TERMINATION BY OWNER FOR DEFAULT:

The Owner may terminate the contract upon 7 days written notice to Contractor and his surety whenever the Contractor is deemed to be in default or fails to fulfill, in a timely and proper manner, the contract obligations, or is in violation of any provisions or covenants of the contract.

For purposes of this paragraph, the Contractor shall be deemed to be in default upon the occurrence of any one or more of the following events:

1. If Contractor is bankrupt or insolvent.
2. If Contractor makes a general assignment for the benefit of creditors.
3. If a trustee or receiver is appointed for Contractor, or for any of Contractor's property.
4. If Contractor files a petition to take advantage of any debtor's act, or to reorganize under any bankruptcy chapter or law.
5. If Contractor repeatedly fails to make prompt payments to subcontractors or others for labor, materials, or equipment.
6. If Contractor disregards laws, ordinances, rules, regulations, or orders of any public body having jurisdiction.
7. If Contractor disregards the authority of Construction Manager.

8. If Contractor violates in any substantial way the provisions of the contract documents by failing, neglecting, or refusing to proceed according to and in full compliance with the provisions and covenants of the contract documents.

After termination of Contractor for default, the Owner may exclude the Contractor from the site and take possession of the work and all of the Contractor's tools, appliances, construction equipment, and machinery at the site and use the same to the full extent they could be used by the Contractor. The Owner may incorporate in the work all materials and equipment stored at the site or for which the Owner has paid the Contractor, but which are stored elsewhere. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

If the unpaid balance of the contract price exceeds the direct and indirect cost of the completed work, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner. Such costs incurred by the Owner shall be verified by the Construction Manager and incorporated into a change order, but in finishing the work, the Owner will not be required to obtain the lowest figure for work performed.

Where the Contractor's services have been so terminated by the Owner, the termination shall not affect any rights of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies due the Contractor by the Owner will not release the Contractor from liability.

If the Owner terminates this agreement for default, and it is thereafter determined that the Contractor had not so failed to perform its obligations or defaulted in any way, the termination shall then be deemed to have been effected for the convenience of the Owner. In that event, any adjustment of compensation to Contractor shall be in accordance with paragraph 00710-6.04 B.

B. TERMINATION BY OWNER FOR OTHER THAN DEFAULT:

The Owner may, without prejudice to any other remedy it may have under the provisions of the contract, terminate this contract, in whole or in part, at any time by giving written notice to Contractor or its representative by certified mail, return receipt requested. Termination shall be effective upon receipt of such notice by Contractor. Contractor shall immediately discontinue work and take all reasonable steps with its suppliers and subcontractors to minimize cancellation charges and other costs.

In the event of termination for reasons other than default of the Contractor, the Contractor will be entitled to recover all reasonable, verifiable costs incurred in connection with performance of the work satisfactorily completed to the date of termination. In addition thereto, the Owner will pay to the Contractor actual, verifiable costs incurred by the Contractor prior to the date of termination and five percent of the difference between the contract price and the sum of the payments made to the Contractor for work satisfactorily completed up to the date of termination of the contract in full and complete satisfaction and settlement of the Contractor's overhead, anticipated profits, cost of removing equipment from the site and all other inconvenience, expenses and profits whatsoever. The Contractor will be entitled to no further payments whatsoever for the work. Amounts retained and accumulated under RCW 60.28.010 will be held as provided therein for a period of not less than thirty (30) days following the election of the Owner to terminate.

C. CONTRACTOR OBLIGATIONS UNDER TERMINATION:

On receipt of notice of termination under paragraphs 00710-6.04 A or 00710-6.04 B, the Contractor shall immediately discontinue the work but shall do such extra work as may be ordered by the Construction Manager to safeguard the work then completed and the materials and equipment then delivered to the site of the work and to leave the work in a safe and useful condition. Payment for this extra work will be made in the manner set forth in paragraph 00710-7.02.

D. TERMINATION BY CONTRACTOR:

If a notice to proceed or work should be delayed or stopped by a restraining order of any court of public authority, other than the Owner, for a period of 180 days or more primarily because of acts or omissions of persons or agencies other than the Contractor, anyone employed by him or any of his subcontractors or suppliers, then the Contractor after 10 days written notice to the Owner may terminate the contract. Forthwith upon the termination of the contract, the Owner will estimate all of the work done up to the time of such termination and the Contractor will be entitled to and will receive payment therefor.

In addition thereto, the Owner will pay to the Contractor actual, verifiable costs incurred by the Contractor prior to the date of termination and five percent of the difference between the contract price and the sum of the payments made to the Contractor for work satisfactorily completed up to the date of termination of the contract in full and complete satisfaction and settlement for the Contractor's overhead, anticipated profits, cost of removing equipment from the site and all other inconvenience, expenses and profits whatsoever. The Contractor will be entitled to no further payments whatsoever for the work. Amounts retained and accumulated under RCW 60.28.010 will be held as provided therein for a period of not less than thirty (30) days following the election of the Contractor to terminate.

For purposes of this paragraph, "all of the work done" includes all materials ordered by the Contractor prior to the termination, whether or not they have been delivered to the site of the work. The amount of payment for all such materials under this paragraph will be its actual, necessary cost to the Contractor up to the date of termination.

E. OWNERSHIP OF MATERIALS UPON TERMINATION:

As of the date of termination, whether effected by the Owner or the Contractor as provided herein, all the Contractor's right, title, and interest in and to materials ordered by the Contractor prior to the termination, whether or not they have been delivered to the site of the work, shall be vested in the Owner, and the Contractor shall, upon demand of the Owner, execute and deliver to the Owner all requisite bills of sale, assignments, and other documents of transfer that may be necessary to give effect to the intention of the termination procedure set forth above.

6.05 POSSESSION AND USE OF COMPLETED PORTIONS OF THE WORK

The Owner shall have the right to take possession of and use completed or partially completed portions of the work notwithstanding the time for completing the work for such portions may not have expired. Operations and maintenance costs of use of such work will be borne by the

Owner. Such taking possession and use shall not be deemed as acceptance of the work. If such prior possession or use increases the cost of the work, the Contractor shall be entitled to request extra compensation within five days of each occurrence. The amount of extra compensation, if any, will be determined in accordance with the procedures given herein for determination of change order cost. The Contractor shall not claim extra compensation for possession by the Owner of portions of the work specifically required in the contract documents to be placed into use and/or operation before completion of the entirety of the work.

6.06 POSSESSION OF INCOMPLETE PORTIONS OF THE PROJECT

Should the Contractor fail to meet any date specified for substantial completion of the work or any portion of the work requiring early possession and use by the Owner, the Owner may, after a 10-day written notice to the Contractor, take over such portion or all of the work that is behind schedule. In such case, the Construction Manager will prepare a punch list of incomplete work. The Owner may allow the Contractor reasonable access to the work at such times that the operation of the project will not be affected or he may complete the work himself after giving the Contractor notice of his intention to do so. The cost of Owner's work will be charged to and deducted from amounts due to the Contractor. The substantial completion date will be established as the date when the Owner actually begins using the project or portion of the project for its intended purpose. Division of responsibilities between Owner and Contractor, beginning of warranties, and any other issues relating to substantial completion shall be as specified in paragraph 00710-7.05.

PART 7--MEASUREMENT AND PAYMENT

7.01 PAYMENTS TO CONTRACTOR

A. BREAKDOWN OF CONTRACT PRICE:

The Contractor shall, within the time specified in the Specifications, submit a schedule of values and cash flow projection for the Contract Price, acceptable to the Construction Manager, showing the value assigned to each activity of the work, including an allowance for profit and overhead. The Contractor warrants that such values are accurate representations of the value of each activity, on which the Owner may rely. The schedule of values and cash flow projection shall be prepared in accordance with the requirements of the Specifications and shall be sufficiently detailed to permit its use by the Construction Manager as one of the bases for evaluating requests for payment. Failure to meet the submittal schedule of the schedule of values will delay the processing of progress payments.

B. INCREASED OR DECREASED QUANTITIES:

Unless specifically provided otherwise on the Bidding Schedule, if there is any change that increases or decreases the actual quantity for any unit price item by more than 15 percent, the unit price will apply for the portion up to the 15 percent increase or decrease, and the adjustment for that portion of the work in excess of the 15 percent increase or decrease shall be as follows:

1. Increases in excess of 15 percent will be determined by agreement of the parties. If the parties are unable to agree, the Construction Manager will

determine the equitable adjustment by using unit bid prices, or by establishing the costs by other means, or by using force account, and will adjust the Contract Time as the Construction Manager deems appropriate.

2. Decreases in excess of 15 percent will be determined by agreement of the parties. If the parties are unable to agree, the Construction Manager will determine the adjustment taking into account a redistribution of fixed costs, if any.

If the Contractor disagrees with an equitable adjustment determination by the Construction Manager, the Contractor shall appeal and strictly follow all procedures in accordance with paragraph 00710-2.04 G.2. Failure to do so shall constitute the Contractor's acceptance of determinations by the Construction Manager.

When ordered by the Construction Manager, the Contractor shall proceed with the work pending determination of the adjustment in costs or time, as applicable.

When the Owner has entered an amount for any bid item, whether unit or otherwise, solely for the purpose of providing a common bid for all bidders, this paragraph 00710-7.01 B shall not apply. Any impact due to an increase or decrease in the amount provided for the purpose of obtaining a common bid shall be the sole risk of the Contractor.

C. PROGRESS PAYMENTS:

1. PAYMENT REQUEST PROCEDURES:

a. GENERAL: By the 5th day of each month the Contractor shall submit to the Construction Manager a partial payment request filled out and signed by the Contractor covering acceptable work performed and materials received during the previous payment period, or since the last partial payment estimate was submitted. Payment periods shall end on the last day of each month. The Contractor's statement regarding payment of prevailing wages as specified in paragraph 00710-1.04, and the Contractor's current progress schedules, cash flow projections and reports as specified in the Specifications shall be provided with each partial payment estimate. If requested by the Construction Manager, the Contractor shall provide such additional data as may be reasonably required to support the payment for materials and labor, including payments to subcontractors and suppliers. The term "materials", as used herein, shall be considered to include those items which are fabricated and manufactured material and equipment. Only those materials for which the Contractor can transfer clear title to the Owner will be qualified for partial payment, except as specifically provided below.

b. PARTIAL PAYMENT REQUESTS: The first partial payment request shall include (1) the value of the work performed, and (2) a percentage (as determined below) of the purchase value of materials delivered but not yet incorporated in the work, all of which shall have been incurred since the Contractor's receipt of the Notice to Proceed. Every subsequent partial payment request, except the final payment request, shall include (1) the value of the work performed, and (2) a percentage (as determined below) of the purchase value of materials delivered but not yet incorporated in the work, all of which shall have been incurred since the last partial payment request was submitted. As used in this paragraph 00710-7.01, "purchase value" shall be the Contractor's actual net cost of such materials.

c. **PARTIAL PAYMENT FOR MATERIAL DELIVERED BUT NOT INSTALLED:** To receive partial payment for materials delivered but not yet incorporated in the work, the Contractor shall submit a list with certified invoices of such materials to the Construction Manager for approval with the Contractor's partial payment estimate. The Contractor's claimed purchase value must be supported by certified invoices of subcontractors or suppliers. Proper storage and protection in accordance with paragraph 00710-4.07 shall be provided. Partial payment for materials delivered but not yet incorporated in the work will not exceed 75 percent of the purchase value for such materials, except as may be determined otherwise by the Construction Manager. As a condition precedent to making any such payment, the Construction Manager may require that the Contractor provide a bond or other form of security to protect the interests of the Owner.

d. **PARTIAL PAYMENT BASED ON UNIT PRICES:** If the Bidding Schedule for this Contract included unit price items, then partial payments for such items will be based on the actual quantities performed or provided under such unit price items. For work performed or provided under such unit price items, the Contractor shall not be entitled to any payment beyond those unit prices, except as may be elsewhere provided herein.

2. **REVIEW OF PAYMENT REQUEST.** Within eight days after receipt of the partial payment request, the Construction Manager will review the request and either indicate approval in writing to the Owner's Representative or indicate in writing to the Contractor specific reasons why part or all of the payment is being withheld and what remedial actions the Contractor must take to receive the withheld amount. If the Construction Manager recommends payment and the Owner's Representative concurs, the Owner will, within, 30 days of receipt of the Contractor's properly completed invoice or receipt of the goods or services whichever is later, pay the Contractor a progress payment on the basis of the approved partial payment request. The payments will take into account the retention provisions provided for herein.

In the event the Construction Manager does not concur with the request, the Contractor may make the changes necessary to obtain the Construction Manager's concurrence and resubmit the partial payment request. If the Construction Manager recommends payment and the Owner's Representative concurs, the Owner will, within 30 days after the Contractor satisfactorily completes the remedial actions identified in the Construction Manager's rejection of the payment request, pay the Contractor a progress payment on the basis of the approved partial payment request.

3. **RETAINAGE.** Pursuant to RCW 60.28.010, the Owner will retain five percent of all progress payments as a trust fund for the protection and payment of any person or persons, mechanic, subcontractor, or material person who performs labor upon the contract or work hereunder, and all persons who shall supply such person or persons or subcontractors with provisions and supplies for carrying on such work, and the State with respect to taxes imposed pursuant to Title 82 RCW which may be due from the Contractor. In the event that during the performance of the Contract and prior to the expiration of the claim period as provided in RCW 60.28.011, the amount retained is reduced to an amount below five percent, then the Owner shall retain additional sums from moneys earned by the Contractor so as to maintain at all times a five percent retained trust fund, unless otherwise reduced or excused by provisions of Chapter 60.28 RCW.

Moneys reserved under provisions of Chapter 60.28 RCW shall, at the option of the Contractor, be:

- a. Retained in a fund by the Owner with no interest paid thereon to the Contractor; or
- b. Deposited by the Owner in an interest-bearing account in a bank, mutual savings bank, or savings and loan association, not subject to withdrawal until after final acceptance of all work, or a portion thereof, as may be approved by the Owner; or
- c. Placed in escrow in a bank or trust company by the Owner. When the moneys reserved are to be placed in escrow, the Owner will issue a check representing the sum of the moneys reserved payable to the bank or trust company and the Contractor jointly. Such check shall be converted into bonds and securities chosen by the Contractor and approved by the Owner, and the bonds and securities held in escrow.

Under option b and c above, interest will be paid to the Contractor as the interest accrues.

The Contractor shall designate the option desired on a form as may be provided by the Owner. This form shall be submitted no later than with the Contractor's first partial payment request. The Contractor in choosing option b or c agrees to assume full responsibility to pay all costs which may accrue from escrow services, brokerage charges, or both, and further agrees to assume all risks in connection with the investment of the retained moneys.

D. FINAL PAYMENT:

The Owner will make final payment to the Contractor following acceptance of work under paragraph 00710-7.07, including completion of all Punch List items, release of claims brought to the attention of the Owner as set forth in paragraph 00710-5.01, receipt of releases from owners of property affected by the Contractor's performance under this Contract. Final payment shall include the entire sum found to be due hereunder after deducting therefrom such amounts as the terms of this Contract permit. Prior estimates and payments, including those relating to extra work or work omitted, shall be subject to correction by the final payment. Final payment will be made only for materials actually incorporated in the work; and, all materials remaining for which progress payments have been made shall revert to the Contractor, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the work.

By accepting final payment, the Contractor shall be deemed thereby to have released the Owner from all claims of and all liability to the Contractor for things done or furnished in connection with the work and for every act and neglect of the Owner and others relating to or arising out of the work, other than timely written claims identified in detail and stated amounts that were submitted prior to final payment and in strict compliance with the requirements of this Contract. Payment by the Owner shall not release the Contractor or its surety from any obligation under the Contract or under the Performance and Payment Bond.

E. RELEASE OF RETAINAGE:

The retainage will be held and applied by the Owner as a trust fund as required by Chapter 60.28 RCW. Payment or release of retainage will be made in ordinary course of business 45 days following completion of the work provided the following conditions are met:

1. Certificates approved by the Washington State Department of Labor and Industries, Washington State Employment Security Department, and all other departments and agencies having jurisdiction over the activities of the Contractor have been provided to the Construction Manager.
2. If the Contract Price hereunder exceeds \$20,000, a release obtained from the Washington State Department of Revenue has been provided to the Construction Manager.
3. "Affidavits of Wages Paid" for the Contractor and each subcontractor approved by the Industrial Statistician of the Washington State Department of Labor and Industries have been provided to the Construction Manager.
4. No claims or notices of lien, as provided by law, have been filed against the retainage.
5. The Owner has no claims under this Contract.

If such taxes have not been discharged or the claims, expenses, and fees have not been paid, the Owner shall either retain in its fund, or in an interest bearing account, or retain in escrow, at the option of the Contractor, an amount equal to such unpaid taxes and unpaid claims together with a sum sufficient to defray the costs and attorney fees incurred in foreclosing the lien of such claims, and shall pay, or release from escrow, the remainder to the Contractor.

7.02 CHANGE ORDERS

A. GENERAL:

Owner may, at any time and without notice to Contractor's surety, order additions, deletions, revisions, or other changes in the Work. These changes in the Work shall be incorporated into the Contract Documents through the execution of Change Orders. If any change in the Work ordered by Owner causes an increase or decrease in the Contract Sum or the Contract Time, an equitable adjustment shall be made as provided in 00710, section 7.02 or 7.03, respectively, and such adjustment(s) shall be incorporated into a Change Order.

B. CHANGE ORDER WORK PROCEDURES:

If Owner desires to order a change in the Work, it may request a written Change Order proposal from Contractor through the Construction Manager. Contractor shall submit a Change Order proposal within 14 days of the request from Owner/Construction Manager, or within such other period as mutually agreed. Contractor's Change Order proposal shall be full compensation for implementing the proposed change in the Work and for any expense or inconvenience, disruption of schedule, or loss of efficiency in the Work.

Upon receipt of the Change Order proposal, or a request for equitable adjustment in the Contract Sum or Contract Time, or both, as provided in sections 7.02 and 7.03, Owner/Construction Manager may accept or reject the proposal, request further documentation, or negotiate acceptable terms with Contractor. Pending agreement on the terms of the Change Order, Owner/Construction Manager may direct Contractor to proceed immediately with the Change Order Work. Contractor shall not proceed with any change in the Work until it has obtained Owner's approval. All Work done pursuant to any Owner- or Construction Manager-directed change in the Work shall be executed in accordance with the Contract Documents.

If Owner/Construction Manager and Contractor reach agreement on the terms of any change in the Work, including any adjustments in the Contract Sum or Contract Time, such agreement shall be incorporated in a change Order. The Change Order shall constitute full payment and final settlement of all claims for time and for direct, indirect, and consequential costs, including costs of delays, inconvenience, disruption of schedule, or loss of efficiency or productivity, related to any Work either covered or affected by the Change Order, or related to the events giving rise to the request for equitable adjustment.

If Owner/Construction Manager and Contractor are unable to reach agreement on the terms of any change in the Work, including any adjustment in the Contract Sum or Contract Time, Contractor may at any time, in writing, request a final offer from Owner/Construction Manager. Owner/Construction Manager shall provide Contractor with its written response within 30 days of Contractor's request. Owner/Construction Manager may also provide Contractor with a final offer at any time. If Contractor rejects Owner/Construction Manager's final offer, or the parties are otherwise unable to reach agreement, Contractor's only remedy shall be to file a Claim as provided in Section 00710-2.04 G and in Part 8.

C. CHANGE IN THE CONTRACT SUM:

The Contract Sum shall only be changed by a Change Order. Contractor shall include any request for a change in the Contract Sum in its Change Order proposal.

If the cost of Contractor's performance is changed due to the fault or negligence of Owner, or anyone for whose acts Owner is responsible, Contractor shall be entitled to make a request for an equitable adjustment in the Contract Sum in accordance with the following procedure. No change in the Contract sum shall be allowed to the extent Contractor's changed cost of performance is due to the fault or negligence of Contractor, or anyone for whose acts Contractor is responsible; the change is concurrently caused by Contractor and Owner; or the change is caused by an act of Force Majeure.

1. A request for an equitable adjustment in the Contract Sum shall be based on written notice delivered to the Construction Manager within 7 days of the occurrence of the event giving rise to the request. For purposes of this part, "occurrence" means when Contractor knew, or in its diligent prosecution of the Work should have known, of the event giving rise to the request. If Contractor believes it is entitled to an adjustment in the Contract Sum, Contractor shall immediately notify the Construction Manager and begin to keep and maintain complete, accurate, and specific daily records. Contractor shall give Construction Manager access to any such records

and, if requested shall promptly furnish copies of such records to Construction Manager.

2. Contractor shall not be entitled to any adjustment in the Contract Sum for any occurrence of events or costs that occurred more than 7 days before Contractor's written notice to the Construction Manager. The written notice shall set forth, at a minimum, a description of: the event giving rise to the request for an equitable adjustment in the Contract Sum; the nature of the impacts to Contractor and its Subcontractors, if any; and to the extent possible the amount of the adjustment in Contract Sum requested. Failure to properly give such written notice shall, to the extent Owner's interests are prejudiced, constitute a waiver of Contractor's right to an equitable adjustment.
3. Within 30 days of the occurrence of the event giving rise to the request, unless Construction Manager agrees in writing to allow an additional period of time to ascertain more accurate data, Contractor shall supplement written notice provided in accordance with subparagraph a. above with additional supporting data. Such additional data shall include, at a minimum: the amount of compensation requested, itemized in accordance with the procedure set forth herein; specific facts, circumstances, and analysis that confirms not only that Contractor suffered the damages claimed, but that the damages claimed were actually a result of the act, event, or condition complained of and that the Contract Documents provide entitlement to an equitable adjustment to Contractor for such act, event, or condition; and documentation sufficiently detailed to permit an informed analysis of the request by Owner. When the request for compensation relates to a delay, or other change in Contract Time, Contractor shall demonstrate the impact on the critical path, in accordance with section 00710 7.03C. Failure to provide such additional information and documentation within the time allowed or within the format required shall, to the extent Owner's interests are prejudiced, constitute a waiver of Contractor's right to an equitable adjustment.
4. Pending final resolution of any request made in accordance with this paragraph, unless otherwise agreed in writing, Contractor shall proceed diligently with performance of the Work.
5. Any requests by Contractor for an equitable adjustment in the Contract Sum and in the Contract Time that arise out of the same event(s) shall be submitted together.

The value of any Work covered by a Change Order, or of any request for an equitable adjustment in the Contract Sum, shall be determined by one of the following methods:

1. On the basis of a fixed price as determined in paragraph 00710-7.02 D.
2. By application of unit prices to the quantities of the items involved as determined in paragraph 00710-7.02.E

3. On the basis of time and material as determined in paragraph 00710-7.02 F.

When Construction Manager has requested Contractor to submit a Change Order proposal, Construction Manager may direct Contractor as to which method in subparagraph 3. above to use when submitting its proposal. Otherwise, Contractor shall determine the value of the Work, or of a request for an equitable adjustment, on the basis of the fixed price method.

D. CHANGE ORDER PRICING - FIXED PRICE:

When the fixed price method is used to determine the value of any Work covered by a Change Order, or of a request for an equitable adjustment in the Contract Sum, the following procedures shall apply:

1. Contractor's Change Order proposal, or request for adjustment in the Contract Sum, shall be accompanied by a complete itemization of the costs, including labor, material, subcontractor costs, and overhead and profit. The costs shall be itemized in the manner set forth below, and shall be submitted on breakdown sheets in a form approved by Construction Manager.
2. All costs shall be calculated based upon appropriate industry standard methods of calculating labor, material quantities, and equipment costs.
3. If any of Contractor's pricing assumptions are contingent upon anticipated actions of Owner, Contractor shall clearly state them in the proposal or request for an equitable adjustment.
4. The cost of any additive or deductive changes in the Work shall be calculated as set forth below, except that overhead and profit shall not be included on deductive changes in the Work. Where a change in the Work involves additive and deductive work by the same Contractor or Subcontractor, small tools, overhead, profit, bond and insurance markups will apply to the net difference.
5. If the total cost of the change in the Work or request for equitable adjustment does not exceed \$1,000, Contractor shall not be required to submit a breakdown if the description of the change in the Work or request for equitable adjustment is sufficiently definitive for Owner to determine fair value.
6. If the total cost of the change in the Work or request for equitable adjustment is between \$1,000 and \$2,500, Contractor may submit a breakdown in the following level of detail if the description of the change in the Work or if the request for equitable adjustment is sufficiently definitive to permit the Owner to determine fair value:
 - a. lump sum labor;

- b. lump sum material;
 - c. lump sum equipment usage;
 - d. overhead and profit as set forth below; and
 - e. insurance and bond costs as set forth below.
7. Any request for adjustment of Contract Sum based upon the fixed price method shall include only the following items:
- a. Craft labor costs: These are the labor costs determined by multiplying the estimated or actual additional number of craft hours needed to perform the change in the Work by the hourly labor costs. Craft hours should cover direct labor, as well as indirect labor due to trade inefficiencies. The hourly costs shall be based on the following:
 - (1) Basic wages and benefits: Hourly rates and benefits as stated on the Department of Labor and Industries approved "statement of intent to pay prevailing wages."
 - (2) Worker's insurance: Direct contributions to the state of Washington for industrial insurance; medical aid; and supplemental pension, by the class and rates established by the Department of Labor and Industries.
 - (3) Federal insurance: Direct contributions required by the Federal Insurance Compensation Act; Federal Unemployment Tax Act; and the State Unemployment Compensation Act.
 - b. Material costs: This is an itemization of the quantity and cost of materials needed to perform the change in the Work. Material costs shall be developed from actual known costs, supplier quotations or standard industry pricing guides. Material costs shall consider all available discounts. Freight costs, express charges, or special delivery charges, shall be itemized.
 - c. Equipment costs: This is an itemization of the type of equipment and the estimated or actual length of time the construction equipment appropriate for the Work is or will be used on the change in the Work. Costs will be allowed for construction equipment only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. Equipment charges shall be developed from the current edition of one of the following sources:
 - (1) Associated General Contractors - Washington State Department of Transportation Equipment Rental Agreement.
 - (2) The state of Washington Utilities and Transportation Commission for trucks used on highways.

- (3) The National Electrical Contractors Association for equipment used on electrical work.
- (4) The Mechanical Contractors Association of America for equipment used on mechanical work.

The Data Quest Rental Rate (Blue Book) shall be used as a basis for establishing rental rates of equipment not listed in the above sources. The maximum rate for standby equipment shall not exceed 50 percent of the applicable rate.

- d. Allowance for small tools, expendables and consumable supplies: Small tools consist of tools which cost \$500 or less and are normally furnished by the performing contractor. The maximum rate for small tools shall not exceed the following:
 - (1) For Contractor, 3% of direct labor costs.
 - (2) For Subcontractors, 3% of direct labor costs

Expendables and consumable supplies directly associated with the change in Work must be itemized.

- e. Subcontractor costs: This is defined as payments Contractor makes to Subcontractors for changed Work performed by Subcontractors of any tier. The Subcontractors' cost of Work shall be calculated and itemized in the same manner as prescribed herein for Contractor.
- f. Allowance for overhead and profit: This is defined as costs of any kind attributable to direct and indirect delay, acceleration, or impact, added to the total cost to Owner of any Change Order, or any request for additional Work or extra payment of any kind on the Project. This allowance shall compensate Contractor for all noncraft labor, temporary construction facilities, field engineering, schedule updating, asbuilt drawings, home office cost, B&O taxes, office engineering, estimated costs, additional overhead because of extended time, and any other cost incidental to the change in the Work. It shall be strictly limited in all cases to a reasonable amount, mutually acceptable, or if none can be agreed upon to an amount not to exceed the following:
 - (1) The maximum amount of markup for overhead and profit at all tiers, including the Contractor level, shall be limited to thirty-five percent (35%) of the total direct cost of the Work.
 - (2) For Changed Work performed directly by the Contractor or any Subcontractor (including lower tier subcontractors), the total allowable percentage for overhead and profit shall not

exceed eighteen percent (18%) of the total direct cost of the Work.

- (3) Allowable markup for overhead and profit at any tier on Work performed by a subcontractor at any lower tier shall not exceed five percent (5%) of the total direct cost of the Work.
 - (4) The following calculations illustrate the operation of these limits and define the maximum allowable total markup percentage for overhead and profit on direct cost at various tiers:
 - (a) For Work performed by the Contractor or directly performed by any subcontractor on the Changed Work, the total allowable percentage is 18% for work performed by that contractor.
 - (b) For the Work performed by a first-tier subcontractor, the total allowable overhead and profit markup percentage is $[1.18 \times 1.05] - 1.00 = 0.239$ or 23.9%, where 18% represents the markup allowance for overhead and profit by the performing contractor and 5% represents the markup allowance for overhead and profit by the Contractor on the work of its subcontractor.
 - (c) For Work performed by a second-tier subcontractor, the total allowable overhead and profit markup percentage is $[1.18 \times 1.05 \times 1.05] - 1.00 = 0.301$, or 30.1%, where 18% represents the markup allowance for overhead and profit by the performing contractor, and 5% represents the markup allowance for overhead and profit by the first-tier subcontractor on the work of its subcontractor, and 5% represents the markup allowance for overhead and profit by the Contractor on the work of its subcontractor.
 - (d) For Work performed by a third- or lower-tier subcontractor, the total markup percentage for overhead and profit to be paid to the Contractor shall not exceed 35.0% and the Contractor shall be responsible for determining, with its subcontractors, the allocation of this overall markup amount.
 - (5) The cost to which overhead and profit is to be applied shall be determined in accordance with subparagraphs a-e above.
- g. Cost of change in insurance or bond premium: This is defined as:

- (1) Contractor's liability insurance: The cost of any changes in Contractor's liability insurance arising directly from execution of the change Order; and
- (2) Public works bond(s): The cost of the additional premium for Contractor's bond arising directly from the changed Work.

The costs of any change in insurance or bond premium shall be added after overhead and profit are calculated in accordance with subparagraph f. above.

E. CHANGE ORDER PRICING - UNIT PRICES:

1. Whenever Construction Manager authorizes Contractor to perform Work on a unit-price basis, Construction Manager's authorization shall clearly state:
 - a. Scope of work to be performed;
 - b. Type of reimbursement including preagreed rates for material quantities; and
 - c. Cost limit of reimbursement.
2. Contractor shall:
 - a. Cooperate with Construction Manager and assist in monitoring the Work being performed. As requested by Owner, Contractor shall identify workers assigned to the Change Order Work and areas in which they are working;
 - b. Leave access as appropriate for quantity measurement; and
 - c. Not exceed any cost limit(s) without Owner's prior written approval.
3. Contractor shall submit costs in accordance with paragraph 00710-7.02 B and satisfy the following requirements:
 - a. Unit prices shall include reimbursement for all direct and indirect costs of the Work, including overhead and profit, and bond and insurance costs; and
 - b. Quantities must be supported by field measurement statements signed by Owner.

F. CHANGE ORDER PRICING - TIME-AND-MATERIAL PRICES:

1. Whenever Construction Manager authorizes Contractor to perform Work on a time-and-material basis, Construction Manager's authorization shall clearly state:

- a. Scope of Work to be performed;
 - b. Type of reimbursement including preagreed rates, if any, for material quantities or labor; and
 - c. Cost limit of reimbursement.
2. Contractor shall:
- a. Cooperate with Construction Manager and assist in monitoring the Work being performed. As requested by Construction Manager, identify workers assigned to the Change Order Work and areas in which they are working;
 - b. Identify on daily time sheets all labor performed in accordance with this authorization. Submit copies of daily time sheets within 2 working days for Construction Manager's review;
 - c. Leave access as appropriate for quantity measurement;
 - d. Perform all Work in accordance with this section as efficiently as possible; and
 - e. Not exceed any cost limit(s) without Construction Manager's prior written approval.
3. Contractor shall submit costs in accordance with paragraph 00710-7.02 B and additional verification supported by:
- a. Labor detailed on daily time sheets; and
 - b. Invoices for material.

7.03 CHANGE IN THE CONTRACT TIME

A. GENERAL:

The Contract Time shall only be changed by a Change Order. Contractor shall include any request for a change in the Contract Time in its Change Order proposal.

B. PROCEDURES:

If the time of Contractor's performance is changed due to an act of Force Majeure, or due to the fault or negligence of Owner or anyone for whose acts Owner is responsible, Contractor shall be entitled to make a request for an equitable adjustment in the Contract Time in accordance with the following procedure. No adjustment in the Contract Time shall be allowed to the extent Contractor's changed time of performance is due to the fault or negligence of Contractor, or anyone for whose acts Contractor is responsible.

- 1. A request for an equitable adjustment in the Contract Time shall be based on written notice delivered within 7 days of the occurrence of the event

giving rise to the request. If Contractor believes it is entitled to adjustment of Contract Time, Contractor shall immediately notify Owner and begin to keep and maintain complete, accurate, and specific daily records. Contractor shall give Construction Manager access to any such record and, if requested, shall promptly furnish copies of such record to Construction Manager.

2. Contractor shall now be entitled to an adjustment in the Contract Time for any events that occurred more than 7 days before Contractor's written notice to Construction Manager. The written notice shall set forth, at a minimum, a description of: the event giving rise to the request for an equitable adjustment in the Contract Time; the nature of the impacts to Contractor and its Subcontractors of any tier, if any; and to the extent possible the amount of the adjustment in Contract Time requested. Failure to properly give such written notice shall, to the extent Owner's interests are prejudiced, constitute a waiver of Contractor's right to an equitable adjustment.
3. Within 30 days of the occurrence of the event giving rise to the request, unless Owner agrees in writing to allow an additional period of time to ascertain more accurate data, Contractor shall supplement the written notice provided in accordance with subparagraph 00710 7.03 B.2 with additional supporting data. Such additional data shall include, at a minimum: the amount of delay claimed, itemized in accordance with the procedure set forth herein; specific facts, circumstances, and analysis that confirms not only that Contractor suffered the delay claimed, but that the delay claimed was actually a result of the act, event, or condition complained of, and that the Contract Documents provide entitlement to an equitable adjustment in Contract Time for such act, event, or condition; and supporting documentation sufficiently detailed to permit an informed analysis of the request by Construction Manager. Failure to provide such additional information and documentation within the time allowed or within the format required shall, to the extent Owner's interests are prejudiced, constitute a waiver of Contractor's right to an equitable adjustment.
4. Pending final resolution of any request in accordance with this paragraph, unless otherwise agreed in writing, Contractor shall proceed diligently with performance of the Work.

C. CHANGE TO SCHEDULE:

Any change in the Contract Time covered by a Change Order, or based on a request for an equitable adjustment in the Contract Time, shall be limited to the change in the critical path of Contractor's schedule attributable to the change of Work or event(s) giving rise to the request for equitable adjustment. Any Change Order proposal or request for an adjustment in the Contract Time shall demonstrate the impact on the critical path of the schedule. Contractor shall be responsible for showing clearly on the Progress Schedule that the change or event: had a specific impact on the critical path, and except in case of concurrent delay, was the sole cause of such impact; and could not have been avoided by resequencing of the Work or other reasonable alternatives.

D. COST OF CHANGE TO CONTRACT TIME:

Contractor may request compensation for the cost of a change in Contract Time in accordance with this paragraph 00710 7.03D, subject to the following conditions:

1. The change in Contract Time shall solely be caused by the fault or negligence of Owner or Design Engineer;
2. Compensation under this paragraph is limited to changes in Contract Time for which Contractor is not entitled to be compensated under section 00710-7.02;
3. Contractor shall follow the procedure set forth in paragraph 00710 7.03B;
4. Contractor shall establish the extent of the change in Contract Time in accordance with paragraph 00710-7.03C; and
5. The daily cost of any change in Contract Time shall be limited to:
 - a. cost of nonproductive field supervision or labor extended because of delay;
 - b. cost of weekly meetings or similar indirect activities extended because of the delay;
 - c. cost of temporary facilities or equipment rental extended because of the delay;
 - d. cost of insurance extended because of the delay;
 - e. general and administrative overhead in an amount to be agreed upon, but not to exceed 3% of Contract Sum divided by the Contract Time for each day of the delay.

7.04 COMPENSATION TO OWNER FOR TIME EXTENSION

The Owner, in exchange for granting an extension of time for avoidable delay, shall be compensated by the Contractor for the actual costs to the Owner of engineering, inspection, general supervision and overhead expenses which are directly chargeable to the work and which accrue during the period of such extension. The actual costs do not include charges for final inspection and preparation of the final estimate by the Owner.

7.05 SUBSTANTIAL COMPLETION

The Contractor, on considering the work to be substantially complete and ready for its intended use, shall so notify the Construction Manager in writing. The notification shall include an itemized list of remaining incomplete work. If the Construction Manager determines that the work is not substantially complete, he will so notify the Contractor in writing identifying the reasons for such a determination. If the Construction Manager finds the work substantially complete, he will meet with the Contractor to (1) prepare a punch list of incomplete items of work; (2) define the division of

responsibility between Owner and Contractor with respect to security, operation, maintenance, heat, utilities, insurance, and warranties; and (3) describe any other issues related to acceptance of the substantially completed work. Upon reaching agreement with the Contractor, the Construction Manager will write to the Owner, certifying that the work is substantially complete, listing the items of incomplete work, stating the date for completion of incomplete work, defining the division of responsibilities, and setting forth any other terms related to acceptance.

Except for any portion(s) of work specifically accepted by the Owner as substantially complete and fully functional or required by the Owner for early possession (paragraph 00710-7.06), substantial completion will not occur for the work until the entire project is ready for possession and use. The acceptance notice will include a punch list of incomplete work items, set the date for their completion, describe the division of responsibility between the Owner and Contractor, and describe any other terms of acceptance. The Contractor will acknowledge receipt of the acceptance notice in writing, indicating acceptance of all of its terms and provisions.

Upon provision of the Contractor's acknowledgment letter, the Owner shall take possession of the work or portion of the work and put it into its intended service. The date that the work or portion of the work is put into service will become the date of substantial completion. Unless otherwise specified, guarantees and warranties will begin on the date of substantial completion.

Subsequent to the substantial completion date, the Owner may exclude the Contractor from the work during such periods when construction activities might interfere with the operation of the facility. The Owner, however, shall allow the Contractor reasonable access for completion or correction of incomplete punch list items.

7.06 POSSESSION OF PORTIONS OF THE PROJECT

Should the Contractor fail to meet any date specified for substantial completion of the work or any portion of the work requiring early possession and use by the Owner, the Owner may, after a 10-day written notice to the Contractor, take over such portion or all of the work that is behind schedule. In such case, the Construction Manager will prepare a punch list of incomplete work. The Owner may allow the Contractor reasonable access to the work at such times that the operation of the project will not be affected or he may complete the work himself after giving the Contractor notice of his intention to do so. The cost of Owner's work will be charged to and deducted from amounts due to the Contractor. The substantial completion date will be established as the date when the Owner actually begins using the project or portion of the project for its intended purpose. Division of responsibilities between Owner and Contractor, beginning of warranties, and any other issues relating to substantial completion shall be as specified in paragraph 00710-7.05.

7.07 ACCEPTANCE OF THE PROJECT

Upon completion of the work, including portions of the work previously accepted as substantially complete, the Contractor shall so notify the Construction Manager in writing. Upon receipt of the notification, the Construction Manager will determine if the work conforms to the terms of the contract. If he finds materials, equipment, or workmanship which do not meet the terms of the contract, he shall prepare a punch list of such items and submit it to the Contractor. Following completion of the corrective work by the Contractor, the Construction Manager shall notify the Owner that the work has been completed in accordance with the contract. Final

determination of the acceptability shall be made by the Owner. Upon acceptance of the project, the Owner shall immediately file a notice of completion. For portions of the project not previously accepted as substantially complete, the conditions of guarantee shall commence on the date that the Owner files a notice of completion.

The final application for payment shall be accompanied by all required documentation called for in the contract including complete and legally effective releases or waivers of liens in a form acceptable to Owner. Subject to prior approval of Owner, Contractor may submit in lieu of the lien releases and waivers: (1) receipts of releases in full; (2) an affidavit that the releases and receipts cover all labor, services, materials, and equipment for which a lien could be filed and that all payrolls, materials, and equipment bills and other indebtedness connected with the work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied; and (3) consent of the surety, if any, to final payment. If any subcontractor or supplier fails to furnish a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any lien.

If, after reviewing the Contractor's final application for payment including all documentation required, the Construction Manager determines that the work is complete, he will recommend that final payment, including all retainages, be made by the Owner. The final payment will be due and payable by the Owner within 30 days after any legal notice periods have expired.

7.08 EARLY COMPLETION

No damages or additional compensation shall be owed to the Contractor, should the Contractor complete the project, or any part of the project, ahead of schedule, as a result of his unilateral decision to accelerate all or a portion of the work.

PART 8--SUPPLEMENTARY PROVISIONS

8.01 DAMAGES FOR DELAY

It is agreed that the work covered by this contract shall be completed in all respects within the specified time period from the date of Notice to Proceed. It is further agreed that the Owner will suffer damage and be put to additional expense in the event that the Contractor shall not have the work completed in all respects and ready for use prior to the completion date stated.

Until such time that actual damages can be accurately computed, the Contractor hereby covenants and agrees to pay to the Owner the sum of \$500 per day as liquidated damages for each and every calendar day required to accomplish substantial performance of the work beyond the period above fixed. Additionally, Contractor shall complete all cleanup and punch list work within 90 days following the date of substantial completion. The Contractor shall pay the Owner \$100 per day as liquidated damages for each calendar day in excess of 90 days required to accomplish the cleanup and punch list and all other items of work necessary to issue a certificate of completion and final acceptance of the work by the Owner. It is hereby agreed that the above amount shall be deducted from payment due the Contractor or deducted from any sums retained for benefit of employees, subcontractors, or suppliers (provided the Owner's claim shall be subject to claims filed against the retained percent).

8.02 ABNORMAL WEATHER CONDITIONS

Precipitation as rain, hail or snow, low temperature, a windstorm, ice, snow and other weather conditions which could reasonably have been anticipated from the National Weather Service historical records of the general locality of the work shall not be construed as abnormal. It is hereby agreed that precipitation greater than the following, temperatures less than the following, and wind velocities greater than the following, cannot be reasonably anticipated:

Daily precipitation, minimum temperature, and maximum wind velocity exceeding that for a 5-year return interval.

Ice, snow and other weather conditions may be considered as abnormal in the sole discretion of the Construction Manager upon written request by the Contractor. Such written request shall describe in detail the weather condition, identify the specific impacts resulting from the weather condition, and be submitted to the Construction Manager within five days of the onset of the weather condition.

To preclude the difficulties of actual measurement, the parties hereto agree that weather data at the site of the work shall be expressly deemed to be the same as that measured at Friday Harbor by the Environmental Data and Information Service of the National Oceanic and Atmospheric Administration ("NOAA") of the U.S. Department of Commerce.

8.03 RETENTION OF RECORDS AND AUDIT

A. RETENTION OF RECORDS:

The Contractor shall maintain books, records and documents ("Records") of its performance under this Contract in accordance with generally accepted accounting principles. The Contractor shall maintain and retain for a period of not less than three years after the date of initial acceptance of contract work: all financial information, data and records (e.g., estimating sheets, takeoffs, calculations, designs, etc.) used to prepare and support the Contractor's bid for this Contract; and all records pertaining to the performance of the work under this Contract, including portions of the work performed under change orders and/or contracts and agreements with subcontractors and suppliers.

The Contractor shall ensure each of its subcontractors and suppliers maintains and retains for said period all Records pertaining to the performance of their portion of the work under this Contract.

B. AUDIT ACCESS:

For the purpose of inspection, cost/price analysis, audit or other reasonable purposes related to this Contract, the Owner and its authorized representatives and designees shall have access to all Records maintained and retained by the Contractor, its subcontractors, and suppliers. The Owner and its representatives and designees shall have access to Records and be able to copy such Records during the Contractor's normal business hours. The Contractor shall provide proper facilities for such access and inspection.

In addition to audits conducted after the date of acceptance of work, audits may be conducted during or after the Contract Time for purposes of evaluating a claim or payments to the

Contractor and for any other reason deemed appropriate and necessary by the Owner. Audits conducted shall be in accordance with generally accepted auditing standards and/or with established procedures and guidelines of the Owner. The Contractor shall fully cooperate with the Owner or its auditor(s) during audits and inspections, and provide all requested documentation.

If an audit is commenced more than sixty (60) days after the date of acceptance of work, the Owner will give reasonable notice to the Contractor of the date on which the audit will begin.

****END OF SECTION****

SECTION 01010 - SUMMARY OF WORK

PART - 1 GENERAL

This section describes the project in general, and provides an overview of the extent of the work to be performed under this contract. The work covered under this contract will be performed in public rights-of-way at the intersection of Spring Street and Second Street within the Town of Friday Harbor.

The Contractor shall, except as otherwise stated in the Contract Documents, provide and pay for all labor, materials, equipment, tools, construction equipment, licenses, permits, and other facilities and services necessary for proper execution, testing, and completion of the work under this contract.

.1.1 DESCRIPTION OF OWNER'S PROJECT

The project consists of replacing a section of plain sidewalk with a larger public area incorporating plantings and public art. The park will also serve as one of the entrance markers to Sunshine Alley and is the first in a number of expected improvements recommended as part of the Sunshine Alley master plan.

95 LF of 8' existing sidewalk/curb and gutter and 5130 SF of existing HMA pavement will be removed.

Underground work consists of constructing a new cast in place curb inlet around an existing 12" ADS storm line, exposing an existing saddle and corporation stop and coordinating with the water department for installation of a new water service to the park and installation of new column bases for (5) existing posts.

New surface improvements are 105 LF of new vertical curb and gutter, three modified Type 4 handicap ramps, 1,170 SF new decorative concrete sidewalk, 200 SF new 18" square decorative paver tiles, transportation foundation and mounting for (3) art boulder seats, foundation and mounting for (1) steel Art panel.

Roadway restoration will be needed. Grades within the intersection will need to be adjusted and new HMA paving within the intersection done.

The work also includes installation of an irrigation system, placement of soils and execution of a planting plan in the park planting areas.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

****END OF SECTION****

SECTION 01011 - CONTRACT TIME

PART - 1 GENERAL

The Contractor shall prosecute the work so that all portions of the project shall be complete and ready for use within **60 working days** from the commencement date stated in the Notice to Proceed. Maintenance periods will begin immediately following the Town's determination that the project is substantially complete. A notice of Completion will be issued after the acceptance of the project by the Town.

****END OF SECTION****

SECTION 01012 – BID ITEM DESCRIPTIONS

PART - 1 GENERAL

.1.1 Summary

The purpose of this section is to provide a verbal description of each Unit Price bid item that appears in the bid proposal to eliminate confusion over the scope of work represented by each bid item.

.1.2 Bid Item Descriptions

1. Base Project (Not a unit price item. See Bid Proposal for Description.)
2. Cement Vertical Curb and Gutter includes all labor, equipment materials, consumables and services required to construct concrete curb and gutter to line and grade as specified and shown in the drawings and Friday Harbor drawing 4-16 "vertical curb and gutter".
3. Sawcutting includes all labor, equipment materials, consumables and services required to cut pavement for removal of HMA as shown on the drawings. Does NOT include saw cutting for demolition of sidewalk, curb and gutter (included in project lump sum base bid) or in connection with raising of manholes or water valves.
4. Remove and Dispose of Existing HMA Surfacing includes all labor, equipment materials, consumables and services required to remove and dispose of existing bituminous surface.
5. Roadway Excavation Including Haul includes all labor, equipment materials, consumables and services required to establish roadway grade to the top of the subgrade layer (regardless of the nature of the existing material), ready to receive CSTC.
6. CSTC includes all labor, equipment materials, consumables and services required to place, spread and compact crushed surfacing top course to line and grade. This item includes material placed as foundation material for Sidewalk extended beyond existing sidewalk areas and for Cement Vertical Curb and Gutter.
7. HMA Paving includes all labor, equipment materials, consumables, incidentals and services required to place, spread and compact approved ½ " dense –(PG - 64) mix to line and grade shown complete and in place as specified and shown in the drawings.
8. Raise Sewer Manhole includes all labor, equipment materials, consumables and services required to locate, saw cut, expose, raise, set to grade and construct concrete collar per detail on sheet C-10 of drawings complete and in place.
9. Raise Water Valves includes all labor, equipment materials, consumables and services required to locate saw cut, expose, raise, and construct concrete collar per detail on sheet C-10 of drawings complete and in place.

PART - 2 PRODUCTS

Not Used

PART - 3 EXECUTION

Not Used

END OF SECTION

SECTION 01013 - SPECIAL CONSTRUCTION CONTROLS

PART - 1 GENERAL

.1.1 Work Force and Equipment

- .A The Contractor shall diligently prosecute the work to completion. If the Construction Manager determines that the Contractor is failing to prosecute the work to the proper extent, the Contractor shall, upon orders from the Construction Manager, immediately take steps to remedy the situation. All costs of prosecuting the work as described herein, subject to Paragraph 6.02 C of the General Conditions, shall be included in the Contractor's bid. Should the Contractor fail to take the necessary steps to fully accomplish such purposes, after orders from the Construction Manager, the Construction Manager may suspend work in whole or in part in accordance with Paragraph 6.03 of the General Conditions until the Contractor takes such steps.

.1.2 Maintenance of Traffic

- .A The Contractor shall be responsible for the safety of traffic in public Right-of-Way, within the project limits and on the approaches and entrances to the project. The Contractor shall furnish, erect, and maintain such warning devices required by local regulations and codes to protect the public and plant personnel.
 - .1 Unless permission to close a public street is received in writing from the proper authority, all excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures satisfactory to the Construction Manager.
- .B Detours around construction will be subject to the approval of the proper authority and the Construction Manager. Where detours are permitted, the Contractor shall provide barricades and signs to divert the flow of traffic. While traffic is detoured the Contractor shall expedite construction operations. Periods when traffic is being detoured will be strictly controlled by the Construction Manager.
- .C Night watchmen may be required where special hazards exist, or police protection provided for traffic while Work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided.

.1.3 Open Excavations

- .A All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workers. Bridges provided for access during construction shall be removed when no longer required. The length or size of excavation will be controlled by the particular surrounding conditions, if the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Construction Manager may require special construction procedures such as limiting the length of the open trench, prohibiting

stacking excavated material in certain areas, and requiring that the trench shall not remain open overnight.

- .B The Contractor shall take precautions to prevent injury to the public and plant personal due to open excavation or trenches. All trenches, excavated areas, material, equipment, or other obstacles which could be dangerous to the public shall be protected with barricades which have flashing warning lights.
- .C The Contractor will take appropriate measures to prevent any surface flow from entering any open excavation at any time, including flow from any defined water course or overland flow during or following a rainfall event or storm.

.1.4 Potholing

- .A Excavations for the purpose of locating underground utilities or structures shall be excavated and backfilled by the Contractor. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Construction Manager.

.1.5 Care and Protection Of Property

- .A The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution to prevent damage thereto. If any direct or indirect, damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, or he shall make good the damage in other manner acceptable to the Owner.
- .B Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or men to or from the Work or any part or site thereof, whether by him or his Sub-Contractors. Contractor shall make satisfactory and acceptable arrangements with the Owner of, or the agency or authority having jurisdiction over, the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

.1.6 Protection and Relocation of Existing Structures and Utilities

- .A Subject to paragraph 3.03C of the General Conditions, known existing utilities are shown on the Drawings. The locations of these utilities are not warranted to be exact, nor is it warranted that all utilities are shown. The Contractor shall bear full responsibility for obtaining all locations of above-ground or underground structures and utilities (including existing telephone and power lines, water services, drain lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor. If utilities are encountered which are not shown on the Drawings or are not identified by the "Call Before You Dig", Center, Contractor will deal directly with the appropriate utility organization, and Contractor will be compensated for any necessary extra work on his part, as provided for under the General Conditions.
- .B The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings,

utilities in the street, gas pipes, water pipes, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operations shall be repaired by him at his expense.

- .C Two (2) working days prior to any excavations being made, the Contractor shall notify the "Call Before You Dig" Center and inform the organization of the area to be excavated, such that the stakes will be placed prior to commencement of excavation.
- .D The Contractor shall also notify Owner two (2) days before any excavations are made to conduct locations of on-site piping and utilities. Costs for these private, on-site piping and utility locations will be borne by Owner.
- .E Protection, temporary removal, and replacement of known existing utilities and structures, and new utilities and structures (by Others), as described in this section shall be a part of the Work under the Contract and all costs in connection therewith shall be included in the total price of the Bid.
- .F If, in the opinion of the Construction Manager, permanent relocation of a utility owned by the Owner is required, he may direct the Contractor, in writing, to perform the Work. Work so ordered will be paid for as extra Work under the General Conditions. If relocation of a privately owned utility is required, the Contractor will notify the Utility to perform the Work as expeditiously as possible. The Contractor shall fully cooperate with the Owner and Utility. The Contractor shall notify all utility companies in writing at least 72 hours (excluding Saturdays, Sundays and Legal holidays) before excavating in any public way.

.1.7 Pipe Locations

- .A Pipes shall be located substantially as indicated on the Drawings, but the Construction Manager reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve him from installing and jointing different items to that shown or from providing additional items where required.
- .B Record all modifications according to Section 01720 Record Drawings.

.1.8 Energized Aerial Electrical Power Lines

- .A If work will take place in the immediate vicinity of energized aerial electrical power lines. Do not consider these lines to be insulated. Construction personnel working in proximity to these lines are exposed to an extreme hazard from electrical shock. Contractors, their employees, and all other construction personnel working on this project must be warned of the danger and instructed to take adequate protective measures, including maintaining appropriate clearance between energized lines and all construction equipment and personnel. (See: OSHA std. 1926.550 (a)15). As an additional safety precaution, Contractors should also be instructed to call the utility company to arrange, if possible, to have these lines de-energized if the Work reaches their immediate vicinity. The cost of such temporary arrangements would be borne by the Contractor. The utility company can often respond to such requests in two working days if advance notice is given. .

.1.9 Gas Facilities Exposed During Construction

- .A The Contractor, upon exposing a gas line during construction, shall contact the appropriate owner of the utility to allow inspection of the line. Minor cuts or abrasions to the pipe coating will be rewrapped and tracer wire will be reconnected.

.1.10 Maintenance of Flow

- .A The Contractor shall at his own cost, provide for the flow of sewers, drains and water courses interrupted during the progress of the Work, and shall immediately cart away and remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Construction Manager well in advance of the interruption of any flow.
- .B Where irrigation facilities interfere with construction, the Contractor will remove and replace the affected irrigation facilities to its original condition. Final acceptance of replaced facilities will depend upon final acceptance by the Construction Manager.

.1.11 Cooperation within this Contract

- .A All firms or persons authorized to perform any Work under this Contract shall cooperate with the Contractor and his sub-Contractors or trades, and shall assist in incorporating the Work of other trades.

.1.12 Work Hours

- .A Subject to the requirements of the General Conditions, Work performed on-site may take place between the hours of 7:00 A.M. to 7:00 P.M, Monday through Friday. Work performed during other hours shall be with the Construction Manager's review and Owner's consent. Traffic on the plant site between the hours of 5:00 p.m. and 6:30 a.m. shall be kept to a minimum.

.1.13 Work In Underground Structures

- .A Equipment for lighting and ventilating underground structures is not available at the plant site. During Work on underground structures, the Contractor shall provide sufficient lighting and ventilation to assure the health and safety of his Work force, and Owner's personnel who may be required to perform routine operational functions within the vicinity of the Work. It shall be the Contractor 's responsibility to determine if areas are considered confined spaces, and shall provide the necessary manpower and equipment to allow safe entry and work environment.

.1.14 Construction Stormwater

- .A Comply throughout with the provisions of the Town of Friday Harbor construction stormwater general permit.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

****END OF SECTION****

SECTION 01025 – MEASUREMENT AND PAYMENT

PART - 1 GENERAL

.1.1 Summary

Payment for all items on the Bidding Schedule shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals, as necessary to complete the various items of the work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto and including all costs of compliance with the regulations of public agencies having jurisdiction, including safety and health requirements of the Occupational Safety and Health Administration of the U. S. Department of Labor (OSHA) and the Washington Industrial Safety and Health Act (WISHA) Department of Labor and Industries. No separate payment will be made for any item that is not specifically set forth in the Bidding Schedule, and all costs therefore shall be included in the prices named in the Bidding Schedule for the various appurtenant items of work.

.1.2 Measurement and Payment of Base Bid Project

Progress payments for the base bid project as defined in the bidding schedule shall be determined from the Schedule of Values per Section 00710.7.01A.

.1.3 Unit Price Bid Item Measurement and Payment

Measurement and Payment of Unit Price Bid Items shall be governed by Section 1-09 and the Measurement and Payment portions of Sections governing the specific types of work as presented in the WSDOT Standard Specifications for Road, Bridge and Municipal Construction which Sections are hereby incorporated by reference.

PART - 2 PRODUCTS

.2.1 Not Used

PART - 3 EXECUTION

.3.1 Not Used

END OF SECTION

SECTION 01036 - GEOTECHNICAL INFORMATION

PART 1 GENERAL

1.01 SUMMARY

Bidders should note that no geotechnical information exists for this project. Except as noted on the drawings, observation of subsurface conditions encountered during construction of the Spring Street Water, Sewer and Storm Drain Replacement Project in 2015 showed fine clayey silt in the areas to be excavated for this project. During construction, most of these areas were overlaid with plus or minus 4" of 5/8" minus gravel base and 4" to 6" of HMA. Bidders are cautioned to assume excavations to be open trench through gravel and silt for purposes of their bids.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01050 - SURVEY INFORMATION

PART - 1GENERAL

The civil engineering information is based on a survey done by Starr surveying (360) 378-5072 for the Town of Friday Harbor, April 2015. Starr Surveying Job #1974.

Vertical Datum: NAVD 88 per field verification of published WSDOT monument ID No. 3543, Designation BM28-1, USGS Quad for Friday Harbor, San Juan County, Washington; Elevation = 19.53'

Horizontal Datum: NAD 83/91.

The Contractor shall develop and make such additional surveys as are needed for construction, such as control lines, slope stakes, batter boards, stakes for pipe locations and other working points, lines, and elevations. This work may be performed by the Contractor's forces at his own risk.

Contractor shall reestablish reference benchmarks and survey control monuments destroyed by his operations at no cost to the Owner. Corner monuments damaged or destroyed by the Contractor shall be re-set at no expense to the Town, with a record of survey filed as required by law.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01060 - SAFETY AND HEALTH

PART - 1 GENERAL

.1.1 Description

- .A This Section specifies procedures for complying with applicable laws and regulations related to worker safety and health. It is not the intent of the Owner to develop and/or manage the safety and health programs of contractors or in any way assume the responsibility for the safety and health of their employees. It is required that all Contractors adhere to applicable federal, state and local safety and health standards.
- .B This Section describes the Accident Prevention Program which is a subset of the Safety Program defined in Paragraph 00710-2.03E of the General Conditions.
- .C Related Sections
 - .1 Section 01560 - Environmental Controls

.1.2 References

- .A Comply with and implement current applicable local, state and federal Health and Safety Standards on the project site including, but not limited to, the following:
 - .1 US C 651 et seq. Federal Occupational Safety and Health Act
 - .2 29 CFR 1910 OSHA General Health and Safety Standards
 - .3 29 CFR 1926 OSHA Construction Safety and Health Standards
 - .4 49 CFR 659 DOT Rail Fixed Guideway Systems (Traffic Safety)
 - .5 RCW 49.17 Washington Industrial Safety and Health Act
 - .6 Chapter 296-27 WAC Recordkeeping and Reporting
 - .7 Chapter 296-62 WAC Washington General Occupational Health Standards
 - .8 Chapter 296-24 WAC Washington General Safety and Health Standards
 - .9 Chapter 296-155 WAC Washington Safety Standards for Construction Work
 - .10 Chapter 296-67 WAC Process Safety Management
 - .11 Chapter 296-36 WAC Safety Standards-Compressed Air Work
 - .12 Chapter 296-44 WAC Washington Safety Standards for Electrical Construction Work
 - .13 Chapter 296-45 WAC Washington Electrical Workers Safety Rules
 - .14 RCW 70.105 Hazardous Waste Disposal Act
 - .15 Chapter 173-303 WAC Dangerous Waste Regulations

- .16 RCW 70.105D Hazardous Waste Cleanup-Model Toxic Control Act
- .17 Chapter 173-340 WAC Model Toxic Control Act Cleanup
- .18 SARA Title III Emergency Planning and Community Right-to-Know
- .19 PSAPCA Regulation 3, Removal and Encapsulation of Asbestos Materials Article 4

.1.3 Definitions

.A Hazardous Substance:

- .1 A substance classified as "dangerous waste" in accordance with WAC 173-303 or that in sufficient quantities would be classified as "dangerous wastes".
- .2 A solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (a) cause or significantly contribute to an increase in mortality or increase in serious, irreversible, or incapacitating reversible illness; or (b) pose substantial present or potential hazardous human health or the environment when improperly treated, stored, transported, or disposed or otherwise managed.
- .3 Asbestos material, as defined in Puget Sound Air Pollution Control Agency (PSAPCA) Regulations 3, Article 4, Removal and Encapsulation of Asbestos Materials.
- .4 Polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons, (PAHs), explosives, radioactive materials, and other materials designated as hazardous by regulatory agencies having jurisdiction over such matters.

.B Contaminated Substance:

- .1 A substance containing materials in sufficient quantities such as hydrocarbons, PCBs, diesel fuels, gasoline, heavy metals, solvents, and other types of fuel oils present in the soil, water or air.
- .2 An element, compound, mixture, solution, or substance designated under Section 102 of CERCLA and/or applicable parts of MTCA.
- .3 A hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of Solid Waste Disposal Act (i.e., RCRA) except those suspended by an act of Congress.
- .4 A toxic pollutant listed under Section 307(a) of the Federal Water Pollution Control Act (FWPCA).
- .5 A hazardous air pollutant listed under Section 112 of the Clean Air Act.
- .6 An imminently hazardous chemical substance or mixture with respect to which the EPA administrator has taken action pursuant to Section 7 of the Toxic Substance Control Act.

.C Confined space is a space that meets all of the following criteria:

- .1 It is large enough and so configured that a person can bodily enter and perform assigned work,

- .2 It has limited or restricted means of entry or exit, and
- .3 It is not designed for continuous employee occupancy.
- .D Permit-required confined space: A confined space that has one or more of the following characteristics:
 - .1 Contains or has potential to contain a hazardous atmosphere.
 - .2 Contains material that has potential for engulfing an entrant.
 - .3 Is shaped inside in such a way that someone entering could be trapped or asphyxiated.
 - .4 Contains other recognized serious safety or health hazards.

.1.4 Submittals

Not Used.

.1.5 Quality Assurance

- .A Comply with the Washington Industrial Safety and Health Act of 1973, Chapter 49.17 Revised Code of Washington (RCW).
- .B Comply with the provisions of the Federal Occupational Safety and Health Act, as amended.
- .C Ensure that subcontractors receive a copy of this Specification section. The Contractor is responsible for ensuring compliance with the Accident Prevention Program by its forces and subcontractors at all tiers.
- .D Ensure that all submitted health and safety plans and programs are prepared and/or reviewed and approved by a Certified Safety Professional (CSP) and/or Certified Institutional Hygienist (CIH) prior to submittal.
- .E Coordinate with the Construction Manager to obtain approval to disconnect or reconnect utilities.
- .F Coordinate with the Construction Manager regarding the shutdown and safety tagout/lockout of pressurized systems, electrical, mechanical, pneumatic, hydraulic, etc. systems, and other equipment and utilities.
- .G Maintain good housekeeping in work areas in accordance with Chapter 296-155-020 WAC.
- .H Ensure that ergonomic principles and practices are followed in completing project tasks.
- .I Provide on site, a qualified health and safety supervisor, with responsibility and full authority to coordinate, implement and enforce the Contractor's Accident Prevention Program for the duration of this Contract. The name and telephone number of the safety supervisor shall appear in the Accident Prevention Program.

.1.6 Special Considerations

- .A GENERAL: This paragraph describes certain minimum precautions for consideration in developing an Accident Prevention Program. It supplements the regulatory requirements of Paragraph 00710-2.03 of the General Conditions. Failure to comply

with safety and health regulations will result in work suspension until adequate safety and health measures are implemented.

.1 Hazard Communication (WAC 296-62-054):

- .a Contaminant gases that may be encountered include but are not limited to Hydrogen Sulfide, Methane, Carbon Monoxide, Carbon Dioxide and Sulfur Dioxide. Provide a written Hazard Communication Program and emergency management plan addressing these and other potential hazardous substances on site.
- .b Prior to commencing work, provide a list and corresponding Material Safety Data Sheets for hazardous chemicals to be used on site. If no hazardous chemicals are to be used, provide statement to that effect.

.2 Confined Space (WAC 296-62-145):

- .a The nature of work under this Contract may expose workers to permit-required confined spaces having possible explosive, toxic and oxygen fluctuation conditions.
- .b Prior to execution of work in confined spaces, submit a written confined space safety program that meets the requirements 29 CFR 1910.146 and 296-62-145 WAC.

.1.7 Utilities

- .A Take appropriate precautions in working near or with utilities and dangerous substances during the performance of work in order to protect the health and safety of the worker, the public, property and the environment.
- .B Such utilities and dangerous substances include, but are not necessarily limited to:
 - .1 Conductors of:
 - .a Petroleum products.
 - .b Toxic or flammable gas.
 - .2 Natural gas pipelines operating at pressures greater than 60 pounds per square inch.
 - .3 Electric conductors without concentric neutral conductors or other grounded metal shields or sheaths, either exposed or directly buried, or in duct or conduit.
 - .4 Electric conductors with potential to ground of more than 300 volts.

PART - 2 PRODUCTS

.2.1 Product Data

- .C Provide the following product data to the Construction Manager after the notice to proceed and before start of construction on site.
 - .1 Accident Prevention Program for the Contractor in accordance with WAC 296-24-040. This program shall outline the anticipated hazards and safety controls necessary to safeguard Contractor's employees, the public and Friday Harbor staff. It shall be specific to the job and site, and meet federal, state and

local jurisdictional requirements. The program will be reviewed for compliance with this Section prior to the start of work.

- .2 Revisions: Revise the accident prevention program prior to the start of work to accommodate changes requested by Friday Harbor and/or regulatory agencies or jurisdiction. Post a copy of the accepted program at the Contractor's job site office, and at each of the subcontractors' offices. Three additional copies shall be posted at the Construction Manager's Office.
- .3 Health and Safety equipment and/or training material as specified in this Section.
- .4 A monthly safety and health activities report.

PART - 3 EXECUTION

.3.1 Safety and Health Compliance

- .D Occasionally, Friday Harbor will audit the Contractor's Accident Prevention Program. The Owner reserves the right to stop that portion of the Contractor's work that is determined to be a serious health and safety violation. On-going work that is considered a safety or health risk by the Construction Manager shall be corrected immediately.
- .E Ensure that necessary air monitoring, ventilation equipment, protective clothing, and other supplies and equipment as specified are available to implement the Accident Prevention Program.
- .F Notify the Construction Manager immediately of accidents resulting in an immediate or probable fatality to one or more employees or the public, or which result in hospitalization of two or more employees.
- .G Complete the Monthly Contractor Injury Summary Report.

.3.2 Accident Prevention Program Revisions

- .A In the event that the Owner, regulatory agencies or jurisdictions determine the Accident Prevention Program or associated documents, organizational structure, or Comprehensive Work Plan to be inadequate to protect employees and the public:
 - .1 Modify the Program to meet the requirements of said regulatory agencies, jurisdictions, and Friday Harbor.
 - .2 Provide the Construction Manager with the revisions to the Program within 7 days of the notice of deficiency.

END OF SECTION

SECTION 01200 - CONTRACT MEETINGS

PART 1 GENERAL

1.01 SUMMARY

This Section specifies Contract meetings prior to, and during construction.

1.02 PRECONSTRUCTION CONFERENCE

The Construction Manager will chair a meeting of representatives of the Contractor, Owner's staff, and other affected agencies prior to beginning construction. The purpose of the meeting will be to:

1. Establish lines of authority and communication within the Contract team.
2. To discuss the administrative requirements of the Contract.
3. To distribute forms to the Contractor to be utilized on the Contract.
4. To discuss design and design intent.
5. To discuss community issues and permitting issues.
6. To define the duties and responsibilities of all parties.

Discussion will cover:

1. Specific Drawings and Specifications.
2. Unusual job site conditions.
3. Schedules of completion.
4. Health and safety including watching of a safety video.
5. Mobilization plans.
6. Equal employment regulations.
7. Civil rights requirements.
8. Apprenticeship programs.
9. Other pertinent features of the Contract.

Notification of the preconstruction conference will be made at least seven days prior to the conference. Ensure that the Contractor's Representative, superintendent, Safety Officer, and representatives of all major subcontractors are present at the meeting. Discuss and review Draft Construction Schedule per Section 01310.

1.03 PROGRESS MEETINGS

Attend weekly progress meetings to discuss the agenda items listed below including plans for the following week and to evaluate progress to date and since the last meeting. Arrange for attendance of subcontractors as necessary to discuss job progress. When required by the Construction Manager, attend meetings of other contractors working in the area to coordinate the work of this Contract with other work in the vicinity. Meeting time to be mutually agreed to between the Construction Manager and Contractor Representative.

1.04 ATTENDANCE AT PROGRESS MEETINGS

A. Progress meeting attendance:

1. Construction Manager and other Owner's staff.
2. Contractor's representative and other Contractor staff.
3. Other contractors, as pertinent to agenda.
4. Subcontractors, as pertinent to agenda.
5. Contractor Safety Officer.
6. Representatives of governmental agencies, other regulatory agencies, or utilities.

1.05 AGENDA FOR PROGRESS MEETINGS

A. In general:

1. Review progress on action items from prior meetings.
2. Review work progress since last meeting.
3. Note field observations, problems and decisions.
4. Identify problems that impede planned progress.
5. Contractor needs list to allow the construction schedule to be met.
6. Review off-site fabrication status and problems.
7. Develop corrective measures and procedures to regain planned schedule.
8. Update construction schedule as indicated.
9. Review planned work during next scheduled look-ahead period per Section 01310.
10. Coordinate projected work with other contractors.
11. Review submittal schedules and status of outstanding submittals.
12. Discuss maintaining quality and work standards.
13. Review changes for:
 - a. Effect on construction schedule.
 - b. Effect on all dates required by Section 01014.
 - c. Review status and action required for changes.
14. Discuss all issues which the Contractor considers additional scope, cost, or impact to the Contract.
15. Review safety measures. Identify and discuss areas of concern.
16. Other items as required.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01300 - SUBMITTALS

PART - 1GENERAL

- .A Submittals covered by these requirements include manufacturers' information, shop drawings, test procedures, test results, samples, requests for substitutions, and miscellaneous work related submittals. Submittals shall also include, but not be limited to, all mechanical, electrical and electronic equipment and systems, materials, reinforcing steel, fabricated items, and piping and conduit details. The Contractor shall furnish all drawings, specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's installation and other instructions as specifically required in the contract documents to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the contract documents.

PART - 2CONTRACTOR'S RESPONSIBILTITES

- .A The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal: The Contractor shall verify that all features of all products conform to the specified requirements. Submittal documents shall be clearly edited to indicate only those items, models, or series of equipment, which are being submitted for review. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall ensure that there is no conflict with other submittals and notify the Construction Manager in each case where his submittal may affect the work of another contractor or the Owner. The Contractor shall coordinate submittals among his subcontractors and suppliers including those submittals complying with unit responsibility requirements specified in paragraph 11000-1.02 C and applicable technical sections.
- .B The Contractor shall coordinate submittals with the work so that work will not be delayed. He shall coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another. No extension of time will be allowed because of failure to properly schedule submittals. The Contractor shall not proceed with work related to a submittal until the submittal process is complete. This requires that submittals for review and comment shall be returned to the Contractor stamped "No Exceptions Taken" or "Make Corrections Noted."
- .C The Contractor shall certify on each submittal document that he has reviewed the submittal, verified field conditions, and complied with the contract documents.
- .D The Contractor may authorize in writing a material or equipment supplier to deal directly with the Construction Manager or with the Owner with regard to a submittal. These dealings shall be limited to contract interpretations to clarify and expedite the work.
- .E The Contractor will be charged actual time and expense costs for review of multiple nonconforming submittals for any one item when that item requires review more than three times. Costs will be deducted from progress payments due the Contractor.

PART - 3CATEGORIES OF SUBMITTALS

.3.1 General

- .A Submittals fall into two general categories; submittals for review and comment, and submittals which are primarily for information only. Submittals which are for information only are generally specified as PRODUCT DATA in Part 2 of applicable specification sections.

- .B At the beginning of work, the Construction Manager will furnish the Contractor lists of those submittals specified in the project manual. Two separate lists will be provided: submittals for review and comment and product data (submittals) for information only.

.3.2 Submittals for Review and Comment

- .A All submittals except where specified to be submitted as product data for information only shall be submitted by the Contractor to the Construction Manager for review and comment.

.3.3 Submittals (Product Data) for Information Only

- .A Where specified, the Contractor shall furnish submittals (product data) to the Construction Manager for information only. Submittal requirements for operation and maintenance manuals, which are included in this category, are specified in Section 01730.

PART - 4 TRANSMITTAL PROCEDURE

.4.1 General

- .A Unless otherwise specified, submittals regarding material and equipment shall be accompanied by the Submittal Transmittal Form included at the end of this Section. Submittals for operation and maintenance manuals, information and data shall be accompanied by the O&M Transmittal Form included at the end of this section. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.
- .B A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor. Re-submittals shall have the following format: "XXX-Y"; where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for re-submittals, i.e., A, B, or C being the 1st, 2nd, and 3rd re-submittals, respectively. Submittal 25B, for example, is the second re-submittal of submittal 25.

.4.2 Deviation from Contract

- .A If the Contractor proposes to provide material, equipment, or method of work which deviates from the project manual, he shall indicate so under "deviations" on the transmittal form accompanying the submittal copies.

.4.3 Submittal Completeness

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

PART - 5 REVIEW PROCEDURE

.5.1 General

- .A Submittals are specified for those features and characteristics of materials, equipment, and methods of operation which can be selected based on the Contractor's judgment of their conformance to the specified requirements. Other features and characteristics are specified in a manner which enables the Contractor to determine acceptable options without submittals. The review procedure is based on the Contractor's guarantee that all features and characteristics not requiring submittals conform as specified. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying

quantities, dimensions, weights or gages, or fabrication processes (except where specifically indicated or required by the project manual) or to safety precautions or programs incident thereto. Review of a separate item, as such, will not indicate approval of the assembly in which the item functions.

- .B When the contract documents require a submittal, the Contractor shall submit the specified information as follows:
 - .1 5 copies of all submitted information plus one reproducible original of all information shall be transmitted with submittals for review and comment.
 - .2 Unless otherwise specified, 3 copies of all submitted information shall be transmitted with submittals (Product Data) for information only..

.5.2 Submittals for Review and Comment

- .A Unless otherwise specified, within 30 calendar days after receipt of a submittal for review and comment, the Construction Manager shall review the submittal and return 2 copies of the marked-up reproducible original noted in 1 above. The reproducible original will be retained by the construction Manager. The returned submittal shall indicate one of the following actions:
 - .1 If the review indicates that the material, equipment or work method complies with the project manual, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.
 - .2 If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in O&M data, a corrected copy shall be provided.
 - .3 If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT." Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."
 - .4 If the review indicates that the material, equipment, or work method does not comply with the project manual, copies of the submittal will be marked "REJECTED - SEE REMARKS." Submittals with deviations which have not been identified clearly may be rejected. Except at his own risk, the Contractor shall not undertake the work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

.5.3 Submittals (Product Data) for Information Only

- .A Such information is not subject to submittal review procedures and shall be provided as part of the work under this contract and its acceptability determined under normal inspection procedures.

PART - 6 EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTALS

- .A Review of contract drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Construction Manager or the Owner, or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial

failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the Owner has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.

END OF SECTION

SUBMITTAL TRANSMITTAL

Submittal Description: _____ Submittal No.:¹ _____

Spec Section or Dwg: _____

OWNER: Town of Friday Harbor	Routing	Sent	Received
PROJECT: Spring Street Pocket Park Project	Contractor/CM		
CONTRACTOR:	CM/Contractor		

We are sending you Attached Submittals for review and comment

Product data for information only Under separate cover via _____

Remarks: _____

Item	Copies	Date	Section No.	Description	Review action ^a	Reviewer initials	Review comments attached

^aNote: NET = No exceptions taken; MCN = Make corrections noted; A&R = Amend and resubmit; R = Rejected

Attach additional sheets if necessary.

Contractor

Certify either A or B:

- A. We have verified that the material or equipment contained in this submittal meets all the requirements, including coordination with all related work, specified (no exceptions).
- B. We have verified that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

<u>No.</u>	<u>Deviation</u>
_____	_____
_____	_____
_____	_____
_____	_____

Certified by: _____

Contractor's Signature

OPERATION AND MAINTENANCE TRANSMITTAL

Date: _____ Submittal No. _____

To: _____ Contract No. _____

_____ Spec Section: _____

_____ Submittal Description _____

_____ From: _____

Attn: _____

Checklist	Contractor		Construction Manager	
	Satisfactory	N/A	Accept	Deficient
1. Table of Contents				
2. Equipment Record Forms				
3. Manufacturer Information				
4. Vendor Information				
5. Safety Precautions				
6. Operator Pre-Start				
7. Startup, Shutdown, Post Shutdown Procedures				
8. Normal Operations				
9. Emergency Operations				
10. Operator Service Requirements				
11. Environmental Conditions				
12. Lubrication Data				
13. Preventive Maintenance Plan and Schedule				
14. Troubleshooting and Diagnostic Techniques				
15. Wiring Diagrams and Control Diagrams				
16. Maintenance and Repair Procedures				
17. Removal and Replacement Instructions				
18. Spare Parts and Supply List				
19. Corrective Maintenance Man-Hours				
20. Parts Identification				
21. Warrantee Information				
22. Personnel Training Requirements				
23. Testing Equipment and Special Tool Info.				

Remarks _____

Contractor's Signature

See Paragraph 01300-4.0A, Transmittal Procedure

SECTION 01310 - CONSTRUCTION SCHEDULE

PART 1 GENERAL

1.01 SCOPE

This section specifies the procedures for preparing and revising the construction schedule used for planning and managing construction activities. The schedule provides a basis for determining the progress status of the project relative to specific dates and completion time.

1.02 DESCRIPTION

The Contractor shall submit a Progress Schedule no later than 5 days after the date the contract is executed, or at the preconstruction conference, whichever is earlier. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format is used, the schedule shall identify the critical path and shall utilize the entire contract time. The Owner's Construction Manager will evaluate the Progress Schedule and approve or return the schedule for corrections within 5 calendar days of receiving the submittal. This schedule shall be the Contractor's working schedule and shall be used to plan, organize, and execute the work, record and report actual performance and progress through updates, and show how the Contractor plans to complete all remaining work.

1.03 SUBMITTAL PROCEDURES

The Contractor shall submit the original and two copies to the Construction Manager in accordance with Section 01300. If the Construction Manager finds that the submitted schedule does not comply with specified requirements, the corrective revisions will be noted on the submittal copy returned to the Contractor for corrections and resubmitted as specified in Section 01300.

1.04 SCHEDULE REVISIONS

Revisions to the accepted construction schedule may be made only with written approval of the Contractor and Owner. Changes in timing for activities which are not on the critical path may be modified with written agreement of the Contractor and Construction Manager. A change affecting the contract value of any activity, the timing of any activity on the critical path or the completion time may be made only in accordance with applicable provisions of paragraphs 00710-7.02, 7.03, and 7.04.

1.05 PROJECT STATUS UPDATE

Project status review and update shall be provided each month as specified in paragraph 00710-6.02 B.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01530 - BARRIERS AND SIGNAGE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, and Division-1 Specification Sections

apply to this section.

1.2 WORK IN THIS SECTION

A. Work and requirements include, but are not limited to the following: Finish, install, and maintain suitable fencing, signage, and other protective and sheltering devices as required to:

1. Prevent injury to persons including workers as well as public users;
2. Protect the work from Construction operations;
3. This is a secured barrier/fenced project.
4. Protect existing facilities.
5. Provide signage indicating closed areas and open businesses, and how the businesses can be accessed.

B. Remove devices when no longer needed, or at completion of work.

1.3 RELATED WORK IN OTHER SECTIONS

A. Coordinate related requirements specified in other parts of the Project Manual including but not limited to:

Section 01013 – Special Construction Constrols

Section 02005 – Demolition

Section 02810 - Irrigation

1.4 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies (current as of Project Manual date):

1. See referenced Codes, Ordinances, and the like/01060. Comply with the most stringent requirements
2. Comply with Federal, State, City and all local codes and regulations, as applicable.

PART 2 - PRODUCTS

2.1 MATERIALS - GENERAL

- A. Materials may be new or used.
 - 1. Materials are to be suitable for intended purposes, reasonably clean, and uniform in appearance.
 - 2. Materials are to be in conformance with all governing codes, ordinances, and standards.

2.2 BARRIERS AND OTHER PROTECTIVE DEVICES (IF REQUIRED)

- A. Contractor has the option of using any allowed appropriate material of his/her choosing, as suitable for required purposes to stop workers from falls into the adjacent roadway, and stop public exposure to hazardous conditions, as approved by the Owner and Landscape Architect.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install facilities neatly, reasonably uniform, and structurally adequate for required purpose.
- B. Maintain facilities as long as required.
- C. Relocate facilities as required by construction progress.

3.2 BARRIERS, SIGNAGE, WAYFINDING, AND OTHER PROTECTIVE DEVICES

- A. Provide and install as required and necessary, as approved by the Town of Friday Harbor.

3.3 REMOVAL

- A. Completely remove specified facilities when no longer needed. Clean areas as required at installations.
- B. Leave no holes, dings, or damage to existing structures. Restore to original documented condition.
- C. Clean and repair damage caused by installations. Perform any necessary filling and grading to make work conform to required construction finish elevations and slopes.

END OF SECTION

SECTION 01605 - SHIPMENT, PROTECTION AND STORAGE

PART - 1 GENERAL

1.1 Scope

- A. This section specifies requirements for the packaging, shipping, handling, and storage of items to be incorporated into the work of the contract

PART - 2 PRODUCTS

Not Used

PART - 3 EXECUTION

3.1 GENERAL

- A. Equipment, products and materials shall be shipped, handled, stored, and installed in ways which will prevent damage to the items. Damaged items will not be permitted as part of the work except in cases of minor damage that have been satisfactorily repaired and are acceptable to the Construction Manager.

3.2 MATERIALS

- A. Construction materials shall be handled, stored, and installed as recommended by the manufacturer: Materials with paint, glaze, coatings, linings or the like shall be stored to protect the coating or lining from physical damage or other deterioration. Materials shipped with bracing protective packing shall have the bracing or protective packaging removed only when the materials are to be used.

3.3 EQUIPMENT

B. PACKAGE AND MARKING:

1. All equipment shall be appropriately protected against damage from moisture, dust, handling, or other cause during transport from vendor's premises to site. Each item or package shall be marked with the number unique to the specification reference covering the item, if any.
2. Stiffeners shall be used where necessary to maintain shapes and to give rigidity. Parts of equipment shall be delivered in assembled or subassembled units where possible.

C. SHIPPING:

1. Damage shall be corrected to conform to the requirements of the contract before any assembly is incorporated into the work. The Contractor shall bear the costs arising out of dismantling, inspection, repair and reassembly.

D. STORAGE:

1. During the interval between the delivery of equipment to the site and installation; all equipment, unless otherwise specified, shall be stored in an enclosed space affording protection from weather, dust and mechanical damage and providing favorable temperature, humidity and ventilation conditions to ensure against

equipment deterioration. Manufacturer's recommendations shall be adhered to in addition to these requirements.

2. Equipment and materials to unlikely to be damaged by outdoor storage may be stored outdoors. Equipment shall be stored at least 6 inches above ground.

E. PROTECTION OF EQUIPMENT AFTER INSTALLATION:

1. After installation, all equipment shall be protected from damage from, including but not limited to, dust, abrasive particles, debris and dirt.

END OF SECTION

SECTION 01700 - RESTORATION OF IMPROVEMENTS

PART 1 GENERAL

1.01 UTILITIES

The Contractor shall take all precautions necessary to protect the integrity and usefulness of all existing utility facilities. If necessary, the Contractor may, with the approval of its Owner, remove such existing structures, including curbs, gutters, pipelines and utility poles as may be necessary for the performance of the work, and shall rebuild the structures thus removed in as good a condition as found with the requirements specified. The Contractor shall also repair existing structures which may be damaged as a result of the Work under this Contract.

1.02 ROADS AND STREETS

Unless otherwise specified, roads and streets which are not part of the contract work, in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during the Work under this Contract, shall be resurfaced and brought to the original grade and section. Roadways used by the Contractor shall be cleaned and repaired. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces, and shall be free of loose material. All paved surfaces shall be cut with a pavement saw. Rough cuts are not allowed. Repair work shall conform to the paving specification, Section 02500.

1.03 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS

Cultivated or planted areas and other surface improvements not included in the work, which are damaged by actions of the Contractor shall be restored as nearly as possible to their original condition. Restoration shall take place within one week or sooner as directed by the Construction Manager. Existing guard posts, barricades, and fences shall be protected and replaced if damaged.

1.04 PROTECTION OF EXISTING INSTALLATIONS

The Contractor shall protect all existing operating facilities and structures from damages. However, if damage occurs, the Contractor shall immediately correct or replace existing equipment, controls, systems, structures, or facilities which are damaged in any way as a result of its operations.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01710 - FINAL CLEANUP

PART 1 GENERAL

1.01 GENERAL

At the completion of work and immediately prior to final inspection, cleaning of the entire project shall be accomplished according to the following provisions:

- 1.The Contractor shall thoroughly clean, sweep, wash, and polish all work and equipment provided under the Contract, including finishes. The cleaning shall leave the structures and site in a complete and finished condition to the satisfaction of the Construction Manager.
- 2.All subcontractors shall similarly perform, at the same time, an equivalent thorough cleaning of all work and equipment provided under their Contracts.
- 3.The Contractor shall remove all temporary structures and all debris, including all nails, dirt, sand, gravel, rubbish and waste material.
- 4.Should the Contractor not remove rubbish or debris or not clean the site as specified, the Owner reserves the right to have the cleaning done at the expense of the Contractor.
- 5.Marred surfaces shall be repaired, patched, and touched up to specified finish, to match adjacent surfaces.
- 6.Materials shall be handled in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.

1.02 POST-CONSTRUCTION REPAIRS

The Contractor shall make such minor repairs and alterations as may be necessary to make the project ready for use. This section shall not apply after or to the extent that the Owner has taken possession of a structure on which the Contractor has performed Work.

1.03 SITE CLEANUP

For all roadway work, the Contractor shall conform the work to acceptable line and grade, as determined by the Construction Manager. In addition, the Contractor shall have the sidewalks and streets affected by the work swept by a street or sidewalk cleaner as determined by the Construction Manager. Other surfaces of the grounds shall be rake cleaned. The Owner will not authorize final payment until the Contractor has removed all rubble and debris from the street and adjoining work areas, including all temporary storage and parking areas used by the Contractor.

For pipelines, storm sewers, catch basins, and manholes, prior to their activation or at the conclusion of the project, the Contractor shall thoroughly clean all of the new pipes by flushing with water for fluid lines. Debris cleaned from the lines shall be removed from the lowest access point.

All temporary utility drops, fencing, and water supply outlets shall be removed.

All identification signs, barricades, tools, rubbish collection receptacles and other such items shall be removed by the Contractor.

All remaining earthen stockpiles of excess excavated material shall be graded to provide gentle slopes to prevent erosion as directed by the Construction Manager.

PART 2 PRODUCTS

NOT USED.

PART 3 EXECUTION

NOT USED.

END OF SECTION

SECTION 01720 – RED LINE DRAWINGS

PART - 1 GENERAL

1.1 Scope

- A. This section sets forth the Contractor responsibilities with respect to recording changes during construction.

PART - 2 PRODUCTS

2.1 Description

- A. Red-line drawings refer to those documents maintained and annotated by the Contractor during construction and are defined as:
 - 1. A neatly and legibly marked set of contract drawings showing the final location of piping, equipment, electrical conduits, outlet boxes and cables
 - 2. Additional documents such as schedules, lists, drawings, and electrical and instrumentation diagrams included in the specifications
 - 3. Contractor layout and installation drawings

PART - 3 EXECUTION

- A. Unless otherwise specified, record drawings shall be full size and maintained in a clean, dry, and legible condition. Record documents shall not be used for construction purposes and shall be available for review by the Construction Manager during normal working hours at the Contractor's field office. At the completion of the work, prior to final payment, all record drawings shall be submitted to the Construction Manager.
- B. Marking of the drawings shall be kept current and shall be done at the time the material and equipment are installed. Annotations to the record documents shall be made with an erasable colored pencil conforming to the following color code:
 - 1. Additions - Red
 - 2. Deletions – Green
 - 3. Comments - Blue
 - 4. Dimensions - Graphite*

*Legibly mark to record actual depths, horizontal and vertical location of underground raceways, cables, and appurtenances referenced to permanent surface improvements.

END OF SECTION

SECTION 02005 - DEMOLITION

PART 1 - GENERAL

1.0 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, and Division-1 Specification Sections apply to this section.

1.2 WORK IN THIS SECTION

- A. Removal of concrete sidewalk, roadway and curbing as indicated on the drawings.
- B. Removal of roadway substrate in planting areas.
- B. Protection of existing elements to remain

1.3 RELATED WORK IN OTHER SECTIONS

- A. Special Construction Controls
- B. Earthwork – Section 02200
- C. Barriers and Signage – Section 015300

1.4 SUBMITTALS

- A. Schedule indicating proposed sequence of operations for demolition work to Owner and Architect for review prior to start of work. Include coordination for shutoff, capping, and continuation of utility services as required, together with details for dust and noise control protection.
- B. Photographs of existing conditions of structures, surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operation. File with Architect prior to start of work.

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

3.1 PREPARATION

- A. Cover and protect surfaces to remain, equipment, and fixtures from spoilage or damage when salvage and demolition work is performed.
- B. Protect overhead structure of theater building including posts and all other components.

- C. Locate, identify, stub off, and disconnect utility services that are not indicated to remain. Provide bypass connections as necessary to maintain continuity of service to occupied areas of adjacent facilities. Provide minimum of 72 hours advance notice to Owner if shutdown of service is necessary during changeover. Approval for shutdown by the Owner is required.

3.2 DEMOLITION

- A. Perform demolition work in a systematic manner. Use such methods as required to complete work indicated on drawings in accordance with demolition schedule and governing regulations.
- B. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- C. Completely fill below-grade areas and voids resulting from demolition work.
- D. Asphalt removal and disposal to a certified recycling center.
- E. Remove any found and abandoned irrigation lines/components. Recycle if possible.

3.3 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove from building site debris, rubbish, and other materials resulting from demolition operations. Transport and legally dispose off site.
- B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.
- C. Recycling: The contractor is encouraged to recycle as appropriate to the scope of work.

3.4 CLEAN-UP AND REPAIR

- A. Contractor is responsible for complete daily clean-up and repair as needed to restore the site to the condition existing prior to construction.

END OF SECTION

SECTION 02200 - EARTHWORK

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes

1. Excavation, filling and grading crushed rock base, or structural backfill as shown on the drawings, and disposal of materials removed as indicated as follows:
 - a. Installation of compacted surfacing for paving areas
 - b. The topsoil/supplement installation in all planting

B. Related Sections

1. Section 020050 - Demolition

C. Drawings, specifications and instruction to bidders, apply to this section.

1.02 REFERENCES

- A. ANSI/ASTM C136 – Method of Sieve Analysis of Fine and Course Aggregates.
- B. ANSI/ASTM D1557 – Moisture Density; Relations of Soil and Soil Aggregate Mixture using a 10lb Rammer and 18" Drop.
- C. Standard Specifications: Standard Specifications shall mean the 1991 Standard Specifications for Road, Bridge, and Municipal Construction as jointly prepared by Washington State Department of Transportation (WSDOT) and the American Public Works Association, Washington State Chapter (APWA), except measurements and payments do not apply.

1.03 SUBMITTALS

- A. Submit certification for backfill and topsoil stating that it conforms to the requirements of these documents. One gallon sample typical.
- B. Cite source of materials; include manufacturer, lab test reports, and name testing agency providing certifications.

1.04 QUALITY ASSURANCE

- A. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
- B. Testing and Inspection Service: Contractor shall engage soil testing and inspection service for quality control and subgrade densities testing at the structural footings during earthwork operations, as required by code or as requested by the Structural Engineer. All subgrade densities testing shall be in written form to be reviewed and approved by the Architect prior to any subsequent construction.

1.05 JOB CONDITIONS

- A. Verification: Visit the site. Examine and note all conditions pertaining to the work involved so that earthwork may be executed in an orderly and careful manner with due consideration for surrounding areas, structures, planting, and the like which are to remain.
- B. Existing Utilities Prior to Construction: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of protection and mapping during earthwork operations.
 - 1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult Architect immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility company and without additional cost to Owner.
- C. Protection of Persons and Property: Barricade open excavations and post warning lights operated as recommended by authorities having jurisdiction.
 - 1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

1.06 RESTORATION OF ADJACENT PROPERTY

- A. Restore any damage to adjacent properties, structures, streets, plantings, and the like caused by inadequate protection of same during the work in this section. Restoration shall be done without additional cost to the Owner.

1.07 PROOF ROLLING

- A. Proof rolling of subgrade in planting areas is not required.

PART 2 – PRODUCTS

2.01 SOIL MATERIALS

A. DEFINITIONS:

1. Satisfactory Soil: Materials complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, and SPP.
3. Landscape areas - Topsoil by Landscape Architect: 3-way mix of sand, compost and sandy loam topsoil. Provide analysis and source for approval by L.A. prior to site delivery.

2.02 CRUSHED ROCK

- A. Crushed rock base shall be 5/8" minus crushed ledge rock.
- B. All percentages of the crushed aggregate delivery tickets will be required by the Architect.

PART 3 – EXECUTION

3.01 EXCAVATION GENERAL

- A. Unauthorized Excavation: Removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Architect. Unauthorized excavation, as well as remedial work directed by Architect shall be at Contractor's expense.
- B. Additional Excavation: If unsuitable bearing materials are encountered at recommended subgrade or excavation elevations as described in documents, notify Architect prior to correction, prepare estimate of correction prior to carrying excavations deeper to expose acceptable soil.
 1. Removal of unsuitable material and its replacement, as directed, will be paid on basis of contract conditions relative to changes in work.

2. Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of materials excavated.
3. Maintain sides of slopes of excavations in safe condition until completion of backfilling.

C. Dewatering: Prevent surface and subsurfaces or groundwater from flowing into excavations and from flooding project site and surrounding area.

1. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. If required, line ditches and sumps with coarse-grained materials that acts as a filter. Do not use trench excavations as temporary drainage ditches.

D. Dispose of excess soil material and waste materials as herein specified.

3.02 EXCAVATION

- A. Layout: Layout of all Work shall be surveyed and staked as required. Maintain all bench marks, control monuments and stakes, whether newly established or previously existing. Protect from damage and dislocation. If necessary to disturb existing bench marks, reestablish in a safe place. Notify Landscape Architect a minimum of 36 hours prior to excavation of work areas. Architect shall review staking and layout of work.
- B. Excavation for Pathways and Walls: Cut surface under pavements to comply with cross-sections, elevations and grades as shown. Cuts to be smooth without undermining base of existing structures. Slope away from existing structures.
- C. Excavation for Trenches: Trenching and backfilling for piping, and other underground utilities shall be done by the trade doing the work. Backfilling of trenches shall conform to code and the requirements of this section.
- D. Trench Backfill: Trench backfill shall be per code or the same as for other backfill, or as shown on drawings.

3.03 COMPACTION

- A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification. See documents.

- B. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages for maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D1557; and not less than the following percentages of relative density; determined of relative density; determined in accordance with ASTM D2049, for soils which will not exhibit a well-defined moisture-density relationship (cohesionless soils).
 - 1. Footings, Walkways and Structures Surface: Compact top 6" of subgrade and each layer of backfill or fill material at 95% of the maximum density for cohesive material or 90% relative density for cohesionless material.

- C. Landscape areas: Compact top 6" of approved and scarified subgrade and each layer of backfill to 85% maximum density in planting areas only. Scarification of the cut surface is required.

- D. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
 - 1. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentages of maximum dry density or relative dry density for each area classification.

3.04 BACKFILL AND FILL

- A. General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.
 - 1. Paved areas: Crushed rock base and surfacing material, or satisfactory excavated or combination of both.
 - 2. Pipe Bending: Drainage fill or sand as indicated on the drawings, if found.
 - 3. Root or stump voids within planting areas with satisfactory native soils or topsoil.
 - 4. All planting areas shall have a minimum of 6" of imported approved topsoil raked smooth in lawn and planting subgrade areas. Imported soils shall be topsoil.
 - 5. All crushed rock, subbase or wearing surfaces shall be removed in planting areas prior to scarify of existing grade.

- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Inspection, testing, approval, and recording locations of underground utilities.

2. Removal of shoring and bracing, and backfilling of voids with satisfactory materials.
 3. Removal of trash and debris.
- C. Placement and Compaction: Place backfill and fill materials in layers not more than 8" in loose depth for material compacted by hand-operated tampers. All compaction shall be by mechanical methods. Water settling may be used for pea gravel compaction only.
- D. Do not place backfill or fill material on surfaces irregular or that are muddy, frozen, or contain frost or ice.

3.05 SUBGRADE

- A. The subgrade for structures and paving shall be smooth, uniform and compacted to a density of ninety-five percent (95%) at optimum moisture content. The subgrade for planting areas shall be smooth, uniform, and compacted density of eighty-five percent (85%) at optimum moisture content.
- B. If fill is required, specified fill material shall be placed in eight inch (8") lifts and compacted to a minimum density as noted above at optimum moisture content.
- C. Surface of the subgrade shall not be more than three-fourths inch (3/4") above or below the subgrade elevations. All excavating, filling, compacting, grading and leveling surfaces work shall be performed so that the finished surfaces slope in a true plane, one inch (1") in ten feet (10') as indicated on the drawings.

3.06 BASE COURSE

- A. Base course is required under paving.
- B. Spreading of the gravel base shall be compacted to ninety-five percent (95%) density. Moisture must be added as required to attain the specified density.

3.07 GRADING

- A. Native site soils are not suitable as topsoil in planting areas.

- B. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified areas. Smooth finished within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
 - 1. Finish grade plains and surfaces shall be free from irregular surface changes.

- C. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum density or relative density for each area classification. All fills placed at a slope steeper than three to one shall be compacted to 90% of the maximum, except where greater compaction is required by area classification. Planting areas shall receive compaction to 85%.

- D. Planting areas to be minus 1/2" from adjacent paving surfaces with smooth transition to adjacent grades. Allow for 2" depth of mulch at top of topsoil backfill in planting areas. Top of mulch is considered finish grade for planting areas.

- E. Maximize depth of topsoil backfill for planting areas for root growth. The deepest area of topsoil backfill will be in the widest part of the planting area, and depth should be approximately 3' deep. Fill or fills above 85% compaction are not acceptable in planting areas.

3.08 MAINTENANCE

- A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
 - 1. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

- B. Reconditioned Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

3.09 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash and debris, and dispose of it off site in a legal manner. Provide dump receipts from an approved dump site.

3.10 DISPOSAL OF CONTAMINATED MATERIAL

A. Dispose of all contaminated material as directed by Owner.

END OF SECTION.

SECTION 02510 – CONCRETE CURB, GUTTER AND SIDEWALK

PART 1. GENERAL

The work of this section includes preparation, placing, finishing and curing of cement concrete curb, gutter and sidewalk for the Spring Street Pocket Park project. The Town requires that the appearance of the hardscape for this project be outstanding. This specification has been written to assure that result. Provide plant, equipment and tools capable of producing the required product and maintained in a satisfactory condition at all times. The use of any item of equipment shall be discontinued if at any time it produces unsatisfactory results.

1. Section includes
 - A) Cement concrete vertical curb and gutter
 - B) Cement concrete sidewalk as designed for this project.
 - C) Curing Materials
 - D) Joint fillers
 - E) Joint Sealants
2. Related Sections
 - A) 03300 – Cured in Place Concrete
3. References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 182 (2005; R 2012) Standard Specification for Burlap Cloth Made from Jute or Kenaf and Cotton Mats

ASTM INTERNATIONAL (ASTM)

ASTM A1064/A1064M	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM A615/A615M	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM C143/C143M	Standard Test Method for Slump of Hydraulic-Cement Concrete ASTM C171 (2016) Standard Specification for Sheet Materials for Curing Concrete
ASTM C172/C172M	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173/C173M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method

ASTM C231/C231M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C31/C31M	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C920	Standard Specification for Elastomeric Joint Sealants
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion
ASTM D5893/D5893M	Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

4. Submittals

- A) Submit in conformance to Section 01300 "Submittals"
- B) Concrete mix design
- C) Product data for any proposed admixtures
- D) Product data for any alternate curing materials
- E) Proposed method for producing chamfered scoring pattern

5. Quality Assurance

- A) All hardscape is appearance sensitive. The Contractor shall produce a 5'x5' (minimum) demonstration article at a location designated by the Town to be used as a standard of quality for the completed project work. The demonstration article shall incorporate examples of all design feature proposed for the finished work including radii, broom finish, expansion joint, scoring, etc.
- B) Demonstration article not meeting the Town's expectations (in the sole judgment of the Town Administrator) shall be remade until it does.
- C) The same personnel who pour and finish the demonstration article shall be used to pour and finish the project work.
- D) Completed project work shall substantially conform in appearance and finish with the demonstration article or it shall be removed and redone.

6. Environmental Requirements

- A) Placement during cold weather

Do not place concrete when the air temperature reaches 40 degrees F and is falling, or is already below that point. Placement may begin when the air temperature reaches 35 degrees F and is rising, or is already above 40 degrees F. Make provisions to protect

the concrete from freezing during the specified curing period. If necessary to place concrete when the temperature of the air, aggregates, or water is below 35 degrees F, placement and protection shall be approved in writing. Approval will be contingent upon full conformance with the following provisions. The underlying material shall be prepared and protected so that it is entirely free of frost when the concrete is deposited. Mixing water or aggregates or both shall be heated as necessary to result in the temperature of the in-place concrete being between 50 and 85 degrees F. Methods and equipment for heating shall be approved. The aggregates shall be free of ice, snow, and frozen lumps before entering the mixer. Covering and other means shall be provided for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing, and at a temperature above freezing for the remainder of the curing period.

7. Delivery Storage and Handling

- A) Conform with Section 01605.

PART 2. PRODUCTS

1. Materials

A) Concrete

- B) Cement concrete curb, gutter and sidewalks shall be constructed with air entrained concrete Class 4000 conforming to the requirements of the WSDOT Standard Specifications for Road Bridge and Municipal Construction, Section 6-02.

- i. Cement ASTM C150, normal – Type 1 Portland, integral color Davis #6522 at 4 lb per sack or best match to 18”x18” Square Paver in “Latte” color. Coordinate color with Todd White at Davis Colors: (206) 369-5970. **Owner to approve all material colors.**
- ii. 28 Day Compressive Strength – 4000 PSI
- iii. Maximum Aggregate size – 1 ½ Inches
- iv. Air-Content – 4.5% to 7.5%
- v. Slump – 4” or less

- C) Reinforcing Steel – Rebar in thickened edge areas and footings, see plans

D) Concrete Curing Materials

i. Impervious sheet materials

- 1. Impervious sheet materials shall conform to ASTM C171, type optional, except that polyethylene film, if used, shall be white opaque.

ii. Burlap

- 1. Burlap shall conform to AASHTO M 182.

iii. White pigmented membrane-forming curing compound

- 1. White pigmented membrane-forming curing compound shall conform to ASTM C309, Type 2.

E) Joint Filler Strips

- i. Contraction joint filler for curb and gutter

1. Contraction joint filler for curb and gutter shall consist of hard-pressed fiberboard.
 - ii. Expansion joint filler, premolded
 1. Expansion joint filler, premolded, shall conform to ASTM D1751 or ASTM D1752, 13 mm 1/2 inch thick, unless otherwise indicated.
- F) Joint Sealants
- i. Joint sealant, cold-applied shall conform to ASTM C920 or ASTM D5893/D5893M.
- G) Formwork
- i. Design and construct form work to ensure that the finished concrete will conform accurately to the indicated dimensions, lines, and elevations, and within the tolerances specified. Forms shall be of wood or steel, straight, of sufficient strength to resist springing during depositing and consolidating concrete. Wood forms shall be surfaced plank, 2 inches nominal thickness, straight and free from warp, twist, loose knots, splits or other defects. Wood forms shall have a nominal length of 10 feet. Radius bends may be formed with 3/4 inch boards, laminated to the required thickness. Steel forms shall be channel-formed sections with a flat top surface and with welded braces at each end and at not less than two intermediate points. Ends of steel forms shall be interlocking and self-aligning. Steel forms shall include flexible forms for radius forming, corner forms, form spreaders, and fillers. Steel forms shall have a nominal length of 10 feet with a minimum of 3 welded stake pockets per form. Stake pins shall be solid steel rods with chamfered heads and pointed tips designed for use with steel forms.
 - ii. Sidewalk Forms - Sidewalk forms shall be of a height equal to the full depth of the finished sidewalk.
 - iii. Curb and Gutter Forms - Curb and gutter outside forms shall have a height equal to the full depth of the curb or gutter. The inside form of curb shall have batter as indicated and shall be securely fastened to and supported by the outside form. Rigid forms shall be provided for curb returns, except that benders or thin plank forms may be used for curb or curb returns with a radius of 10 feet or more, where grade changes occur in the return, or where the central angle is such that a rigid form with a central angle of 90 degrees cannot be used. Back forms for curb returns may be made of 1-1/2 inch benders, for the full height of the curb, cleated together. In lieu of inside forms for curbs, a curb "mule" may be used for forming and finishing this surface, provided the results are approved.

PART 3. EXECUTION

1. Subgrade Preparation

The subgrade shall be constructed to the specified grade and cross section prior to concrete placement. Subgrade shall be placed and compacted in conformance with Section 02200.

- A) Sidewalk Subgrade - The subgrade shall be tested for grade and cross section with a template extending the full width of the sidewalk and supported between

side forms.

- B) Curb and Gutter Subgrade - The subgrade shall be tested for grade and cross section by means of a template extending the full width of the curb and gutter. The subgrade shall be of materials equal in bearing quality to the subgrade under the adjacent pavement.

2. Form Setting

Set forms to the indicated alignment, grade and dimensions. Hold forms rigidly in place by a minimum of 3 stakes per form placed at intervals not to exceed 4 feet. Corners, deep sections, and radius bends shall have additional stakes and braces, as required. Clamps, spreaders, and braces shall be used where required to ensure rigidity in the forms. Forms shall be removed without injuring the concrete. Bars or heavy tools shall not be used against the concrete in removing the forms. Any concrete found defective after form removal shall be promptly and satisfactorily repaired. Forms shall be cleaned and coated with form oil each time before concrete is placed. Wood forms may, instead, be thoroughly wetted with water before concrete is placed, except that with probable freezing temperatures, oiling is mandatory.

- A) Sidewalks - Set forms for sidewalks with the upper edge true to line and grade with an allowable tolerance of 1/8 inch in any 10 foot long section. After forms are set, grade and alignment shall be checked with a 10 foot straightedge. Forms shall have a transverse slope 3/16 inch per foot with the low side adjacent to the roadway. Side forms shall not be removed for 12 hours after finishing has been completed.
- B) Curb and Gutter - The forms of the front of the curb shall be removed not less than 2 hours nor more than 6 hours after the concrete has been placed. Forms back of curb shall remain in place until the face and top of the curb have been finished, as specified for concrete finishing. Gutter forms shall not be removed while the concrete is sufficiently plastic to slump in any direction.

3. Sidewalk Concrete Placing and Finishing

A) Formed Sidewalks

Place concrete in the forms in one layer. When consolidated and finished, the sidewalks shall be of the thickness indicated. After concrete has been placed in the forms, a strike-off guided by side forms shall be used to bring the surface to proper section to be compacted. The concrete shall be consolidated by tamping and spading or with an approved vibrator, and the surface shall be finished to grade with a strike off.

B) Concrete Finishing

After straightedging, when most of the water sheen has disappeared, and just before the concrete hardens, finish the surface with a wood or magnesium float or darby to a smooth and uniformly fine granular or sandy texture free of waves, irregularities, or tool marks. A scored surface shall be produced by brooming with a fiber-bristle brush in a direction transverse to that of the traffic, followed by edging.

C) Edge and Joint Finishing

All slab edges, including those at formed joints, shall be finished with an edger having a radius of 1/8 inch. Transverse joint shall be edged before brooming, and the brooming shall eliminate the flat surface left by the surface face of the edger. Corners and edges

which have crumbled and areas which lack sufficient mortar for proper finishing shall be cleaned and filled solidly with a properly proportioned mortar mixture and then finished.

D) Saw-cut Contraction Joints – Joints shall be straight, clean cuts 1/8" wide to a minimum depth of 1/4 the sidewalk slab thickness with a 1/8"x45° chamfer on each edge.

E) Surface Thickness and Tolerances

Finished surfaces shall not vary more than 5/16 inch from the testing edge of a 10-foot straightedge. Permissible deficiency in section thickness will be up to 1/4 inch.

4. Curb and Gutter Placement and Finishing

A) Formed Curb and Gutter

Concrete shall be placed to the section required in a single lift. Consolidation shall be achieved by using approved mechanical vibrators. Curve shaped gutters shall be finished with a standard curb "mule". Approved slipformed curb and gutter machines may be used in lieu of hand placement.

B) Concrete Finishing

Exposed surfaces shall be floated and finished with a smooth wood float until true to grade and section and uniform in texture. Floated surfaces shall then be brushed with a fine-hair brush with longitudinal strokes. The edges of the gutter and top of the curb shall be rounded with an edging tool to a radius of 1/2 inch. Immediately after removing the front curb form, the face of the curb shall be rubbed with a wood or concrete rubbing block and water until blemishes, form marks, and tool marks have been removed. The front curb surface, while still wet, shall be brushed in the same manner as the gutter and curb top. The top surface of gutter and entrance shall be finished to grade with a wood float.

C) Joint Finishing

Curb edges at formed joints shall be shall not be radiused. Broom finish shall be carried continuously across the joint to the next section.

D) Surface Thickness and Tolerances

Finished surfaces shall not vary more than 1/4 inch from the testing edge of a 10-foot straightedge. Permissible deficiency in section thickness will be up to 1/4 inch.

5. Sidewalk Joints

Sidewalk joints shall be constructed as shown on the drawings. Transverse expansion joints shall be installed per A) below. Expansion joints shall also be formed about structures and features which project through or into the sidewalk pavement, using joint filler of the type, thickness, and width indicated. Expansion joints are not required between sidewalks and curb that abut the sidewalk longitudinally. Contraction joints shall be as per B) below.

A) Sidewalk Contraction Joints - The 4' square scoring pattern shall serve as the contraction joints for concrete sidewalk on this project. The scoring pattern shall be produced by cutting a chamfered groove in the top portion of the slab to a depth of at least one-fourth of the sidewalk slab thickness. The finished joints

shall be straight, clean and of uniform depth and cross section. Joints may be constructed by any method that produces the desired result (see Part 3, Section 3D) above). An ample supply of cutter blades shall be available on the job before concrete placement is started, and at least one standby tool in good working order shall be available at the jobsite at all times during the scoring operations.

- B) Sidewalk Expansion Joints - Expansion joints shall be formed with 1/2 inch joint filler strips. Joint filler in expansion joints surrounding structures and features within the sidewalk may consist of preformed filler material conforming to ASTM D1752 or building paper. Joint filler shall be held in place with steel pins or other devices to prevent warping of the filler during floating and finishing. Immediately after finishing operations are completed, joint edges shall be rounded with an edging tool having a radius of 1/8 inch, and concrete over the joint filler shall be removed. At the end of the curing period, expansion joints shall be cleaned and filled with cold-applied joint sealant. Joint sealant shall be gray or stone in color. The joint opening shall be thoroughly cleaned before the sealing material is placed. Sealing material shall not be spilled on exposed surfaces of the concrete. Concrete at the joint shall be surface dry. Atmospheric and concrete temperatures shall both be above 50 degrees F at the time of application of joint sealing material. Excess material on exposed surfaces of the concrete shall be removed immediately and concrete surfaces cleaned.

6. Curb and Gutter Joints

Curb and gutter joints shall be constructed at right angles to the line of curb and gutter.

A) Contraction Joints

Contraction joints shall be constructed and spaced so that monolithic sections between curb returns will not be less than 5 feet nor greater than 15 feet in length.

- i. Contraction joints (except for slip forming) shall be constructed by means of 1/8 inch thick separators and of a section conforming to the cross section of the curb and gutter. Separators shall be removed as soon as practicable after concrete has set sufficiently to preserve the width and shape of the joint and prior to finishing.
- ii. When slip forming is used, the contraction joints shall be cut in the top portion of the gutter/curb hardened concrete in a continuous cut across the curb and gutter, using a power-driven saw. The depth of cut shall be at least one-fourth of the gutter/curb depth and 1/8 inch in width.

B) Expansion Joints

Expansion joints shall be formed by means of preformed expansion joint filler material cut and shaped to the cross section of curb and gutter. Expansion joints shall be provided in curb and gutter directly opposite expansion joints of abutting portland cement concrete pavement, and shall be of the same type and thickness as joints in the pavement. Where curb and gutter do not abut portland cement concrete pavement, expansion joints at least 1/2 inch in width shall be provided at intervals not less than 30 feet nor greater than 120 feet. Expansion joints shall be provided in non-reinforced concrete gutter at locations indicated. Expansion

joints shall be sealed immediately following curing of the concrete or as soon thereafter as weather conditions permit. Expansion joints and the top 1 inch depth of curb and gutter contraction-joints shall be sealed with joint sealant. The joint opening shall be thoroughly cleaned before the sealing material is placed. Sealing material shall not be spilled on exposed surfaces of the concrete. Concrete at the joint shall be surface dry and atmospheric and concrete temperatures shall be above 50 degrees F at the time of application of joint sealing material. Excess material on exposed surfaces of the concrete shall be removed immediately and concrete surfaces cleaned.

7. Curing and Protection

- A) General Requirements - Protect concrete against loss of moisture and rapid temperature changes for at least 7 days from the beginning of the curing operation. Protect unhardened concrete from rain and flowing water. All equipment needed for adequate curing and protection of the concrete shall be on hand and ready for use before actual concrete placement begins. Protection shall be provided as necessary to prevent cracking of the pavement due to temperature changes during the curing period.
- B) Mat Method - The entire exposed surface shall be covered with 2 or more layers of burlap. Mats shall overlap each other at least 6 inches. The mat shall be thoroughly wetted with water prior to placing on concrete surface and shall be kept continuously in a saturated condition and in intimate contact with concrete for not less than 7 days.
- C) Impervious Sheeting Method - The entire exposed surface shall be wetted with a fine spray of water and then covered with impervious sheeting material. Sheets shall be laid directly on the concrete surface with the light-colored side up and overlapped 12 inches when a continuous sheet is not used. The curing medium shall not be less than 18-inches wider than the concrete surface to be cured, and shall be securely weighted down by heavy wood planks, or a bank of moist earth placed along edges and laps in the sheets. Sheets shall be satisfactorily repaired or replaced if torn or otherwise damaged during curing. The curing medium shall remain on the concrete surface to be cured for not less than 7 days.
- D) Membrane-curing Method - A uniform coating of white-pigmented membrane-curing compound shall be applied to the entire exposed surface of the concrete as soon after finishing as the free water has disappeared from the finished surface. Formed surfaces shall be coated immediately after the forms are removed and in no case longer than 1 hour after the removal of forms. Concrete shall not be allowed to dry before the application of the membrane. If any drying has occurred, the surface of the concrete shall be moistened with a fine spray of water and the curing compound applied as soon as the free water disappears. Curing compound shall be applied in two coats by hand-operated pressure sprayers at a coverage of approximately 200 square feet/gallon for the total of both coats. The second coat shall be applied in a direction approximately at right angles to the direction of application of the first coat. The compound shall form a uniform, continuous, coherent film that will not check, crack, or peel and shall be free from pinholes or other imperfections. If pinholes, abrasion, or other discontinuities exist, an additional coat shall be applied to the affected areas

within 30 minutes. Concrete surfaces that are subjected to heavy rainfall within 3 hours after the curing compound has been applied shall be resprayed by the method and at the coverage specified above. Areas where the curing compound is damaged by subsequent construction operations within the curing period shall be resprayed. Necessary precautions shall be taken to insure that the concrete is properly cured at sawed joints, and that no curing compound enters the joints. The top of the joint opening and the joint groove at exposed edges shall be tightly sealed before the concrete in the region of the joint is resprayed with curing compound. The method used for sealing the joint groove shall prevent loss of moisture from the joint during the entire specified curing period. Approved standby facilities for curing concrete pavement shall be provided at a location accessible to the job site for use in the event of mechanical failure of the spraying equipment or other conditions that might prevent correct application of the membrane-curing compound at the proper time. Concrete surfaces to which membrane-curing compounds have been applied shall be adequately protected during the entire curing period from pedestrian and vehicular traffic, except as required for joint-sawing operations and surface tests, and from any other possible damage to the continuity of the membrane.

- E) Backfilling - After curing, debris shall be removed and the area adjoining the concrete shall be backfilled, graded, and compacted to conform to the surrounding area in accordance with lines and grades indicated.
- F) Protection - Completed concrete shall be protected from damage until accepted. Repair damaged concrete and clean concrete discolored during construction. Concrete that is damaged shall be removed and reconstructed for the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable. Removed damaged portions shall be disposed of as directed.

8. Field Quality Control

A) Strength Testing

- i. Provide molded concrete specimens for strength tests. Samples of concrete placed each day shall be taken not less than once a day nor less than once for every 190 cubic meters 250 cubic yards of concrete. The samples for strength tests shall be taken in accordance with ASTM C172/C172M. Cylinders for acceptance shall be molded in conformance with ASTM C31/C31M by an approved testing laboratory. Each strength test result shall be the average of 2 test cylinders from the same concrete sample tested at 28 days, unless otherwise specified or approved. Concrete specified on the basis of compressive strength will be considered satisfactory if the averages of all sets of three consecutive strength test results equal or exceed the specified strength, and no individual strength test result falls below the specified strength by more than 500 psi.

B) Air-Content

- i. Determine air content in accordance with ASTM C173/C173M or ASTM C231/C231M. ASTM C231/C231M shall be used with concretes and mortars made with relatively dense natural aggregates. Two tests for air content shall be made on randomly selected batches of each class of concrete placed

during each shift. Additional tests shall be made when excessive variation in concrete workability is reported by the placing foreman or the inspector. If results are out of tolerance, the placing foreman shall be notified and he shall take appropriate action to have the air content corrected at the plant. Additional tests for air content will be performed on each truckload of material until such time as the air content is within the tolerance specified.

C) Slump Test

- i. Two slump tests shall be made on randomly selected batches of each class of concrete for every 250 cubic yards, or fraction thereof, of concrete placed during each shift. Additional tests shall be performed when excessive variation in the workability of the concrete is noted or when excessive crumbling or slumping is noted along the edges of slip-formed concrete.

D) Thickness Evaluation

- i. The anticipated thickness of the concrete shall be determined prior to placement by passing a template through the formed section or by measuring the depth of opening of the extrusion template of the curb forming machine. If a slip form paver is used for sidewalk placement, the subgrade shall be true to grade prior to concrete placement and the thickness will be determined by measuring each edge of the completed slab.

E) Surface Evaluation

- i. The finished surface of each category of the completed work shall be uniform in color and free of blemishes and form or tool marks. The appearance of the finished work will be compared to the approved sample as to the workmanship of joints, radii, broom finish etc. and must be found substantially the same.

9. Surface Deficiencies and Corrections

- A) Thickness Deficiencies - When measurements indicate that the completed concrete section is deficient in thickness by more than 1/4 inch the deficient section will be removed, between regularly scheduled joints, and replaced.
- B) High Areas - In areas not meeting surface smoothness and plan grade requirements shall be removed and replaced.
- C) Appearance - Exposed surfaces of the finished work will be inspected and any deficiencies in appearance will be identified. Areas which exhibit excessive cracking, discoloration, form marks, or tool marks or which are otherwise inconsistent with the overall appearances of approved workmanship sample shall be removed and replaced.

END OF SECTION

SECTION 02520 – ASPHALT CONCRETE PAVEMENT

PART - 1 GENERAL

.1.1 Summary

This work shall consist of placing plant mixed asphalt concrete per WSDOT Standard Specifications for Road, Bridge and Municipal construction as modified herein and the project plans.

.1.2 Bid Item Measurement and Payment

Payment for HMA will be made for Tons placed

PART - 2 PRODUCTS

Except as shown below materials shall conform with the WSDOT Standard Specifications Sections 9-02 to 9-04.

.2.1 HMA

- .A The mix provided for this work shall be a 1/2" dense mix with stripping agent using PG 64-22 Asphalt binder at a proportion not exceeding 6.2%. Mix designs that have been successfully used on Town projects for new construction within the past 2 year will be accepted.

.2.2 Aggregates

- .B For purposes of this contract the following local materials shall be considered acceptable for use as aggregate in HMA:
 - .1 5/8" minus crushed rock conforming to gradations as sampled and tested 3/22/12.
 - .2 Black sand conforming to gradation as sampled and tested 3/22/12.

PART - 3 EXECUTION

Except as required below all work shall conform with the WSDOT Standard Specifications Sections 5-04.

.3.1 5.04.3(3) Hot Mix Asphalt Pavers

Replace the first paragraph with the following:

"Asphalt pavers shall be self-propelled mechanical spreading and finishing equipment, provided with a screed or strike-off assembly capable of distributing the material to not less than the full width of a traffic lane. Screed action shall include any cutting, crowding or other practical action which is effective on the mixture without tearing, shoving or gouging, and which produces a surface texture of uniform appearance. The screed shall be adjustable to the required section and thickness. The paver shall be provided with a suitable full width compacting device. Pavers that leave ridges, indentations or other marks in the surface shall not be used unless the ridges, indentations or other marks are eliminated by rolling or prevented by adjustment in operation.

The asphalt paver shall operate independently of the vehicle being unloaded or shall be capable of propelling the vehicle being unloaded in a satisfactory manner. The load of the haul vehicle shall be limited to that which will ensure satisfactory spreading. While being unloaded the haul vehicle shall be in contact with the machine at all times and the brakes on the haul vehicle shall not be depended upon to maintain contact between the vehicle and the machine.

No portion of the weight of hauling or loading equipment, other than the connection, shall be supported by the asphalt paver, and no vibrations or other motions of the loader, which could have a detrimental effect on the riding quality of the completed pavement, shall be transmitted to the paver.

Sufficient personnel shall be provided to properly operate the paver. Unless fully automatic a person shall be provided to operate each wing as well as an operator to drive the unit. The paver operator shall not also operate any of the rollers.”

.3.2 5.04.3(10)A Compacting

Replace the third paragraph with the following:

“A pass shall be one movement of a roller in either direction. A coverage shall be as many passes as are necessary to cover the entire width being paved. Overlap between passes during any coverage, made to ensure a compaction without displacement of material in accordance with good rolling practice, shall be considered to be part of the coverage being made and not part of subsequent coverages started.

Rolling shall commence at the lower edge and shall progress toward the highest portion, except that when compacting layers which exceed 0.25-foot in compacted thickness, and if directed by the Engineer, rolling shall commence at the center and shall progress outwards.

Asphalt concrete and asphalt concrete base shall be compacted as follows:

Initial or breakdown compaction shall consist of a minimum of 3 coverages of a layer of asphalt mixture and shall be performed with a 2 axle or 3 axle tandem roller weighing not less than 8 tons. Where the thickness of the layer of asphalt mixture is less than 0.15-foot, fewer coverages than specified above may be ordered by the Engineer if necessary to prevent damage to the layer being compacted.

The initial or breakdown compaction shall be followed immediately by additional rolling consisting of 3 coverages with a 2 axle vibratory roller weighing at least 4 tons. Coverages with the second roller shall start when the temperature of the mixture is as high as practicable, preferably above 180 F, and shall be completed while the temperature of the mixture is at or above 150 F.

Each layer of asphalt concrete and asphalt concrete base shall be compacted additionally without delay by a final rolling consisting of not less than one coverage with a steel tired finish roller. Except as otherwise provided for low rates of production, a separate finish roller will be required. A vibratory roller may be used as the finish roller provided that the vibratory roller meets the requirements for a finish roller and is operated with the vibratory unit turned off.

Rolling shall be performed so that cracking, shoving or displacement will be avoided.

Rolling, where 3 axle tandem rollers may be used as specified in this Section shall be under the control of the Engineer, but in general no 3 axle tandem roller shall be used in rolling over a crown or on warped sections when the center axle is in the locked position.

The completed surfacing shall be thoroughly compacted, smooth and free from ruts, humps, depressions or irregularities. Any ridges, indentations or other objectionable marks left in the surface of the asphalt concrete by blading or other equipment shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations or other objectionable marks in the asphalt concrete shall be discontinued, and acceptable equipment shall be furnished by the Contractor.

When a straightedge 12 feet long is laid on the finished surface and parallel with the center line, the surface shall not vary more than 0.01-foot from the lower edge of the straightedge. The transverse slope of the finished surface shall be uniform to a degree such that no depressions greater than 0.02-foot are present

when tested with a straightedge 12 feet long laid in a direction transverse to the center line and extending from edge to edge of a 12 foot traffic lane.

Pavement within 50 feet of a structure or approach slab may deviate from a 12 foot straightedge by 0.02 in the center line direction.

At a minimum three rollers consisting of the following shall be used for each asphalt paver to compact all asphalt concrete and asphalt concrete base:

One steel-tired 2 axle tandem breakdown roller weighing not less than 8 tons; One steel-tired, 2 axle vibratory roller weighing not less than 4 tons and;

One steel tired tandem finish roller.

The 2 axle tandem breakdown roller shall have rolling wheels with a diameter of 40 inches or more.

Each roller shall have a separate operator. Rolling equipment shall be self-propelled and reversible. The minimum number, weight and type of rollers required may be reduced or modified for low rates of production when alternative equipment is approved by the engineer.

Rollers shall be equipped with pads and water systems which prevent sticking of asphalt mixtures to the pneumatic-tired or steel-tired wheels. A parting agent, which will not damage the asphalt mixture, as determined by the Engineer, may be used to aid in preventing the sticking of the mixture to the wheels.

Pneumatic-tired rollers when used shall be the oscillating type having a width of not less than 4 feet with pneumatic-tires of equal size, diameter and having treads satisfactory to the Engineer. Wobble-wheel rollers will not be permitted. The tires shall be spaced so that the gaps between adjacent tires will be covered by the following tires.

The tires shall be inflated to 90 psi, or a lower pressure as designated by the Engineer, and maintained so that the air pressure will not vary more than 5 psi from the designated pressure. Pneumatic-tired rollers shall be constructed so that the total weight of the roller can be varied to produce an operating weight per tire of not less than 2,000 pounds. The total operating weight of the roller shall be varied as directed by the Engineer.”

.3.3 5-04.3(10)B3 Quality Control

As near to the commencement of paving as practical the Contractor shall submit to the Town's material laboratory a representative sample of HMA for determination of theoretical maximum density (TMD) via the Rice method. This TMD will be used for initial calibration of nuclear test gages to be used during paving.

The Town will provide on-site inspection of HMA placement and compaction

The HMA used on the job will be sampled at three locations and additional Rice densities taken and averaged as verification of the initial nuclear gage calibration. The lower acceptable limit of compaction shall be 91 percent based on the average theoretical maximum density obtained from the three samples taken from the mix used on the job.

END OF SECTION

SECTION 02810 - IRRIGATION

PART 1 GENERAL

1.1 SUMMARY

- A. The work covers a complete, automatically controlled, drip irrigation system--including: all required design criteria, trenching, backfilling and compacting; sleeving, installation of pipe, valves, drip emitters, fittings, and all other appurtenances; connections to water services, testing; installation of controller(s), electrical connections and wiring and system fine tuning. Coordinate all work with other trades.
- B. RELATED SERVICES:
 - 1. Earthwork
 - 2. Site Drainage
 - 3. Landscaping

1.2 COORDINATION

- A. Coordinate to ensure that irrigation sleeving and electrical power source is in place.
- B. The work is subject to Landscape Architect tests and inspections as specified. Furnish written notice to the Landscape Architect 72 hours minimum prior to the required test or inspection.
- C. Document the existing pressure and flow of main used for the point of connection, prior to construction.

1.3 REGULATORY REQUIREMENTS

- A. Perform work in strict accordance with the applicable plumbing, electrical, and health codes.
- B. Obtain and pay for all permits and approvals required by the local jurisdictional authorities for the full operation of the system.

1.4 SYSTEM COVERAGE

- A. Provide full drip coverage in all planted areas. Exercise professional judgment in selection, spacing and location of drip lines and emitters. Shrub zones, bubbler zones, and differing sun exposures are to be valved separately (Full coverage is defined as all plants receiving adequate water).

1.5 GUARANTEE

- A. The purpose of guarantee/warranty is to ensure that Owner receives irrigation materials of prime quality, installed and maintained in thorough and careful manner.
- B. Contractor is responsible for providing guarantee/warranty of irrigation materials, equipment, and workmanship against defects for period of one (1) year from formal written acceptance by Owner's Representative. Fill and repair depressions. Restore landscape, utilities, structures and site features damaged by settlement of irrigation trenches or excavations. Repair damage to premises caused by defective items. Make repairs within seven (7) days of notification from Owner's Representative.
- C. Line flushing is to be completed on an on-going basis as needed throughout the warranty period.

- D. Replace damaged items with new and identical materials, using methods specified in contract documents or applicable codes. Make replacements at no additional cost to contract price.
- E. Guarantee/warranty applies to originally installed materials and equipment, and replacements made during guarantee/warranty period.

1.6 SUBMITTALS

- A. Plans: Two sets of clear & concise irrigation plans and one digital copy showing the following information at a minimum: water meter with size indicated; size of existing water service line; existing water flow and pressure and proposed operational water pressure; point of connection (POC); back flow preventer; valve locations with size and gpm notated; pipe layout with size indicated; drip layout; location of all proposed sleeving; and an itemized equipment list included in legend format on drawings.
- B. Hydraulic calculations listing static water pressure at POC and elevation, available flow and pressure at first valve and last valve on system.
- C. Catalog Cuts: Manufacturer's description of all proposed materials.
- D. Make submittals to Landscape Architect for review prior to construction. Approval of plans and materials by Landscape Architect does not change the Contractor's responsibility of providing full coverage in all planting areas.
- E. Provide instructions for operation and maintenance of system and controls, seasonal activation and shutdown, and manufacturer's parts catalog.

1.7 SUBSTITUTIONS

- A. Substitutions to the equipment specified will be permitted only with the express written approval of the Landscape Architect or Owner's Representative and when the substituted item is equal or better in quality than the item originally specified. The final determination for equal rests with the Landscape Architect or Owner's Representative.

1.8 FLUSHING AND TESTING

- A. Schedule testing with Owner's Representative a minimum of three (3) days in advance of testing.
- B. Provide clean, clear water, pumps, labor, fittings, and equipment necessary to conduct line flushing and testing procedures.
- C. Recommended Dripline and Emitter Lateral Flushing Procedures.
 - 1. Flush the system every two weeks for the first six (6) weeks and check the water that is flushed out for cleanliness. Establish a regular system flushing schedule for the future based on results from the initial six-week flushing schedule.
 - 2. Flush the system completely after any repairs are made and monitor system operation closely under regular system flushing schedule.
 - 3. Check the pressure at the supply and flush headers on a regular basis and compare with the pressure readings taken after installation.
- D. Recommended Dripline and Emitter Lateral Leakage Testing Procedures.
 - 1. Subject installed dripline tubing and emitter lateral piping to water pressure equal to specified operating pressure for ten (10) minutes. Test with control zone components and dripline flush valve components installed.
 - 2. Partially backfill buried pipe and tubing to prevent movement under pressure. Expose couplings, fittings, and valve components.

3. Visually inspect valve assemblies and fittings for leakage and replace defective pipe, fitting, joint, valve, or appurtenance. Repeat test until test segment is free from leaks. Cement or caulking to seal leaks is prohibited.
- E. Recommended Dripline and Emitter Lateral Operational Testing Procedures.
 1. Activate each dripline and emitter lateral control zone valve in sequence from controller. Provide either one additional person with radio or use handheld remote to activate remote control valves from controller. Manually activating remote control valve using manual bleed mechanism at remote control valve is not an acceptable method of activation. Owner's Representative will visually observe operation, water application patterns, and leakage.
 2. Replace or adjust defective valve, fitting, dripline segment, emitter lateral segment, or appurtenance to correct operational and coverage uniformity deficiencies.
 3. Repeat test(s) until each dripline or emitter lateral test segment passes testing procedures. Repeat tests, replace components, and correct deficiencies at no additional cost to Owner and/or Owner's Representative.

1.9 CONSTRUCTION OBSERVATION

- A. The purpose of on-site reviews by Owner's Representative is to periodically observe work in progress, Contractor's interpretation of construction documents, and to address questions with regard to installation.
- B. Schedule reviews for dripline layout and system testing with Owner's Representative as indicated on drawings or as required by these specifications.
- C. Impromptu reviews may occur at any time during project.
- D. A review will occur at completion of irrigation system installation and Project Record Drawing submittal.

PART 2 - PRODUCTS

2.1 MATERIALS – GENERAL

- A. Provide and install specified equipment and materials, delivered new to the site in unopened containers and confirmed to be without flaws or defects.

2.2 LATERAL PIPE AND FITTINGS

- A. Schedule 40 conforming to dimensions and tolerances established by ASTM Standard D1785; UV radiation resistant.
- B. Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standards D2466 and D1784 for PVC pipe. Use primer approved by pipe manufacturer. Solvent cement to conform to ASTM Standard D2564, of type approved by pipe manufacturer.
- C. PVC Schedule 80 nipples and PVC Schedule 40 or 80 threaded fittings for threaded pipe connections as specified on the drawings and details.
- D. Threaded joint sealant: Use non-hardening, nontoxic pipe thread sealant formulated for use on threaded connections and approved by pipe fitting or valve manufacturer.

2.3 DRIP IRRIGATION COMPONENTS

- A. Rain Bird Control Zone Kits
 1. General Information
 - a. Provide control zone kits manufactured by Rain Bird as indicated on construction drawings.

- b. Control zone kit assemblies for dripline irrigation zones must include control valve, filtration, and pressure regulation components sized to meet the hydraulic demands and flow requirements of the zones that they service.
 - c. All equipment to be provided as specified, or equal.
2. Rain Bird Low Flow Control Zone Kit for dripline zones with flows from 0.2 to 5.0 GPM, including low flow valve (LFV) and pressure regulating filter (PRF).
- a. Available model numbers:
 - 1) XCZ-075-PRF [3/4" Low Flow valve and 3/4" PR filter]
 - b. Low Flow Valve (LFV) component specifications include:
 - 1) Valve body and bonnet constructed of high impact, weather-resistant plastic, stainless steel and other chemical/UV resistant materials
 - 2) Diaphragm with a double-knife seal, constructed of durable Buna-N rubber with a clog-resistant metering orifice
 - 3) Energy-efficient, low-power encapsulated solenoid with captured plunger and 90 mesh (200 micron) solenoid filter
 - 4) External bleed for manual system flushing during start-up, internal bleed for manual zone activation during maintenance operations
 - 5) Inlet pressure rating: 20 to 120 PSI
 - 6) Female threaded inlet and outlet connections
 - 7) Anti-siphon valve configuration (AXCZ-075-PRF) includes listed features and incorporates atmospheric vacuum breaker with I.A.P.M.O and A.S.S.E. listing approval
 - c. Pressure Regulating Filter (PRF) combines filtration and pressure regulation in one integrated unit for protection of downstream components of drip irrigation system. PRF component specifications include:
 - 1) Compact "Y" filter body and cap configuration constructed of glass-filled, UV-resistant polypropylene, with 120 PSI operating pressure rating. Maximum dimensions of filter body; Height: 4 1/2", Length: 5 1/2", Width: 2"
 - 2) Standard 200 mesh (75 micron) filter screen constructed of durable stainless steel attached to a polypropylene frame. Screen is serviceable for cleaning purposes by unscrewing cap from filter body and removing filter element.
 - 3) Normally-open pressure regulating device with preset outlet pressure of approximately 30 PSI. Pressure regulating device allows full flow with minimal pressure loss unless inlet pressure is greater than preset level. As inlet pressure increases above preset level, internal spring compresses to reduce downstream pressure.
 - 4) Male threaded 3/4" inlet and outlet connections.

B. Rain Bird XF Series Dripline Components

1. General Information

- a. Provide flexible dual-layered pressure-compensating inline XF Series Dripline manufactured by Rain Bird, with emitter spacing and dripline row spacing as indicated on construction drawings.
- b. Provide insert or compression fittings manufactured by Rain Bird that are compatible with inline emitter tubing as indicated on construction drawings.

2. Rain Bird XFS Sub-Surface Copper-Colored Dripline with Copper Shield™ Technology and pressure-compensating inline emitters.
 - a. Available Rain Bird XFS Sub-Surface Copper-Colored Dripline model numbers for POTABLE water systems; dual layered, copper colored dripline tubing with emitter flow rates and spacing as shown:
 - b. Rain Bird XFS-06-18; 0.6 GPH emitters spaced 18" on-center

3. Dripline tubing material and performance specifications:
 - a. XFS Copper-colored, dual layered tubing conforming to an outside diameter (O.D.) of 0.634 inches and an inside diameter (I.D.) of 0.536 inches and wall thickness of 0.049 inches
 - b. XFSP tubing; dual layered, purple in color, conforming to an outside diameter (O.D.) of 0.634 inches and an inside diameter (I.D.) of 0.536 inches and wall thickness of 0.049 inches
 - c. Factory installed, pressure-compensating, inline emitters welded to the inner circumference of the polyethylene tubing at spacing specified by model number
 - d. Inline XFS Sub-Surface Copper-Colored Dripline emitters include Rain Bird's exclusive Copper Shield™ Technology (patent pending), which protects the emitter from root intrusion with a copper chip and without the use of herbicides made available via supplementary equipment and/or via impregnation into the emitter body. Unlike the use of herbicides which often include EPA-approved handling procedures (as recommended by some manufacturers of inline emitter products), Rain Bird's Copper Shield™ Technology does not require special handling procedures. Inline emitters are designed to pressure-compensate by lengthening the emitter's turbulent flow path (Rain Bird patent pending)
 - e. Consistent flow rate from each installed inline emitter when emitter inlet pressure is supplied between recommended operating range of 8.5 to 60 PSI
 - f. Required filtration for XF Series dripline tubing and emitters is 120 mesh (125 micron)

4. Rain Bird Easy Fit Dripline Tubing Compression Fittings
 - a. Available model numbers, designed for compatibility with Rain Bird XF Series Dripline Tubing:
 - 1) Tee: MDCFTEE
 - 2) Coupling: MDCF COUP
 - 3) Elbow: MDCFEL
 - 4) Adapters:
 - 5) 1/2" Male pipe thread adapter: MDCF50MPT
 - 6) 3/4" Male pipe thread adapter: MDCF75MPT
 - 7) 1/2" Female pipe thread adapter: MDCF50FPT
 - 8) 3/4" Female pipe thread adapter: MDCF75FPT
 - 9) 3/4" Female hose thread adapter: MDCF75FHT
 - 10) Flush Cap end closure for POTABLE system: MDCF CAP
 - b. Easy Fit compression fitting material and performance specifications include:
 - 1) Easy Fit directional fittings and flush cap fittings constructed from molded UV-resistant ABS material with Buna-N rubber seal for long-term, leak free connections

- 2) Easy Fit adapters constructed from UV-resistant ABS materials for use exclusively with Easy Fit Compression Fittings
 - 3) Easy Fit Compression Fittings are intended for use with polyethylene tubing from .630" to .669" OD to provide a leak-free compression fit
 - 4) Maximum pressure loss for the Easy Fit adapters estimated to be 0.1 PSI per adapter
 - 5) Operating pressure range for Easy Fit compression fittings and adapters is 0 to 60 PSI
5. Rain Bird Air Relief Valves
- a. Available model numbers, designed for compatibility with Rain Bird XF Series Dripline Tubing:
 - 1) ARV050 Air Relief Valve; includes 1/2" air relief valve.
6. Rain Bird Point Source Irrigation Emission Devices
- a. General Information
 - 1) Provide low-volume point-source emission devices, manufactured by Rain Bird, to efficiently deliver irrigation water at the plant root zone as indicated on construction drawings.
 - 2) Available model numbers for RWS:
 - i) RWS-B-C-1402
7. Rain Bird Drip Irrigation Accessories
- a. 1/4" Barb Transfer Fittings
 - 1) Available model numbers:
 - i) XBF1CONN: 1/4" Barb Connector
 - ii) XBF2EL: 1/4" Barb x Barb Elbow
 - iii) XBFTEE: 1/4" Barb x Barb Tee
 - 2) 1/4" Barb Transfer Fittings specifications and features include:
 - i) Three fitting configurations: Connector, Elbow, Tee
 - ii) Designed for connections of Rain Bird XQ 1/4" distribution tubing with an ID of 0.17"
 - iii) Barbed on one end to permit easy insertion into any 1/2" or 3/4" polyethylene tubing using a Rain Bird Xeriman® tool (XM-TOOL)
 - iv) Constructed from UV resistant acetyl.
 - v) Operating pressure range between 0 to 50 PSI

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify location of existing utilities and that they are ready for use. Report irregularities in writing to Owner's Representative prior to beginning work. Commencement of work implies acceptance of existing site conditions.
- B. Utility Locates ("Call Before You Dig")
 1. Arrange and coordinate Utility Locates with local authorities prior to construction.
 2. Repair underground utilities that are damaged during construction. Make repairs at no additional cost to contract price.

3.2 PREPARATION

- A. Piping layout indicated is diagrammatic only. Layout and stake locations of system components. Stake out dripline irrigation system. Items staked include manifold/header pipe and tubing, sleeves, control zone assemblies, flush valves, air relief valves, and check

valves. Dripline Irrigation System Layout Review: Dripline irrigation system layout review will occur after staking has been completed. Notify Owner's Representative one week in advance of review. Modifications will be identified by Owner's Representative at this review.

- B. Route piping to avoid plants, roots, and structures. Verify full and complete coverage.
- C. Protect landscaping and other features remaining as final work.
- D. Coordinate work which is embedded in concrete or masonry and routed under paved areas according to underground irrigation sleeves.
- E. Provide timely delivery and installation at job site.

3.3 TRENCHING

- A. Keep trenches free of debris, material, or obstructions that may damage pipe.
- B. Leave trench bottoms smooth so pipe will lay flat.
- C. Make trenches wide enough to allow 6 inches between parallel lines.
- D. Provide depth to achieve minimum of 18" cover for lateral lines, 18" cover for all mainline pipe, and 6" for dripline and drip components. Remove unused trench spoils from site.
- E. Excavated material is generally satisfactory for backfill. Use backfill free from rubbish, vegetable matter, frozen materials, and stones larger than 2" in maximum diameter. Remove material not suitable for backfill. Use backfill free of sharp objects next to pipe.
- F. Contact Owner's Representative for trench depth adjustments where utilities conflict with irrigation trenching and pipe work.

3.4 INSTALLATION

- A. General:
 - 1. Contractor responsible for any and all permits required for this work.
 - 2. Point of Connection and Backflow preventer per code.
 - 3. Perform work only in the presence of a licensed irrigator.
 - 4. Do not install system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in equipment usage, area dimensions, or static water pressure exist that might not have been considered in the engineering. Bring obstructions or differences to the attention of the Owner's Representative. In the event this notification is not performed, assume full responsibility for any revision necessary.
 - 5. Staking: Prior to installation, place a stake where each sprinkler is to be located. Receive approval of Owner's Representative before proceeding.
 - 6. Piping Layout: Piping layout is diagrammatic. Route piping around trees and shrubs in such a manner to avoid damage to plantings. Do not dig within balls of newly planted trees and shrubs. Hand excavate whenever possible to avoid cutting of roots greater than 1 inch diameter, during construction.
 - 7. Install pipe, valves, controls, and outlets in accordance with manufacturer's instructions.
- B. Pipe Installations:
 - 1. Mainline Piping: Install in minimum 4 inch wide trenches with a minimum 18 inches cover.
 - 2. Lateral Piping: Install in minimum 4 inch wide trenches deep enough to allow for installation of sprinkler heads and valves, but in no case with less than 12 inches cover.
 - 3. Provide firm, uniform bearing in trenches for entire length of each pipe to prevent uneven settlement. Wedging or blocking of pipe is not permitted. Remove foreign

- matter and dirt from inside of pipes before welding, and keep inside of piping clear during and after layout of pipes.
4. Provide for thermal movement.
 5. Backfill: Hand-tamp and water-jet to prevent settling. Hand rake trenches and adjoining areas to leave grade in a good or better condition than before installation. Backfill trench and compact as specified in Section 02300. Protect piping from displacement.
- C. PVC Pipe and Fittings Assembly:
1. Solvent: Use solvent and procedures recommended by manufacturer to make solvent-welded joints. Thoroughly clean pipe and fittings of dirt, dust and moisture before applying solvent.
 2. PVC to Metal Connections: Work metal connections first. Use a non-hardening pipe dope on threaded PVC to metal joints. Use only light wrench pressure.
 - a. Acceptable Product: Permatex No. 2.
 3. Threaded PVC Connections: Where required, use threaded PVC adapters into which pipe may be welded.
- D. Dripline Tubing and Fittings:
1. Use only Rain Bird XF-Series Insert Fittings or Rain Bird Easy Fit Compression Fittings for Rain Bird XF-Series dripline tubing connections or transitions as recommended by the Manufacturer's representative for the specific site and system conditions.
 2. Dripline Insert Fittings:
 - a. Install dripline tubing and fittings in manner recommended by manufacturer and in accordance with accepted industry practices.
 3. Dripline Compression Fittings:
 - a. Install dripline tubing and fittings in manner recommended by manufacturer and in accordance with accepted industry practices.
- E. Copper Pipe and Fittings Assembly if required:
1. Clean pipe and fittings thoroughly and buff connections with sand paper to remove residue from pipe.
 2. Flux pipe and fitting and solder connection using 50- 50 soft solid core solder.
- F. Electrical Valves:
1. Provide valves in accordance with materials list and size according to Drawings.
 2. Provide valves in a level position in accordance with manufacturer's specifications.
 3. Provide plastic or concrete valve box as noted on the Drawings, centered over valve, flush with finish grade. Provide valve box extensions as required.
- G. Wiring:
1. Provide wire from automatic sprinkler controls to valves. No conduit required for U.L. wire, except under pavement, unless otherwise noted on Drawings.
 2. Make wire connections with waterproof connectors according to manufacturer's recommendations, and only in approved value boxes.
 3. Provide wire from controller to each electric valve. Provide a common neutral wire from controller to valves served by a particular controller.
 4. Install control wiring. Provide 10 inch expansion coil at each valve to which controls are connected, and at 100 foot intervals. Bury wire beside pipe. Mark valves with neoprene valve markers containing locking device. Set valve markers in 160 psi PVC pipe risers extending from top of valve to finish grade.
- H. Automatic Controllers:
1. Provide and install per manufacturer's recommendations.
 2. Locate as shown on Drawings with approval of Owner's Representative.

3. Complete controller connection to power supply in PVC conduit in accordance with local electrical codes with watertight fittings.
4. Provide lightning protection (ground rod and wire) to nearest available ground location.

3.5 INSTALLATION OF DRIPLINE IRRIGATION COMPONENTS

- A. Control Zone Kit Assembly:
 1. Flush mainline pipe before installing Control Zone Kit assembly.
 2. Locate where shown on drawings. Connect control wires to remote control valve wires using specified wire connectors and waterproof sealant. Provide connectors and sealant per manufacturer's recommendations.
 3. Install a maximum of four (4) Low Flow or Medium Flow Control Zone Kits per standard rectangular valve box. Install a maximum of one (1) Medium Flow Commercial Control Zone Kits per standard rectangular valve box. Install a maximum of one High Flow Commercial Control Zone Kits per jumbo rectangular valve box.
 - a. Locate valve boxes at least 12" from, and align with, nearby walls or edges of paved areas.
 - b. Group Control Zone Kit assemblies together where practical. Align grouped valve boxes in uniform patterns. Allow at least 12" between valve boxes.
 - c. Brand controller letter and station numbers on valve box lid in 2" high letters.
- B. Lateral Piping and Dripline Tubing:
 1. Install lateral piping and dripline tubing at locations and in grid patterns as indicated on drawings and installation details, and in strict accordance with manufacturer recommendations.
 2. Thoroughly flush PVC lateral piping, supply headers, and dripline tubing immediately upon installation.
- C. Air Relief Valve Kit Assembly: Install at all high points in dripline tubing grid as shown and directed on drawings and installation details.
- D. Flush Point Assembly: Install in flush header or at ends of each dripline zone segment as shown and directed on drawings and installation details. Install at least 12-inches from and align with adjacent walls or edges of paved areas.

3.6 PROJECT RECORD (AS-BUILT) DRAWINGS

- A. Document field changes from original design and construction documents. Maintain on-site and separate from original construction documents, one complete set of documents labeled "Project Field Documents". Keep documents current. Do not permanently cover work until accurate "as-built" information is recorded.
- B. Record pipe network alterations on a daily basis. Record work that is installed differently than shown on construction documents. Record accurate reference dimensions, measured from at least two permanent reference points, of each control zone kit assembly, each dripline zone boundary, each air relief valve assembly, each flush point assembly, and other dripline irrigation components enclosed within valve box.
- C. Obtain from Owner's Representative one set of reproducible Mylar drawings or CAD files prior to construction completion. Duplicate information contained on "Project Field Documents" maintained on-site using technical drafting pen or AutoCAD. Label each sheet "Record Drawing".
- D. Provide "Record Drawings" to Owner's Representative. Completion of Record Drawings is required prior to final construction review at completion of irrigation system installation.

3.7 CLEANUP

- A. Keep premises clean and neat.
- B. Replace and/or repair plant material, structures, and installations by others, damaged by work of this section.
- C. Remove from site machinery, tools, excess materials, and rubbish upon completion of work.

3.8 SYSTEM DEMONSTRATION

- A. Instruct Owner's personnel in operation and maintenance of system including adjusting of sprinkler heads. Use operation and maintenance material as basis for demonstration.
- B. Schedule and perform a follow up visit one month from the date of final completion to verify full coverage and make adjustments. Owner's personnel to be in attendance.

3.9 SYSTEM WINTERIZATION

- A. Winterize irrigation system in fall following completion, or partial completion, of irrigation system construction. Start-up irrigation system in spring following completion, or partial completion, of irrigation system construction. Repair any damage caused in improper winterization at no additional cost to Owner. Coordinate winterization and start-up with landscape maintenance personnel.

END OF SECTION

SECTION 02881 - FURNISHINGS

PART 1- GENERAL

1.0 GENERAL

1.1 STATEMENT OF WORK

A. The work under this Contract includes, but is not necessarily limited to, the following items as indicated on the drawings and as specified herein:

1. Furnish and install park seats and benches.
 2. Furnish and install curved steel panel footings. The Curved Steel Panel is furnished by Owner, but communications, coordination, level footings, and scheduling is the responsibility of this contract.
 3. Coordinate installation of Art Boulder Seats, by artist. Art Boulder Seats are furnished and installed by others. This is a critical scheduling element for coordination, due to the integration of Art Boulder Seats with the project benches. Provision of thickened concrete slab, coordination of pin dowels, and coordination of final Art Boulder Seat sizes with Art Boulder Seat artist/contractor is required.
2. Cleanup.
 3. Maintenance.

B. Drawings, specifications and instructions to Bidders apply to this section.

1.2 WORK BY OTHERS

- Curved Steel Panel is to be furnished by Owner. Concrete footings shown for the base of the Panel are provided in this contract. Priority of installation schedule shall accommodate this contract schedule. Verify probable installation schedule of Curved Steel Panel by others with Town of Friday Harbor Public Works.
- Art Boulder Seats are to be furnished and installed by others onto concrete sidewalk provided in this contract. Verify probable installation schedule of Curved Steel Panel by others with Town of Friday Harbor Public Works.

1.4 SUBMITTALS

A. Samples: Submit (2) samples of steel frame finish, to show proposed method, powder coat color, and inclusions. Failure to do so may result in non-acceptance of materials already used or hauled to site. Any removal or delays incurred will be at the expense of Contractor. All samples submitted for approval must be unaltered and of sufficient quantity to allow for proper inspection and review by Landscape Architect.

B. Shop Drawings: Provide shop drawings of proposed steel frames for seats and benches for review by Landscape Architect. Submit shop drawing for proposed layout, welds, and finish of steel frame.

1.5 QUALITY ASSURANCE

- A. Contractor Qualifications: Contract is to be performed by currently licensed firm(s) active and experienced in the respective trade(s) represented in the plans and specifications.
- B. Pre-Construction Conference: After the Contract is awarded and before construction operations are started, meet with Owner to discuss Contract requirements and to develop mutual understanding relative to requirements of the drawings and specifications including: forms to be used for shop drawings; order lead time requirements; submittals; administration of Contract; inspections; tests; safety; communication channels; and planning.
- C. Review of Existing Conditions: Review site before commencement of construction. If existing conditions are in variance with plans and specifications or if any damages, cracks, etc., to any surfaces or structures designated to remain are noted, notify Owner and Landscape Architect before proceeding.
- D. Installation Equipment Procurement: Equipment for installation of Art Boulder Seats and Curved Steel Panel are not provided as a part of this contract.
- E. Remove materials which are defective, contrary to Contract, or rejected by Owner or Architect. Removal may be required in any stage of work.
- F. Maintenance: Maintain all work until project, or part of project, is accepted by Owner. Upon acceptance, Owner becomes responsible for correct maintenance practices in order to protect the guarantee.

1.6 GUARANTEE AND REPLACEMENT

- A. As per manufacturer's recommendations. Contractor is not responsible for damage resulting from excessive climatological conditions during the guarantee period or stolen or vandalized materials after final acceptance. Guarantee period commences on date of acceptance of project or portions of project unless stated otherwise herein.

1.7 PROTECTION OF PROPERTY AND EXISTING UTILITIES

- A. 'DIAL BEFORE YOU DIG' 1-800-424-5555

- B. Protect and preserve from damage, destruction and interference with the use of, all existing property or its appurtenances including public and private property and utilities lawfully occupying the area of the project above ground or buried. Repair damaged property or use or notify the required authorities and pay for the repairs.

1.8 PERMITS, LAWS AND REGULATIONS

- A. Secure all necessary permits and licenses; give all notices; and comply with all laws, codes, ordinances, rules, and regulations bearing on the conduct of work as drawn and specified. (Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by Owner unless otherwise specified). Notify the Landscape Architect

in writing if it is observed that drawings and specifications are in conflict with permits, laws, and regulations. Without notice, all costs arising from work contrary to such laws, ordinances, rules and regulations are the Contractor's responsibility.

1.9 SAFETY

- A. Comply with safety and health standards established by the Washington Industrial Safety Health Act (WISHA).
- B. Contractor shall schedule and define access and egress of equipment needed for Art Boulder Seats and Curved Steel Panel installation.

1.10 UTILITIES, STORAGE AND PARKING

- A. Arrange with the Owner for temporary use of street, utilities, storage areas, and parking as may be required.
- B. Provide proper care and protection of all materials, equipment, etc., delivered at the site. Materials and equipment may be stored at the site subject to approval by the Owner. Contractor is responsible for any damage to work or materials from the date of Agreement to date of final acceptance of Contract, and shall make good without cost to the Owner any damage or loss that may occur during this period.

1.11 SUBSTITUTIONS

- A. Make changes in materials, installation method, or placement only as approved by written Change Order executed by Owner, Contractor, and Landscape Architect.

1.12 MAINTENANCE

- A. Maintain following installation and continue until acceptance of project or agreed partial acceptance as per the manufacturer's recommendations.

1.13 DAILY CLEAN UP

- A. Keep all work areas clean, neat and orderly at all times. Leave paved and planted areas safe, clean and neat at the end of each working day.

1.14 ADJUSTMENT OF LAYOUT

- A. Adjust equipment location, if required, as directed by the Architect as appropriate to the design intent and site conditions.

1.15 SITE OBSERVATION TRIPS

- A. Request Landscape Architect observation when the greatest amount of work can be reviewed. Schedule trips at least forty-eight (48) hours in advance unless an emergency requires a special trip to the site. Keep an adequately protected (vinyl-coated or in plastic wrap) complete and current set of plans and specifications with addenda, etc., on site at all times. Landscape Architect can stop the work if current plans and specifications are not on the job.

1.16 FINAL ACCEPTANCE OF CURVED STEEL PANEL INSTALLATION

- A. Contractor will be notified in writing by Architect of acceptance of all work subject to guarantee or of requirements necessary for completion of Contract work.

1.17 RECYCLING/REUSE

- A. Recycle waste materials as convenient and appropriate to the work to reduce solid waste disposal. Dispose of vegetative waste, asphalt, concrete, metal, and glass at area recycling facilities. Use soils, asphalt, plastic pipe and other building products manufactured from recycled materials when convenient and economical and when they meet specification requirements. A list of recycling facilities and materials is available on request from the Landscape Architect.

PART 2 - FURNISHINGS / PRODUCTS

2.1 SITE FURNITURE

- Wood Seats and Wood Benches to be manufactured by Elegant Iron, Burlington, WA, or approved equal. (360) 420-6351. Any alternate fabricators must provide examples of 3 successful steel and wood furniture projects.
- Materials: All materials shall be new, structurally sound and suitable for use. Do not use fasteners that will negatively interact with steel frames.

B. Warranty: The manufacturer warrants that all products sold will conform in kind and quality to the specifications set forth in the specifications manual for the products identified in the Acknowledgement of Order and will be free of defects in manufacturing and material.

PART 3 – EXECUTION

3.1 WOOD SEAT

- Wood Seats and footings shall be plumb and level. No exceptions. Adjacent sidewalk is not level.
- All welds on steel frames to be full.

3.1 WOOD BENCH

- Wood Bench and footings shall be plumb and level. No exceptions. Adjacent sidewalk is not level.

- All welds on steel frames to be full.
- Wood Bench shall be created to be independent of integrated Art Boulder Seats (labeled #2 and #3 on Reference Plan L-2). Coordinate with Art Boulder Seat contractor to determine final dimensions of Art Boulder Seats. Bench slats to be a maximum of 1" from Art Boulder Seats.

3.2 ART BOULDER SEATS

- Art Boulder Seats to be doweled into thickened concrete sidewalk edge per plans. Coordinate dowel pattern with Art Boulder Seat Contractor.

3.3 CURVED STEEL PANEL

- Curved Steel Panel and attachment is NIC. Curved Steel Panel contractor to install attachments into drilled CIP concrete footings per plan. CIP Footings included in contract.

3.4 FINAL CLEAN UP OPERATIONS

- Clean up and remove all deleterious material and debris, neatly rake all planting areas to an even fine grade, and wash clean all hard surfaces for final inspection after panel installation.

3.5 FINAL REVIEW OF CONSTRUCTION

- Request Architect review of Contract work a minimum of 5 days prior to anticipated date of completion.
- Site must be thoroughly cleaned and all work complete unless otherwise indicated in request for final inspection. Architect may determine from photographs whether sufficient work is completed for final review.
- If the condition of the job is not in compliance with the above, the trip will be aborted and with all expenses for Architect time paid by Contractor. Four hour minimum per cancelled site visit by Contractor.

END OF SECTION

SECTION 02900 - PLANTING

PART 1 GENERAL

1.0 GENERAL

1.1 STATEMENT OF WORK

A. The work under this Contract includes, but is not necessarily limited to, the following items as indicated on the drawings and as specified herein:

1. Preparation and finish grading of planting areas.
2. Furnish and install trees, shrubs, and groundcovers.
3. Irrigation.
4. Topsoil and Amendments.
5. Staking and Guying.
6. Cleanup.
7. Maintenance.

B. Related Services

1. Earthwork 02300
2. Irrigation 02810

C. Drawings, specifications and instructions to Bidders apply to this section.

1.2 WORK BY OTHERS

1.3 REFERENCES

A. STANDARDS FOR PLANT GRADING

Washington State Department of Agriculture Standards for Nursery Stock (WAC 16-432-010 to WAC 16-432-130) and the AANS "American Standard for Nursery Stock" (latest edition). If a conflict arises, the most stringent standard applies.

B. STANDARDS FOR PLANT IDENTIFICATION

Sunset Western Garden Book, 2012 edition, and Hortus Third, Cornell University, 1976 edition.

1.4 SUBMITTALS

A. Liability Insurance: Provide written proof of liability insurance as will protect the Contractor and the Owner from claims which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

B. Samples: Submit samples of all materials as noted in specifications. Failure to do so may result in non-acceptance of materials already used or hauled to site. Any

removal or delays incurred will be at the expense of Contractor. All samples submitted for approval must be unaltered and of sufficient quantity to allow for proper inspection and review by Landscape Architect.

- C. Shop Drawings: Provide shop drawings for review by Landscape Architect when required.
- D. Maintenance Task Outline: Submit a maintenance task outline before final payment which identifies routine and special needs, time requirements, and duration of maintenance work that will affect the proper and healthy maturation of the project during the one year guarantee period.
- E. Schedule of Work and Schedule of Values: Before work begins, submit to Landscape Architect and Owner a Schedule of Values which includes cost/work categories and Schedule of Work which includes dates for commencement and completion of all phases of construction and proposed inspection trips. If delays are incurred (two days or more), immediately supply a revised schedule. Pay requests to be based on the Schedule of Values.

1.5 QUALITY ASSURANCE

- A. Contractor Qualifications: Contract is to be performed by currently licensed firm(s) active and experienced in the respective trade(s) represented in the plans and specifications.
- B. Pre-Construction Conference: After the Contract is awarded and before construction operations are started, meet with Owner and Landscape Architect to discuss Contract requirements and to develop mutual understanding relative to requirements of the drawings and specifications including: forms to be used for shop drawings; submittals; administration of Contract; inspections; tests; safety; communication channels; and planning.
- C. Review of Existing Conditions: Review site before commencement of construction. If existing conditions are in variance with plans and specifications or if any damages, cracks, etc., to any surfaces or structures designated to remain are noted, notify Owner and Landscape Architect before proceeding.
- D. Plant Procurement: Provide in written form, the source, root condition, and size of all plants on plant list within thirty (30) days after signing of Contract and prior to beginning any work on the site. Upon approval the Contractor may submit a request for payment of up to 10% of Contract Amount for deposit on said plant materials. If list is not submitted within the 30 allocated days, substitution benefits will be forfeited and plants must be provided at sizes and conditions as indicated on plant list with no exceptions. No substitutions will be made beyond the 30-day period except for larger plants at no additional cost to Owner.
- E. Remove materials which are defective, contrary to Contract, or rejected by Owner or Landscape Architect. Removal may be required in any stage of work.
- F. Maintenance: Maintain all work until project, or part of project, is accepted by Owner. Upon acceptance, Owner becomes responsible for correct maintenance practices in order to protect the guarantee.

1.6 GUARANTEE AND REPLACEMENT

- A. Guarantee materials and workmanship for a period of one year following final acceptance. Contractor is not responsible for damage resulting from excessive climatological conditions during the guarantee period or stolen or vandalized materials after final acceptance. Guarantee period commences on date of acceptance of project or portions of project unless stated otherwise herein. A new guarantee period will be established for plants replaced during the original guarantee period.
- B. Remove from the site any plant included in this Contract that is either dead or in unsatisfactory condition as determined by Landscape Architect. Replace these and any other missing plants as soon as conditions permit within the normal planting season. Identify and, if appropriate, do all work necessary to prevent replacement plants from a similar demise.
- C. Replace plants with same variety, and root condition as materials originally specified. Size to include any new growth since installation, such that replacement plants match existing adjacent plants of the same variety.

1.7 PROTECTION OF PROPERTY AND EXISTING UTILITIES

- A. 'DIAL BEFORE YOU DIG' 1-800-424-5555
- B. Protect and preserve from damage, destruction and interference with the use of, all existing property or its appurtenances including public and private property and utilities lawfully occupying the area of the project above ground or buried. Repair damaged property or use or notify the required authorities and pay for the repairs.

1.8 PERMITS, LAWS AND REGULATIONS

- A. Secure all necessary permits and licenses; give all notices; and comply with all laws, codes, ordinances, rules, and regulations bearing on the conduct of work as drawn and specified. (Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by Owner unless otherwise specified). Notify the Landscape Architect in writing if it is observed that drawings and specifications are in conflict with permits, laws, and regulations. Without notice, all costs arising from work contrary to such laws, ordinances, rules and regulations are the Contractor's responsibility.

1.9 SAFETY

- A. Comply with safety and health standards established by the Washington Industrial Safety Health Act (WISHA).

1.10 UTILITIES, STORAGE AND PARKING

- A. Arrange with the Owner for temporary use of utilities, storage areas, and parking as may be required.

- B. Provide proper care and protection of all materials, equipment, etc., delivered at the site. Materials and equipment may be stored at the site subject to approval by the Owner. Contractor is responsible for any damage to work or materials from the date of Agreement to date of final acceptance of Contract, and shall make good without cost to the Owner any damage or loss that may occur during this period.

1.11 SUBSTITUTIONS

- A. Make changes in materials, installation method, or placement only as approved by written Change Order executed by Owner, Contractor, and Landscape Architect.

1.12 DAMAGED TREES (EXISTING)

- A. Protect existing trees and vegetation in the site vicinity. Destroyed trees or vegetation damaged to the extent that, in the opinion of the Landscape Architect, continued life is questionable, or which is disfigured by Contractor's carelessness or negligence is the Contractor's responsibility. Remove damaged trees when directed by Landscape Architect, at Contractor's expense. Damages will be assessed against Contractor according to rates and methods set by the International Society of Arboriculture with a minimum assessment of \$500.00.

1.13 MAINTENANCE

- A. Maintain following installation and continue until acceptance of project or agreed partial acceptance.
- B. Work includes watering, mowing, weeding, cultivating, tightening and repairing of guys, removal of dead material, resetting plants to proper grades or upright position, and other operations necessary to the proper implementation of the project.

1.14 DAILY CLEAN UP

- A. Keep all work areas clean, neat and orderly at all times. Leave paved and planted areas safe, clean and neat at the end of each working day.

1.15 ADJUSTMENT OF LAYOUT

- A. Adjust plant material location as directed by the Landscape Architect as appropriate to the design intent and site conditions.

1.16 SITE OBSERVATION TRIPS

- A. Request Landscape Architect observation when the greatest amount of work can be reviewed. Schedule trips at least forty-eight (48) hours in advance unless an emergency requires a special trip to the site. Keep an adequately protected (vinyl-coated or in plastic wrap) complete and current set of plans and specifications with addenda, etc., on site at all times. Landscape Architect can stop the work if current plans and specifications are not on the job.

1.17 FINAL ACCEPTANCE OF LANDSCAPE CONSTRUCTION

- A. Contractor will be notified in writing by Landscape Architect of acceptance of all work, inclusive of replacement of plants subject to guarantee or of requirements necessary for completion of Contract work.

1.18 PAYMENT

- A. Submit pay requests to Landscape Architect for approval. All load tickets, invoices, sales slips, etc., may be required with submittal. All credits, extra charges, etc., must have prior approval by Landscape Architect or Owner.

1.19 RECYCLING/REUSE

- A. Recycle waste materials as convenient and appropriate to the work to reduce solid waste disposal. Dispose of vegetative waste, asphalt, concrete, metal, and glass at area recycling facilities. Use soils, asphalt, plastic pipe and other building products manufactured from recycled materials when convenient and economical and when they meet specification requirements. A list of recycling facilities and materials is available on request from the Landscape Architect.

PART 2 MATERIALS / PRODUCTS

2.1 PLANTS

- A. Provide sizes, conditions, and quantities for plants shown on plant list and/or on plans. Determine exact quantities from planting plans if in conflict with plant list. Plants not conforming to standards and requirements listed may be rejected at any time. Determine quantities in grouped planting areas by specified distance on center ("o.c.") rather than estimated number of plants.

2.2 TOPSOIL

- C. Components to be free of noxious weeds, deleterious materials and rocks or debris which will not pass through a 3/4" screen. The components must be evenly distributed throughout the topsoil mix. Provide 1-gallon sample and source for approval by Landscape Architect prior to delivery. Provide the following mix: 3-way mix of sand, compost and sandy loam topsoil.

2.3 LIME

- A. Acid-neutralizing agent in the form of ground, free-flowing dolomitic. "Calpril" manufacturer or equal.

2.4 MULCH

- A. Decomposed fine black mulch. Submit 1/2-gallon sample for approval. Ground bark is not an acceptable mulch.

2.5 FERTILIZER

- A. Trees, Shrubs and Groundcovers:
 - Before Planting: Hendrikus Organics "Soil Enhancer 2-13-0" at 25# / 1,000sf and Hendrikus Organics "HuMagic Granular" at 20# / 1,000sf and Hendrikus Organics "Complete 6-4-4" at 20# / 1,000sf or approved equal.
 - Top Dressing Fertilizer: Hendrikus Organics "Complete 6-4-4" fertilizer or approved equal.

2.6 TREE STAKING AND GUYING MATERIALS

- D. 1. Tree Stakes: 2x2 (for trees less than 2 1/2" caliper) or 2x4 (for trees 2 1/2" caliper or larger and for guying) Douglas Fir, construction grade.
- 2. Stain: None.
- C. Tree Ties: Deeproot 'Arbortie' or approved equal. Grade per manufacturers recommendations.

2.7 SPECIAL MATERIALS

- A. See details.

PART 3 INSTALLATION / EXECUTION

3.1 GENERAL

- A. All products and materials noted herein or on drawings are to be installed per manufacturer's recommendations and per each appropriate trade's highest standards.

3.2 EXISTING GRADES

- A. For bidding purposes Contractor may assume planting areas will be provided in a clean condition set at specified subgrade depths. Verify these conditions prior to onset of landscape construction. Contractor shall review the existing grades to determine extent of further rough grading necessary to accomplish proposed grading indicated by drawings and specifications. Contractor shall notify Landscape Architect of any discrepancies and if necessary, request an inspection trip for the establishment of grades.

3.3 SUBGRADES AND TOPSOIL DEPTHS

- A. See excavation section.

3.4 SOIL CONDITIONS

- A. Examine existing soil conditions for any contaminants that may have been discarded by other trades (e.g., thinner, plaster) and report immediately to Landscape Architect prior to placement of topsoil.

3.5 SOIL PREPARATION

- E. Remove any vegetation, debris 3/4" or larger, and unsatisfactory soil from planting areas.
- F. Scarify subgrades to a depth of 8". Slope subgrades to drain and away from structures. Min slope 2%.

- G. Provide condition of drainage of the scarified subgrade and report any standing water issues to Landscape Architect.
- H. Apply 8" layer of specified topsoil and compact to 85% dry density. Apply remaining topsoil in 8" lifts, compacting to 85% after each lift. Allowance shall be made for compaction and settlement to achieve specified finish grade.
- I. Apply lime at a rate of 50 lbs. per 1,000 square feet to topsoil. Bring ph to 6.5, following manufacturer's recommendation.

3.6 LIME

- J. Install per recommendations of Washington State University Extension Service Annual Testing (509)335-2811.
- K. In lieu of test; apply at 50 lbs. per 1,000 square feet in all planting areas, or, bring ph factor to 6.5, following manufacturer's recommendation for application.

3.7 NOTIFICATION OF ADVERSE CONDITIONS

- A. Contractor is responsible for any adverse drainage conditions that may affect plant growth unless Landscape Architect is immediately notified indicating possible problems.

3.8 FINISH GRADING

- A. Finish grade planting areas before installation of plants. Review grades with Landscape Architect before commencement of planting, preferably at time of layout.
- B. Set finish grade flush of topsoil and mulch at minus 1/2" from all walks, curbs and/or hard surface edges, except as noted on plans. Allow for topsoil and mulch depths as specified herein and allow for reasonable settlement of soils.
- C. Blend grades for smooth transition and positive drainage. Crown finish grade to the center of planting bed at 1/4" per foot (unless otherwise noted on drawings).

3.9 LAYOUT

- A. Review layout for all plantings (trees, shrubs, and groundcovers), pathways, etc., with Landscape Architect prior to installation. Adjust locations as directed by Landscape Architect as appropriate to design intent and site conditions. Installation prior to approval shall be at Contractor's risk. Topsoil berms are plus 6" above general topsoil finish grade.
- B. Immediately notify Landscape Architect, in writing, of any variances between plans and actual site conditions and await instructions before proceeding.
- C. Set all trees, shrubs, and groundcover according to spacing on plans. If site position is more than 2 feet from plan position, consult with Landscape Architect before proceeding.
- D. For large blocks of identical plant material, Contractor has the option of staking boundaries of planting rather than individual plant locations. Set outside row of large

planting areas parallel with adjacent edges. Space inside plants as specified by plans and specifications.

3.10 PLANTING PITS

- A. Dig pits for trees and shrubs as indicated on drawings. Planting pits are to be rough, not smooth. Remove all excess or unsuitable material excavated from pits and dispose of off project site.
- B. Backfill plantings with specified topsoil compacted to 85%. Immediately notify Landscape Architect if clay soil or any condition which in Contractor's opinion may be detrimental to new plantings is encountered.
- C. Provide positive drainage from rootball unless otherwise noted on plans. Mound bottom of planting pit to reduce settling. See Details.

3.11 PLANT PROTECTION

- A. Protect plantings against harm from wind and unusual weather. Special planting techniques, defoliating, wilt-proofing, or spray-misting may be required by Landscape Architect for unseasonable planting, prolonged periods of drought, etc. Protect planting areas when performing adjacent work. Install plant materials immediately after delivery and acceptance. Balled and burlapped plants that cannot be planted within one day after arrival are to be stored per accepted horticultural practice using mulch, sawdust or other approved protection.

3.12 PLANTING

- A. Plant at any time materials are available and weather conditions are consistent with good horticultural practice.
- B. Soak dried rootballs and tree plant pits prior to planting, and vertically cut ball of rootbound stock with sharp knife in three locations and scarify surface.
- C. Hold plant in center of hole approximately two inches (2") above normal growing position and backfill approximately halfway. Place 1st half fertilizer evenly around rootball at manufacturer's recommended rate. Backfill to within 5" of finish grade, fill hole with water and allow to settle. Backfill to subgrade depth (if mulch is to be applied) or to nursery-grown depth with a mix of native and topsoil as specified herein.
- D. Apply 2nd half fertilizer at manufacturer's recommended rates to surface around periphery of rootball.
- E. Remove string ties, straps and remove untreated burlap from top 1/3 of rootball upon completion of planting. Remove treated burlap entirely.
- F. Finish grade at plants after installation and settling shall afford positive drainage from crown at no greater than 1/2" per foot, unless otherwise specified.
- G. Install transplanted plant material as above. See shrub/tree planting details.

3.13 TREE AND SHRUB PRUNING

- A. Prune existing and new plant material only under the direct supervision of the Landscape Architect. Under no circumstances shall any plant material be pruned prior to delivery or after planting until directed by Landscape Architect.

3.14 STAKING AND GUYING

- A. Stake or guy all trees and shrubs which are or may become loosened or tipped from their proper position during the first growing season, per details. Fasten ties loosely to prevent girdling. Verify staking of trees with large rootballs with Landscape Architect.

3.15 MULCHING

- A. Contact Landscape Architect for a semi-final inspection of planting area grades, soil depth and plant location. Mulch installed before this inspection, will be at Contractor's own risk.
- B. Place uniform 2" layer of mulch over properly cleaned and graded planting beds.

3.16 PLANT ESTABLISHMENT

- A. Place second application of top-dressing fertilizer around all plantings (trees, shrubs, and groundcover) not less than twelve (12) weeks or more than twenty-four (24) weeks after initial planting. Consult Landscape Architect if placement is to occur after October 15th or before March 15th.
- B. Apply root stimulants such as Liquinox, Root Grow, vitamin B-1, etc., per manufacturer's specifications where planting conditions or rootball sizes warrant.

3.17 FINAL CLEAN UP OPERATIONS

- L. Do not let fertilizers sit on adjacent paved areas. If rain is imminent, sweep any residual fertilizer off of pavement immediately.
- M. Clean up and remove all deleterious material and debris, neatly rake all planting areas to an even fine grade, and wash clean all hard surfaces for final inspection.
- N. Provide written record of dates and rates of fertilizer and chemical applications.

3.18 FINAL REVIEW OF LANDSCAPE CONSTRUCTION

- A. Request Landscape Architect review of Contract work a minimum of 5 days prior to anticipated date of completion.
- B. Site must be thoroughly cleaned and all work complete unless otherwise indicated in request for final inspection. Landscape Architect may determine from letter whether sufficient work is completed for final review.
- C. If the condition of the job is not in compliance with the above, the trip will be aborted and with all expenses for Landscape Architect time paid by Contractor. One hour minimum per cancelled site visit by Contractor.

3.19 SPECIAL MATERIAL INSTALLATION

A. See details.

END OF SECTION

SECTION 03201 – CONCRETE PAVERS

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes the following:

1. Concrete Paver Units (manually installed).
2. Bedding and joint sand.

B. Related Sections include the following:

1. Section: 022000 – Earthwork
2. Section: 030001 - Concrete

1.02 REFERENCES

A. American Society of Testing and Materials (ASTM):

1. C33/C33M, Standard Specification for Concrete Aggregates.
2. C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
3. C140/C140M, Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
4. C144, Standard Specification for Aggregate for Masonry Mortar.
5. C936/C936M-15, Standard Specification for Solid Concrete Interlocking Paving Units.
6. C979/C797M, Standard Specification for Pigments for Integrally Colored Concrete.
7. C1645/C1645M, Standard Test Method for Freeze-thaw and De-icing Salt Durability of Solid Concrete Interlocking Paving Units.
8. D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,000 ft-lbf/ft³).
9. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³).
10. D2940, Specification for Graded Aggregate Material for Bases or Subbases for Highways or Airports.

1.03 SUBMITTALS

A. In accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Manufacturer's drawings and details: Indicate perimeter conditions, relationship to adjoining

materials and assemblies, expansion and control joints, concrete paver layout, installation and setting details.

C. Sieve analysis per ASTM C 136 for grading of bedding and joint sand.

D. Concrete pavers/Concrete Architectural Paving Slabs:

1. Two representative full-size samples of each paver type, thickness, color, finish that indicate the range of color variation and texture expected in the finished installation. Color(s) selected by Landscape Architect from manufacturer's available colors.
2. Accepted samples become the standard of acceptance for the work.
3. Test results from an independent testing laboratory for compliance of paving unit requirements to ASTM C 936/C 936M-09.
4. Manufacturer's catalog product data, installation instructions, and Safety Data Sheets for the safe handling of the specified materials and products.

E. Paver Installation Subcontractor:

1. A copy of Subcontractor's current certificate from the Interlocking Concrete Pavement Institute Concrete Paver Installer Certification program.
2. Job references from a minimum of 3 projects of a similar size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and email address.

1.04 QUALITY ASSURANCE

A. Paving Subcontractor Qualifications:

1. Utilize an installer having successfully completed a minimum of 3 concrete paver installations similar in design, material, scope and extent indicated on this project.

B. Regulatory Requirements and Approvals: Licensed, bonded, insured per state of Washington Standards.

C. Mock - Ups:

1. Install a 7 ft x 7 ft paver area.
2. Use this area to determine surcharge of the bedding sand layer, joint sizes, and lines, laying pattern, color and texture of the job.
3. Evaluate the need for protective pads when compacting paving units with architectural finishes.
4. This area will be used as the standard by which the work will be judged.
5. Subject to acceptance by owner, mock-up may be retained as part of finished work.
6. If mock-up is not retained, remove and properly dispose of mock-up.

1.05 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.

B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

C. Delivery: Deliver materials to project site in manufacturer's original, unopened, undamaged packaging with identification labels intact. Confirm that the correct product has been delivered to the job site before commencing off-loading.

1. Coordinate delivery and paving schedule to minimize interference with normal use of

Buildings adjacent to paving area.

2. Deliver concrete pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by fork lift or clamp lift.

3. Unload pavers at job site in such a manner that no damage occurs to the product.

D. Storage and Protection: Store materials protected such that they are kept free from mud, dirt, and other foreign materials.

1. Cover bedding sand and joint sand with waterproof covering if needed to prevent exposure to rainfall or removal by wind. Secure the covering in place.

1.06 PROJECT/SITE CONDITIONS

A. Environmental Limitations:

1. Do not install sand or pavers during heavy rain or snowfall.

2. Do not install sand and pavers over frozen base materials.

3. Do not install frozen sand or saturated sand.

4. Do not install concrete pavers on frozen or saturated sand.

1.07 MAINTENANCE

A. Extra Materials: Provide 10% percentage additional material for use by owner for maintenance and repair.

B. Pavers shall be the same production run as installed materials.

PART 2 - PRODUCTS

2.01 ARCHITECTURAL PAVING SLABS

A. Supplied by: Mutual Materials, 1-888-688-8250, www.mutualmaterials.com

B. Vancouver Bay Architectural Slab, Charcoal Color and Latte Color, 17 15/16in. x 17 15/16in. x 1 3/4in. thick.

C. Meet the following requirements set forth in ASTM C 936/C 936M-09, Standard Specification for Interlocking Concrete Paving Units:

1. Average compressive strength of 8,000 psi with no individual unit under 7,200 psi.

2. Average absorption of 5% with no unit greater than 7% when tested in accordance with ASTM C 140.

3. Resistance to 50 freeze-thaw cycles when tested according to ASTM C 67

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: Or equal. Approval Required. Submit specifications for proposed substitution.

2.03 BEDDING AND JOINT SAND

A. Provide bedding and joint sand as follows:

1. Washed, clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, natural or manufactured from crushed rock.
2. Do not use limestone screenings, or stone dust, or sand for the bedding sand material

That does not conform to the grading requirements of ASTM C 33.

3. Do not use mason sand, or sand conforming to ASTM C 144 for the bedding sand.

4. Where concrete pavers are subject to vehicular traffic, utilize sands that are as hard as practically available.

5. Sieve according to ASTM C 136.

6. Bedding Sand Material Requirements: Conform to the grading requirements of ASTM

C 33 with modifications as shown in Table 1.

7. Joint Sand Material Requirements: Conform to the grading requirements of ASTM C

144 as shown with modifications in Table 2 below

Gradation for Bedding Sand			
ASTM C33		CSA A23.1 FA1	
Sieve Size	Percent Passing	Sieve Size	Percent Passing
3/8 in.(9.5 mm)	100	10.0 mm	100
No. 4 (4.75 mm)	95 to 100	5.0 mm	95 to 100
No. 8 (2.36 mm)	80 to 100	2.5 mm	80 to 100
No. 16 (1.18 mm)	50 to 85	1.25 mm	50 to 90
No. 30 (0.6 mm)	25 to 60	630 µm	25 to 65
No. 50 (0.3 mm)	5 to 30	315 µm	10 to 35
No. 100 (0.15 mm)	0 to 10	160 µm	2 to 10
No. 200 (0.075 mm)	0 to 1	80 µm	0 to 1

Table 1 Grading Requirements for Bedding Sand

Table 2

Grading Requirements for Joint Sand				
ASTM C 144			CSA – A179	
	Natural Sand	Manufactured Sand		
Sieve Size	Percent Passing	Percent Passing	Sieve Size	Percent Passing
No. 4 (4.75 mm)	100	100	5 mm	100
No. 8 (2.36 mm)	95 to 100	95 to 100	2.5 mm	90 to 100
No. 16 (1.18 mm)	70 to 100	70 to 100	1.25 mm	85 to 100
No. 30 (0.600 mm)	40 to 75	40 to 100	0.630 mm	65 to 95
No. 50 (0.300 mm)	10 to 35	20 to 40	0.315 mm	15 to 80
No. 100 (0.150 mm)	2 to 15	10 to 25	0.160 mm	0 to 35
Pan	0	0 to 2	0.075 mm	0

Table 2 Grading Requirements for Joint Sand

2.04 BASE COURSE

A. Provide base material under bedding sand as follows:

1. Washed, clean, non-plastic, free from deleterious or foreign matter, symmetrically shaped, crushed rock.
2. 5/8" minus crushed rock rolled and compacted to 95%

PART 3 EXECUTION**3.01 EXAMINATION**

A. Acceptance of Site Verification of Conditions:

1. General Contractor shall inspect, accept and certify in writing to the paver installation subcontractor that site conditions meet specifications for the following items prior to installation of interlocking concrete pavers.
 - a. Verify that sub-grade preparation, compacted density and elevations conform to specified requirements.
 - b. Verify that Aggregate base materials, uniform thickness, compacted density, surface tolerances and elevations conform to specified requirements.
 - c. Provide written density test results for soil sub-grade, aggregate base materials to the Owner, General Contractor and paver installation subcontractor.
 - d. Verify location, type, and elevations of edge restraints, utility structures, and drainage inlets.
2. Do not proceed with installation of bedding sand and interlocking concrete pavers until sub-grade soil and base conditions are corrected by the General Contractor or designated subcontractor.

3.02 PREPARATION

- A. Verify base is dry, certified by General Contractor as meeting material, installation and grade specifications.
- B. Verify that base is ready to support sand and pavers and imposed loads.

3.03 INSTALLATION

- A. Rolled and compact base course material to 98% dry density.
- B. Spread bedding sand evenly over the base course and screed to a nominal 1 in. thickness, not exceeding 1 in. thickness. Spread bedding sand evenly over the base course and screed rails, using the rails and/or edge restraints to produce a nominal 1 in. thickness, allowing for specified variation in the base surface.
 - 1. Do not disturb screeded sand.
 - 2. Screeded area shall not substantially exceed that which is covered by pavers in one day.
 - 3. Do not use bedding sand to fill depressions in the base surface.
- C. Lay pavers in pattern(s) shown on drawings. Place units hand tight without using hammers. Make horizontal adjustments to placement of laid pavers with rubber hammers and pry bars as required.
- D. Provide tight joints between pavers between 1/16 in. and 3/16 in. wide. No more than 5% of the joints shall exceed 1/4 in. wide to achieve straight bond lines.
- E. Joint (bond) lines shall not deviate more than $\pm 1/2$ in. over 50 ft. from string lines.
- F. Fill gaps at the edges of the paved area with cut pavers or edge units.
- G. Cut pavers to be placed along the edge with a [double blade paver splitter or] masonry saw.
- H. Cut pavers at edges as indicated on the drawings.
- I. Keep skid steer and forklift equipment off newly laid pavers that have not received initial compaction and joint sand.
- J. Use a low-amplitude plate compactor capable of at least minimum of 5,000 lbf at a frequency of 75 to 100 Hhz to vibrate the pavers into the sand. Remove any cracked or damaged pavers and replace with new units.
- K. Simultaneously spread, sweep and compact dry joint sand into joints continuously until full. This will require at least 4 to 6 passes with a plate compactor. Do not compact within 6 ft of unrestrained edges of paving units.
- L. All work within 6 ft. of the laying face shall be left fully compacted with sand-filled joints at the end of each day or compacted upon acceptance of the work. Cover the laying face or any incomplete areas with plastic sheets overnight if not closed with cut and compacted pavers with joint sand to prevent exposed bedding sand from becoming saturated from rainfall.

M. Allow excess joint sand to remain on surface to protect pavers from damage from other trades. Remove excess sand when directed by Owner.

N. Surface shall be broom clean after removal of excess joint sand.

3.04 FIELD QUALITY CONTROL

A. The final surface tolerance from grade elevations shall not deviate more than $\pm 3/8$ in. under a 10 ft straightedge. Use a straightedge, flexible straightedge or transit depending on surface slope and contours.

B. Check final surface elevations for conformance to drawings. For installations on a compacted aggregate base and soil sub-grade, the top surface of the pavers shall be $1/8$ to $1/4$ in. above the final elevations after compaction. This helps compensate for possible minor settling normal to pavements.

C. The surface elevation of pavers shall be $1/8$ in. to $1/4$ in. above adjacent drainage inlets, concrete collars or channels.

D. Lippage: No greater than $1/8$ in. difference in height between adjacent pavers.

3.05 PROTECTION

A. After work in this section is complete, the General Contractor shall be responsible for protecting work from damage due to subsequent construction activity on the site.

END OF SECTION

SECTION 03300 - CAST IN PLACE CONCRETE

PART - 1 GENERAL

.1.1. Description

This section specifies ready mix cast-in-place concrete and materials and mixes for use on this in constructing the Curb Inlet Type 1.

.1.2. Related Work

.A Materials testing and inspection during construction:

.1 Where required materials testing will be arranged and paid for by the Owner.

.1.3. Testing Agency for Concrete Mix Design

.A When required the testing agency retained and reimbursed by the Contractor and approved by Resident Engineer.

.B Testing agency shall furnish equipment and qualified technicians to establish proportions of ingredients for concrete mixes.

.1.4. Tolerances

.A Formwork: ACI 117, except the elevation tolerance of formed surfaces before removal of shores is +0 inch and -3/4 inch.

.B Reinforcement Fabricating and Placing: ACI 117

.C Cross-Sectional Dimension: +3/4 inch and -1/4 inch.

.1.5. Regulatory Requirements

.A ACI 315 – Details and Detailing of Concrete Reinforcement.

.B ACI 318 – Building Code Requirements for Reinforced Concrete.

.C ACI 301 – Standard Specifications for Structural Concrete.

.1.6. Submittals

.A Submit in accordance with Section 01300.

.B Concrete mix designs: Reports of concrete mix designs shall include materials & proportions of the proposed mix and state whether the items reported comply with the specifications and shall show (1) the expected strength, (2) corresponding slump, (3) expected drying shrinkage, (4) weights and test results of the ingredients, and (5) other physical properties necessary to check each mix design.

.C Shop Drawings:

.1 Reinforcing steel: Fabrication and placement drawings as per Section 03200

.D Mill Test Reports:

.1 Reinforcing steel as per Section 03200.

.2 Cement.

.E Product Information and Manufacturer's Certificates:

- .1 Chemical admixtures, including chloride ion content.
 - .2 Liquid membrane-forming compounds for curing concrete.
 - .3 Expansion joint filler.
 - .4 Adhesive binder.
 - .F Testing Agency for Concrete Mix Design: Approval request including qualifications of principals and technicians.
 - .G Test Report for Concrete Mix Designs: Trial mixes including water-cement // -fly ash // ratio curves, concrete mix ingredients, and admixtures.
- .1.7. Delivery, Storage and Handling**
- .A Mixing and transporting shall comply with requirements ASTM C94 and IBC.

PART - 2 PRODUCTS

.2.1. Formwork

- .A Comply with ACI 347 – Formwork.
- .B Wood: Fed Spec MM-L-751H, free from loose knots and suitable to facilitate finishing concrete surface specified; tongue and grooved.
- .C Plywood: PS-1 Exterior Grade B-B (concrete-form) 16 mm (5/8 inch), or 20 mm (3/4 inch) thick for unlined contact form. B-B High Density Concrete Form Overlay optional.
- .D Form Ties: Develop a minimum working strength of 3000 pounds when fully assembled. Ties shall be adjustable in length to permit tightening of forms and not have any lugs, cones, washers to act as spreader within form, nor leave a hole larger than 3/4 inch diameter, or a depression in exposed concrete surface, or leave metal closer than 1 1/2 inches to concrete surface. Wire ties not permitted. Cutting ties back from concrete face not permitted.

.2.2. Reinforcing

- .A Bars: In accordance with requirements of ASTM A 615, Grade 40

.2.3. Concrete

- .A Portland Cement; ASTM C 150, Type I or II
- .B Aggregates: Size used shall be consistent with the form and dimensions of the section being placed with location and spacing of reinforcing steel and with method of vibration. The aggregate sizes shall be such as will produce dense, uniform concrete, free of rock pockets, honeycombs, or other irregularities.
 - .1 Standard Weight Aggregate: ASTM C 33 from approved pits. Clean, hard, fine grained, sound crushed rock or washed gravel or a combination of both, free from oil, organic matter or other deleterious substances, containing not more than 2 percent by weight of shale or cherty material.
- .C Water: Clean and potable, free from impurities detrimental to concrete.
- .D Admixtures: Admixtures are optional and are subject to approval of Architect.

.E Curing Material: Waterproof paper, polyethylene film, or polyethylene coated burlap.

.2.4. Mix

.A All project concrete

- .1 Standard Weight Concrete: 3/4 inch maximum size stone aggregate, an estimated 6-1/2 sacks cement content per cubic yard, specified 28-day strength 4,000 psi, no admixtures required.

PART - 3 EXECUTION

.3.1. General

Construction of cast-in-place concrete shall be in accordance with the pertinent recommendations contained in ACI Manual of Concrete Practice of 300 Group.

.3.2. Concrete Reinforcement

Conform to ACI 315.

.3.3. Concrete

Concrete shall be truck-mixed, ready-mixed concrete conforming to the applicable portions of ASTM C94. Materials shall be proportioned by weighing. The Contractor shall be responsible for producing concrete of the specified characteristics.

Concrete shall be delivered to the site of work, and discharge shall be completed within 1-1/2 hours after introduction of the water to the mixture.

.3.4. Conveying and Placing Concrete

.B Conveying Concrete

Concrete shall be conveyed from the mixer to the forms in accordance with ACI 301, Chapter 8. Concrete which has segregated in conveying shall be removed from the site of the work.

.C Placing Concrete

- .1 GENERAL: Concrete shall be placed in accordance with ACI 301, Chapter 8, and ACI 304, Chapter 6. Pumped concrete shall be the class and consistency specified in paragraph 03300-2.02.
- .2 PLACING CONCRETE IN HOT WEATHER: In hot weather (above 85 degrees F), concrete shall be placed in accordance with ACI 305R.
- .3 PLACING CONCRETE IN COLD WEATHER: In cold weather (below 45 degrees F), concrete shall be placed in accordance with ACI 306R.

.3.5. Curing and Sealing

.D General

Concrete curing shall be completed by water curing or by using a clear membrane curing compound or by a combination of both methods. Repairs or treatment of concrete surfaces shall be coordinated so that interruption of the curing will not be necessary.

Concrete surface temperature shall be maintained between 50 degrees F and 80 degrees F for at least 5 days. Curing concrete in hot weather (above 85 degrees F)

shall be in accordance with ACI 305 R. Curing concrete in cold weather (below 45 degrees F) shall be in accordance with ACI 306 F.

.E Water Curing

When water curing is used, concrete shall be kept wet continuously for a minimum of 10 days after placement. Absorptive mats or fabric may be used to retain moisture during the curing period.

.F Curing Compound

When curing compound is used, it shall be applied as soon as the concrete has set sufficiently so as not to be marred by the application or immediately following form removal for vertical and other formed surfaces. Preparation of surfaces, quantities used, application procedures, and installation precautions shall be followed in strict compliance with the manufacturer's instructions.

Curing compound shall not be used on concrete surfaces to be coated, waterproofed, or moistureproofed.

.3.6. Protection

.G General

Concrete shall be protected from injurious action by sun, rain, flowing water, frost and mechanical injury.

.3.7. Construction Joints

Construction joints shall be located and formed as specified. A rough surface of exposed concrete aggregates shall be produced using a surface retardant at construction joints. The limit of the treated surfaces shall be 1 inch away from the joint edges. Within 24 hours after placing, retarded surface mortar shall be removed either by high pressure water jetting or stiff brushing or combination of both so as to expose coarse aggregates. A rough surface of exposed aggregate may also be produced by sandblasting followed by high pressure water jetting. Sandblasting, if used, shall remove 1/8 inch of laitance film and shall expose coarse aggregate to insure adequate bond.

Reinforcing steel and welded wire fabric shall be continued across construction joints. Waterstops shall be provided in construction joints at locations as specified.

.3.8. Embeds

.H Embedments

Miscellaneous metal parts that are to be embedded in the concrete shall be set and secured in the forms prior to concrete placement. Unless otherwise specified, anchor bolts and inserts shall be embedded in concrete as shown. The Contractor shall provide inserts, anchors or other bolts necessary for the attachment of piping, valves, metal parts and equipment. Operators or sleeves for gate or valve stems shall be positioned to clear reinforcing steel, conduit and other embedments, and to align accurately with equipment.

.3.9. Expansion Joints

Expansion joints shall be as specified. Reinforcement or other embedded metal items bonded to the concrete shall not extend through expansion joints.

.3.10. Modification of Existing Concrete

Existing concrete shall be removed and the remaining surfaces resurfaced as specified. The remaining concrete shall be protected from damage. Clean lines shall be made by sawing through the existing concrete. The concrete may be broken out after initial saw cuts in the event thickness prevents cutting through. Where it is not possible to use a saw, the initial cuts shall be made with chipping hammers. These cuts shall be sufficient to prevent damage to the remaining concrete. In general, an opening in existing concrete shall be oversized 1 inch on all sides and built back to the correct dimension with an epoxy grout. Where oversized openings cannot be made, the concrete shall be cut to the correct dimension, with the exposed reinforcing cut back an additional 1 inch and the resulting hole filled with epoxy grout. Cut or broken concrete surfaces shall be resurfaced with an epoxy grout. Concrete surfaces to be coated shall be dry. Where new concrete adjoins existing concrete surfaces or surfaces which have been cut, such surfaces shall be cleaned by sandblasting to remove laitance, loose coatings and foreign materials, and coated with the bonding compound just prior to the placement of the new concrete. Bonding compounds shall be as specified in paragraph 03300-2.05. Unless otherwise specified, continuity of reinforcing steel shall be obtained across the joint either by exposing existing bars to provide sufficient laps with new bars or by welding existing bars with new bars. Dowels shall be drilled and set with epoxy grout into existing concrete.

.3.11. Formed Surface Finishes

.A Repair of Surface Defects

Surface defects, including tie holes, minor honeycombing or otherwise defective concrete shall be repaired in accordance with ACI 301, Chapter 9. Areas to be patched shall be cleaned. Patches on exposed surfaces shall be finished to match the adjoining surfaces after they have set. Patches shall be cured as specified for the concrete.

.B Finishing

Unless otherwise specified, surfaces may be left as they come from the forms, except that tie holes shall be plugged and defects greater than 1/2 inch in any dimension shall be repaired.

.3.12. SLAB FINISHES

Broomed finish conforming to ACI 301, Section 11.7.4. shall be provided for walks, tops of walls, slabs on grade exposed to atmosphere, and where otherwise specified.

.3.13. FIELD SAMPLING AND TESTING OF CONCRETE

.A General:

Field sampling and testing shall be performed by the independent testing laboratory specified in paragraph 03300-1.2 A. Samples of concrete shall be taken at random locations and at such times to represent the quality of the materials and work throughout the project. The laboratory shall provide the necessary labor, materials and

facilities for sampling, casting, handling and storing the concrete samples at the site of work. The minimum number of samples and tests are specified in paragraph 03300-3.12 C.

.B Sampling:

Concrete shall be sampled as follows and tested in accordance with paragraph 03300-3.12 C. Samples of plastic concrete shall be obtained in accordance with ASTM C172. Samples for pumped concrete shall be taken at the hose discharge point. Samples for other concrete shall be taken at the hopper of transit mix truck.

.C Testing:

- .2 STRENGTH TESTS: The strengths specified for the design mix shall be verified by the testing laboratory during placement of the concrete. Verification shall be accomplished by testing standard cylinders of concrete samples taken at the job site.

Standard cylinders shall represent the concrete placed in the forms. One set of three standard cylinders shall be cast for each 50 cubic yards, or fraction thereof, for concrete placed in structures, building slabs and footings, but at least three cylinders shall be taken from any one batch. Casting, handling and curing of cylinders shall be in accordance with ASTM C31. Additional cylinders shall be provided when an error in batching is suspected. For the first 24 hours after casting, the cylinders shall be kept moist in a storage box constructed and located so that its interior air temperature will be between 60 and 80 degrees F. At the end of 24 hours, the cylinders shall be transported to the testing laboratory.

Testing of specimens for compressive strength shall be in accordance with ASTM C39. Tests shall be made at 7 and 28 days from time of casting. One test cylinder from each group of three shall be tested at the end of 7 days, and two shall be tested at the end of 28 days. Each strength test result shall be the average of the strengths of two test cylinders at 28 days, except that if one cylinder in a set of two shows evidence of low strength due to improper sampling, casting, handling or curing, the result of the remaining one cylinder shall be used.

The average of any three consecutive 28-day strength test results of the cylinders representing each class of concrete shall be equal to or greater than the specified strength and not more than 10 percent of the strength test results shall have values less than the specified 28-day strength for the total job concrete. No individual strength test results shall be less than the specified strength by more than 500 pounds per square inch.

Certified reports of the test results shall be provided directly to the Construction Manager. Test reports shall include sufficient information to identify the mix used, the stationing or location of the concrete placement, and the quantity placed. Slump and ambient temperature shall be noted. If the 28-day test results fall below the specified compressive strength for the class of concrete required for any portion of the work, adjustment in the proportions, water content, or both, shall be made as necessary at the Contractor's expense. Changes and adjustments shall be reported in writing to the Construction Manager.

If compressive test results indicate concrete in place may not meet structural requirements, tests shall be made to determine if the structure or portion thereof is structurally sound. Tests may include, but not be limited to, cores in accordance with ASTM C42 and any other analyses or load tests acceptable to the Construction Manager. Costs of such tests shall be borne by the Contractor.

- .2 TESTS FOR CONSISTENCY OF CONCRETE: The slump shall be as specified when measured in accordance with ASTM C143. Samples for slump determination shall be taken from the concrete during placing. Slump tests shall be performed whenever standard cylinders are cast.

.B Final Laboratory Report:

A final report, prepared by the testing laboratory, shall be provided at the completion of all concreting. This report shall summarize the findings concerning concrete used in the project and provide totals of concrete used by class and structure.

.3.14. CLEANUP

Upon completion of the work and prior to final inspection, the Contractor shall clean all concrete surfaces, except outside sidewalks or paved areas and those having curing and sealing compound.

****END OF SECTION****

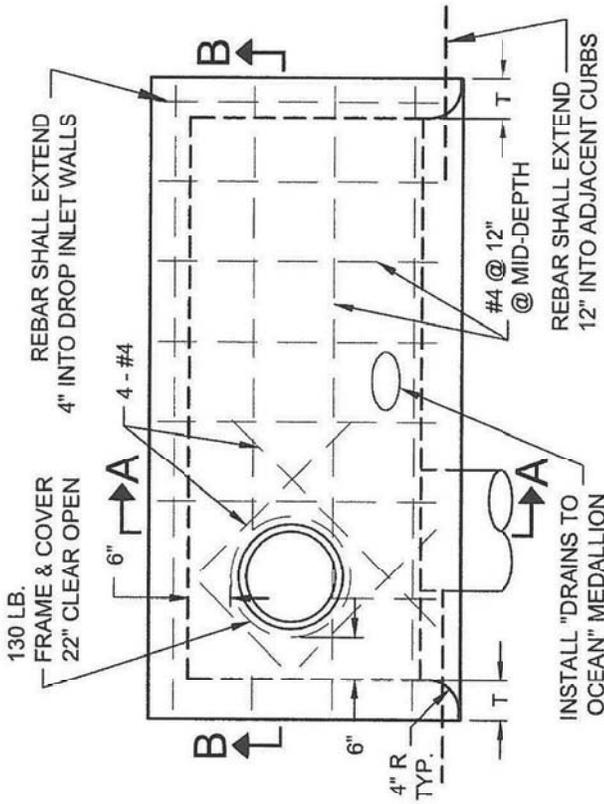
DROP INLET NOTES:

1. All concrete shall be 4000 psi standard weight concrete conforming to the Standard Specifications
2. The curb opening shall be as shown on plan, but not less than 4 feet for Type 1
3. Install step when required, per Standard Detail D-02.0 and D-02.1.
4. ~~Connector pipe shall be placed on the back of side wall as shown in plans, to be clear of future drop inlet filter baskets.~~
5. Provide 3 inch radius rounded edge at pipe inlet.
6. The width of gutter depression shall be 4 feet unless otherwise shown on plans.
7. ~~Manhole frame and cover shall be Alhambra Foundry A-1530B lettered with the words "City of Santa Barbara Storm Drain" unless otherwise specified in plans.~~
8. Top slab surface shall be a light broom finish.
9. See Standard Detail D-02 for drop inlet throat and step detail.
10. Gutter depression shall be Type A1 Standard Detail D-03.1
11. Reinforcing steel in the top slab shall be #4 @12 inches on center.
12. Wall thickness (T) and reinforcing requirements shall be per Table A, Standard Details D-01.1 and D-01.2.
13. Clear drying fugitive dye curing compound shall be applied to all exposed surfaces immediately after finishing.
14. Aggregate base shall be placed 6 inches deep and compacted to 95% minimum relative compaction on undisturbed native soil before placing concrete.
15. Manhole shall be set 6 inches from inside wall of inlet.
16. All interior walls, floor, and top shall be sacked and patched upon completion.
17. Extend top slab rebar 4" into walls of drop inlet and 12" into adjacent curbs.
18. Install "Drains to Ocean" medallion on top slab
19. ~~Where required, an American Storm Water "Surf Gate" catch basin debris screen shall be installed.~~
20. ~~Reference "Greenbook" Standard Plans for Public Works Construction for details for connector pipe to storm drain pipe connections.~~

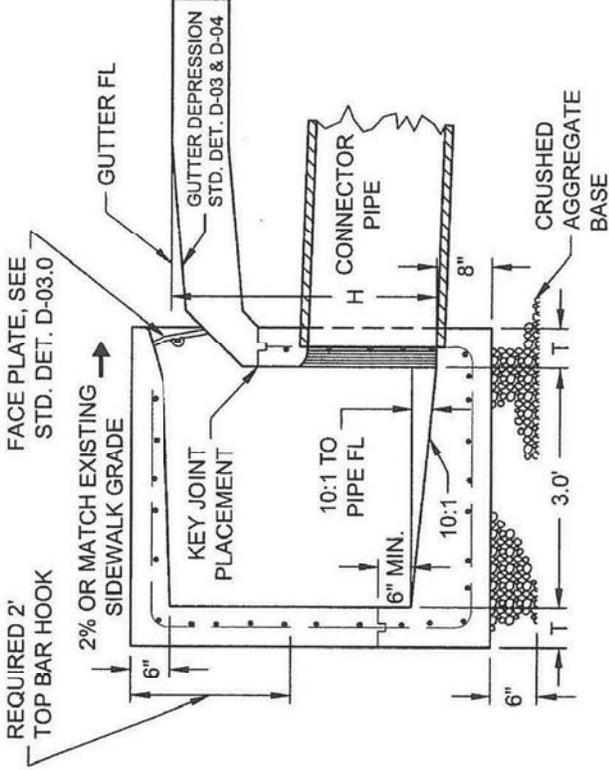


CURB INLET NOTES

STREETS:	REV. DATE: 8/16	DETAIL: D-01.0
TRANS OPS:	APPROVED:	
FACILITIES:	<i>Wayne R. Raybuck</i>	
WATER RESOURCES:		



PLAN



SECTION A-A



SECTION B-B

CONCRETE		REINFORCING		
H RANGE	T (TYP.)	BOTTOM	SIDES	TOP
LESS THAN 4'	6"	NONE	NONE	#4@12"
4' - 8'	8"	NONE	NONE	#4@12"
*4' - 8'	6"	#4@18"	#4@18"	#4@12"
GREATER THAN 8'	8"	#4@12"	#4@12"	#4@12"

*OPTIONAL

TABLE A



STREETS: _____

TRANS OPS: _____

FACILITIES: _____

WATER RESOURCES: _____

REV. DATE: 8/16

APPROVED: _____

DETAIL: D-01.1

Wayne R. Rausch

CURB INLET

TYPE 1

DROP INLET DETAIL NOTES:

1. Face plate shall be Alhambra Foundry A-3912 or approved equal, embedded 3 inches into side walls.
2. Support bolts shall be installed, when curb opening exceeds 7 feet and shall be spaced evenly not more than 7 feet and not less than 5 feet on center.
3. 3/4 inch diameter longitudinal protection bar assembly shall be installed when inlet curb face is more than 9 inches. The protection bar shall be fitted to each support bolt.
4. Steps are not required when H is 3.5 feet or less (see Standard Details D-01.1 and D-01.2). Install one step 16 inches above the floor when H is greater than 3.5 feet but less than 5 feet. Install steps at 12 inch intervals when H exceeds 5 feet. Steps shall be non-slip polypropylene plastic coated reinforcing steel complying with all current ASTM standards. Any exposed metal parts shall be galvanized after fabrication.
5. Inlet opening shall be equal to the existing curb height plus 3 inches.

~~19. Where required, an American Storm Water "Surf Gate" catch basin debris screen shall be installed.~~



CURB INLET DETAIL NOTES

STREETS:

TRANS OPS:

FACILITIES:

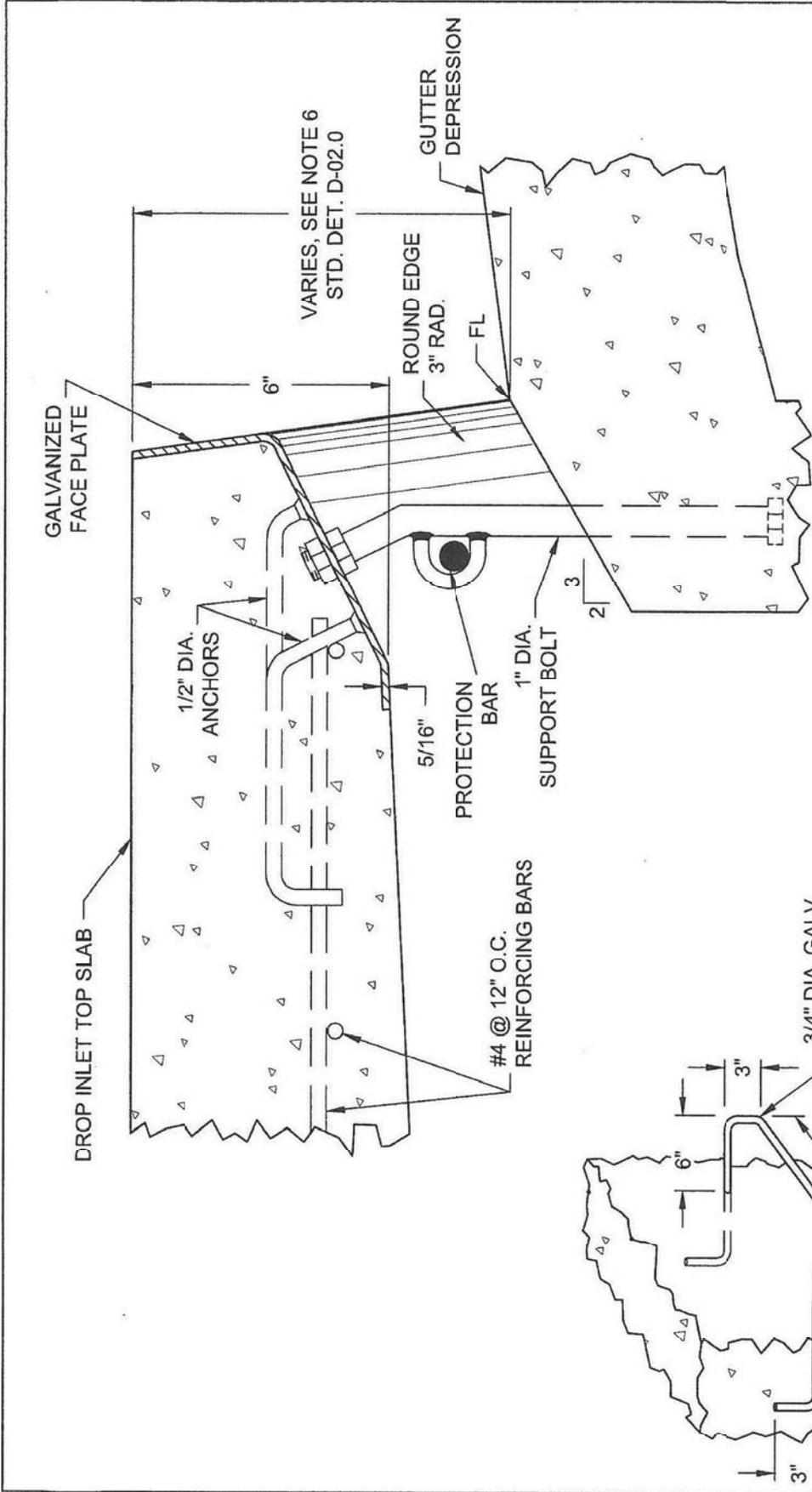
WATER RESOURCES:

REV. DATE: 8/16

APPROVED:

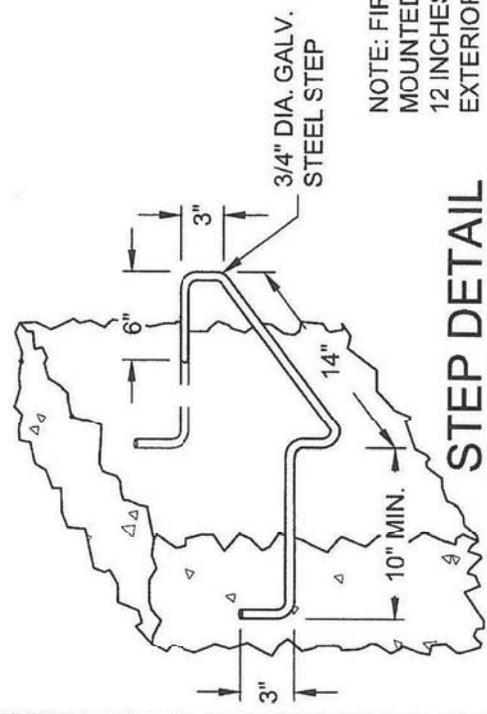
DETAIL: D-02.0

Wayne R. Hayashi



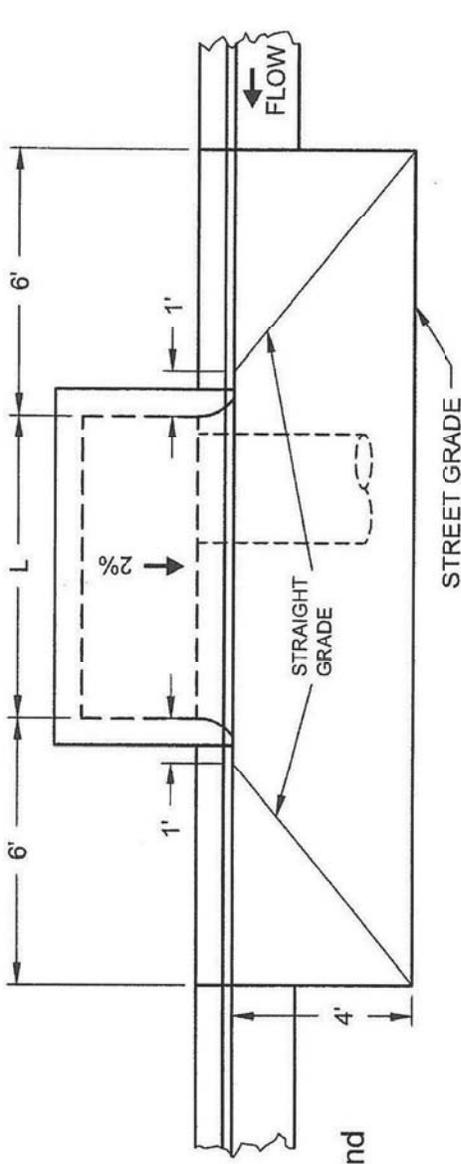
**TYPICAL SECTION OF
DROP INLET THROAT**

NOTE: FIRST RUNG SHALL BE MOUNTED NO GREATER THAN 12 INCHES BELOW THE TOP EXTERIOR OF THE DROP INLET

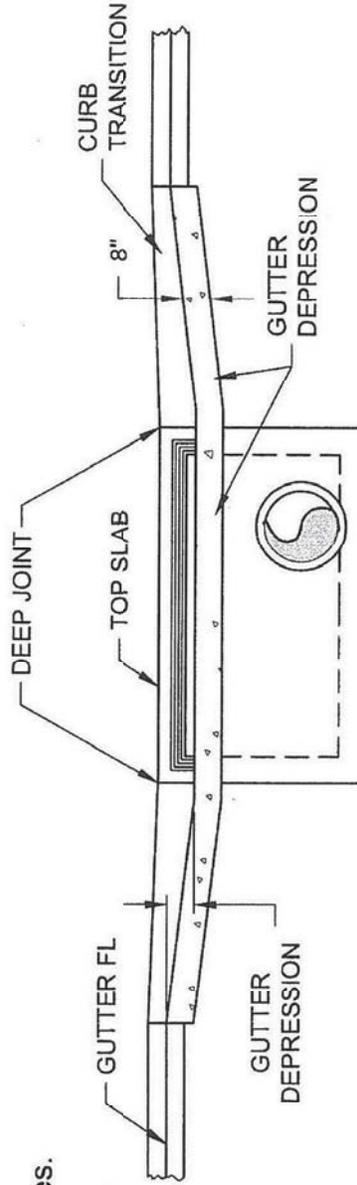


STEP DETAIL

	CURB INLET THROAT AND STEP DETAIL		STREETS:	REV. DATE: 8/16	DETAIL: D-02.1	
			TRANS OPS:	APPROVED: <i>Wayne R. Rausch</i>		
			FACILITIES:			
			WATER RESOURCES:			



PLAN



SECTION AT GUTTER FL

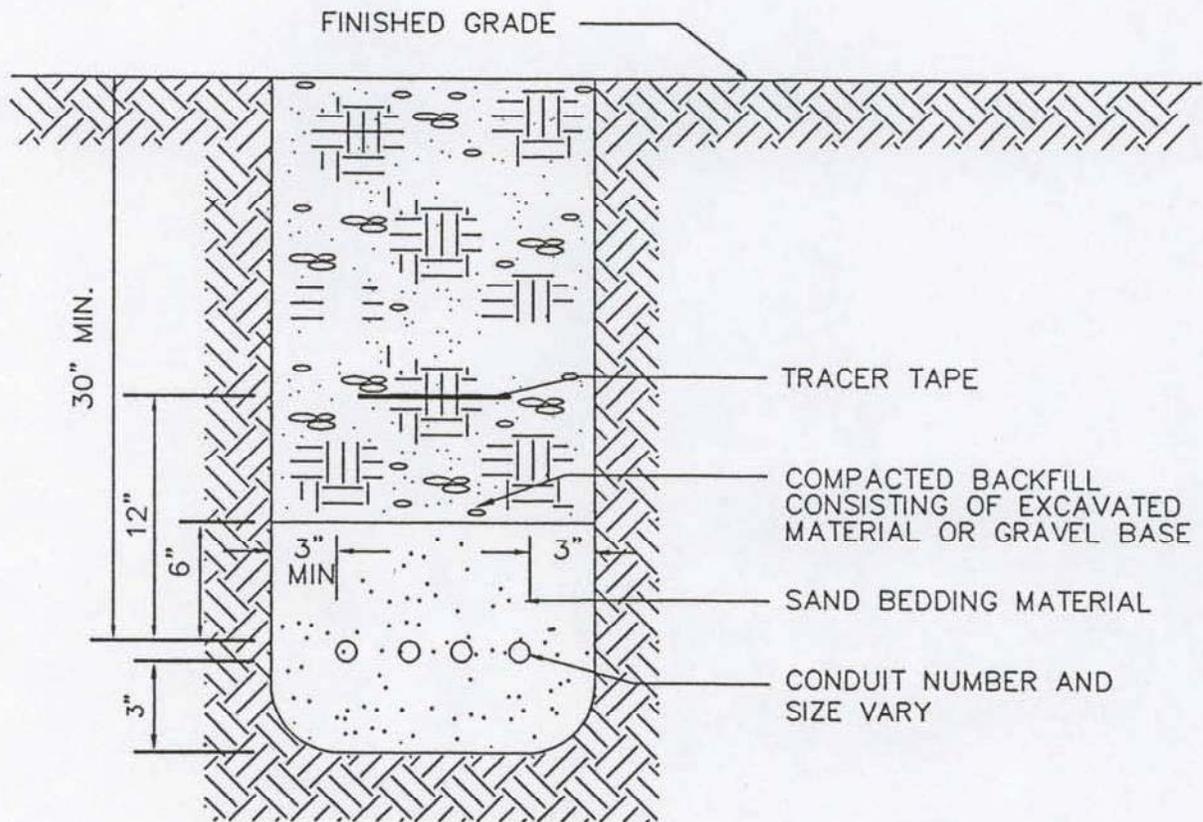
NOTES:

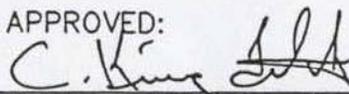
1. Gutter depression, curb transition and structure's top slab shall be poured monolithic.
2. Surface finish of gutter depression shall be light broom finish.
3. Concrete strength and curing compound per Standard Detail D-01.0.
4. Gutter depression shall be 3 inches.
5. Deep joint shall be 2 inches deep.



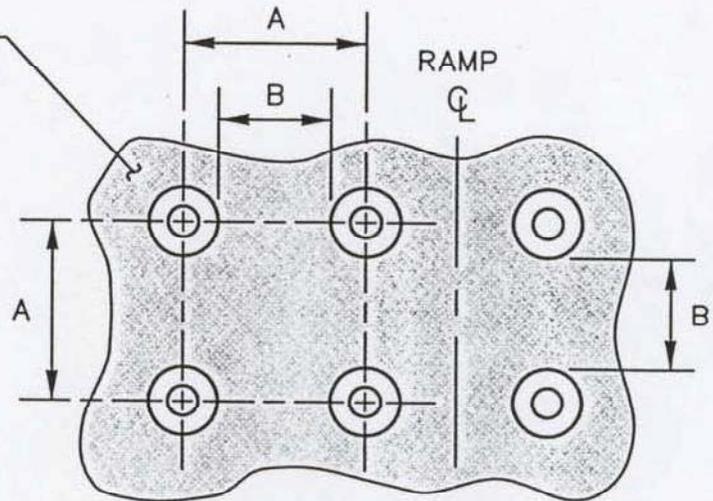
GUTTER DEPRESSION
TYPE A1

STREETS:	REV. DATE: 8/16	DETAIL: D-03.1
TRANS OPS:	APPROVED:	
FACILITIES:	<i>Wayne R. Nayfeh</i>	
WATER RESOURCES:		

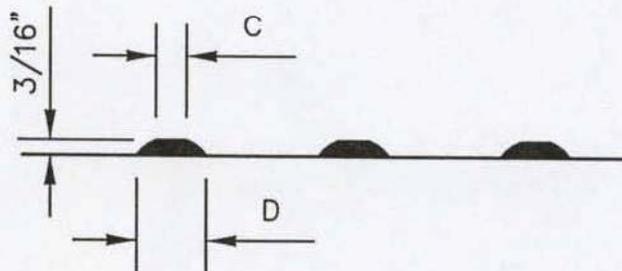


TOWN OF FRIDAY HARBOR			
POWER/COMMUNICATION TRENCH SECTION			
APPROVED:		DWG. NO.	
 TOWN ADMINISTRATOR		N/3/97 DATE	
DATE:		DRWN:	CHKD:
10/27/97		L.T.	T.N.
SCALE:			NO SCALE

DETECTABLE WARNING PATTERN
SEE NOTE THIS SHEET



PLAN



ELEVATION

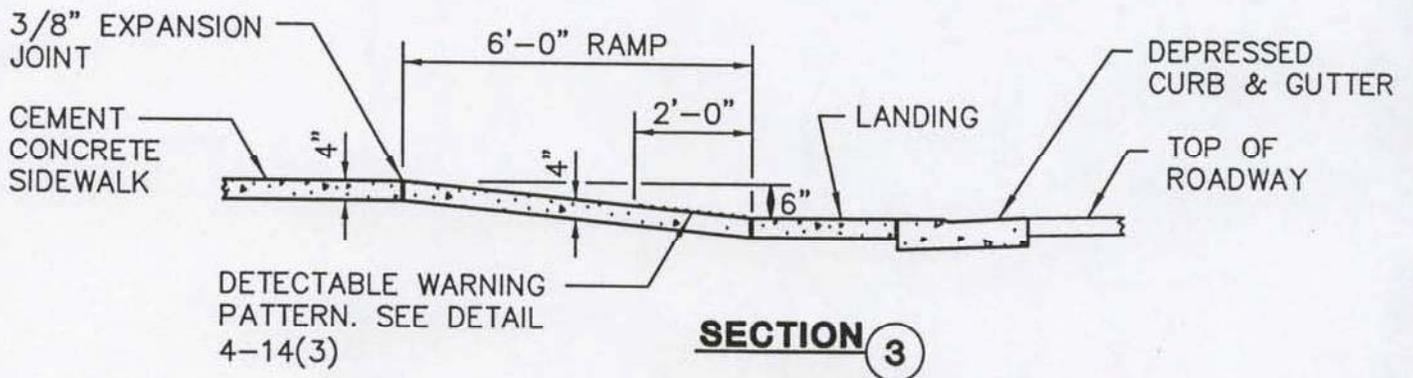
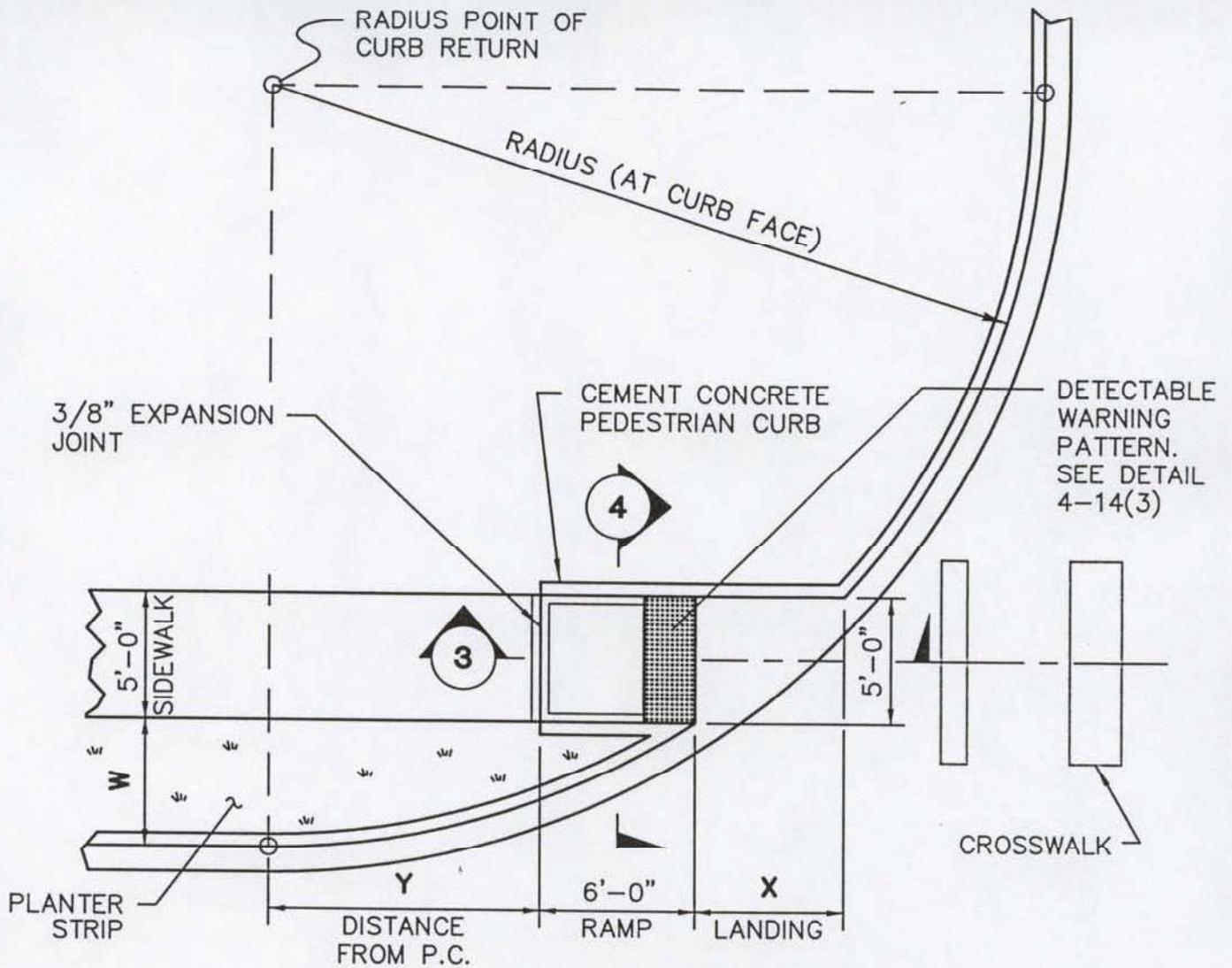
	MIN.	MAX.
A	1 5/8"	2 3/8"
B	5/8"	1 1/2"
C	7/16"	3/4"
D	7/8"	1 7/16"

TRUNCATED DOMES

NOTE:

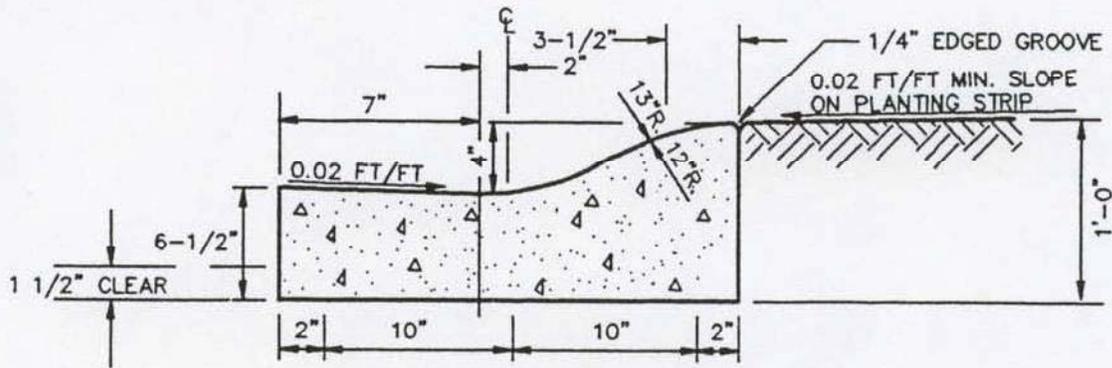
TRUNCATED DOME SYSTEM SHALL BE PEARL WHITE 24" X 48" CAST-IN-PLACE BY ARMOR-TILE OR TOWN APPROVED EQUAL.

TOWN OF FRIDAY HARBOR			
DETECTABLE WARNING PATTERN			
APPROVED: <i>C. King</i> TOWN ADMINISTRATOR			DWG. NO. 4-14(3)
DATE: 02/04/04	DRWN: B.W.	CHKD: T.N.	SCALE: NO SCALE



NOTE:
 SEE DRAWING 4-14(6) FOR SECTION 4 DETAIL, NOTES, AND "X" & "Y" BASED ON CURB RADIUS AND "W".

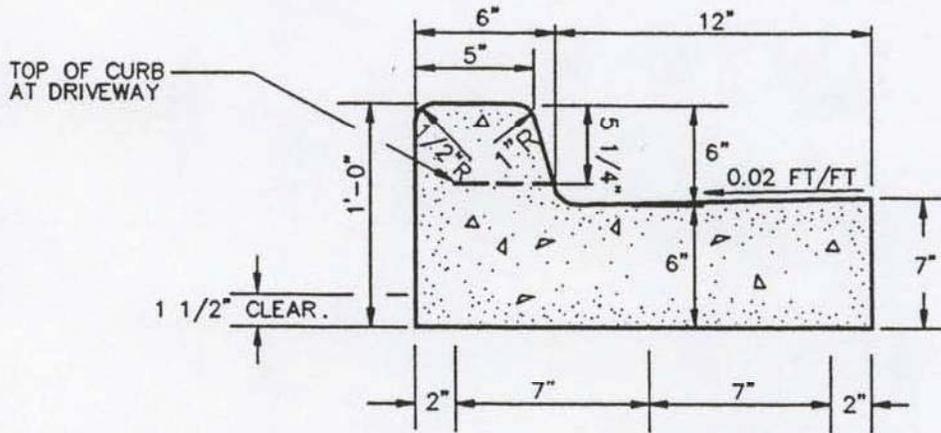
TOWN OF FRIDAY HARBOR			
SIDEWALK RAMP TYPE 4B WITH PLANTER STRIP			
APPROVED: <i>C. King Smith</i> TOWN ADMINISTRATOR		DATE	DWG. NO. 4-14(5)
DATE: 02/04/04	DRWN: B.W.	CHKD: T.N.	SCALE: NO SCALE



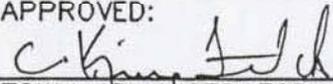
ROLLED CONCRETE CURB AND GUTTER

NOTES:

1. THE CURBS, GUTTERS AND SIDEWALKS SHALL HAVE CONTRACTION JOINTS (3/8" x 1-1/2") AT INTERVALS OF NOT GREATER THAN 15'-0"
2. CEMENT CONCRETE SHALL BE CLASS 3000



VERTICAL CONCRETE CURB AND GUTTER

TOWN OF FRIDAY HARBOR			
CONCRETE CURB AND GUTTER			
APPROVED:  TOWN ADMINISTRATOR			DWG. NO. 4-16
DATE: 1/16/97	DRWN: L.T.	CHKD: T.N.	SCALE: NO SCALE